

## Experiences with a structured conversation tool: A qualitative study on feasibility in general practice in Norway

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**Objective:** To explore GPs' experiences from consultations utilizing a structured conversation tool.

**Design and participants:** A structured conversation tool with elements from Cognitive Behavioral Therapy (CBT) were developed for general practice to help patients accomplish a level of self-care, and to aid the physician's assessment of sick leave. We have called the conversation tool "Individual Challenge Inventory Tool" (ICIT). Eight GPs received training and used the ICIT on 49 patients with Medically Unexplained Physical Symptoms (MUPS). The physicians were gathered into two focus groups. The interviews were recorded on tape, transcribed, and analyzed with systematic text condensation.

**Main outcome measures:** Outcome of this study is the physicians' experiences of the management and feasibility of utilizing ICIT in general practice in patients with MUPS.

**Results:** The physicians found the ICIT helpful to sort out, clarify and concretize the patients' issues. They felt less fatigued as patients took on a greater responsibility for their own recovery and reported a greater satisfaction and better management with the patients. A salutogenic approach gave the physicians greater insight into their patients and their issues, opening for new treatment options and aiding in recovery. By focusing on the patient's potential capabilities despite their medical condition, some physicians experienced those patients on sick leave returned to work quicker.

**Conclusions:** The GPs in this study reported that the ICIT was helpful in consultations with patients on sick leave due to unspecific medical conditions and facilitated a sense of competence for the physician.

According to the participants in our study and our feasibility criteria, the ICIT was deemed easily feasible in Norwegian general practice. We suggest further studies to show any implications at the patient's level.

## Maternity care at the GP office - from the patient perspective

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Maternity care in the primary health service in Norway is divided between GPs and midwives. The woman decides whether she wants to be followed up by her GP, a midwife or both. A postpartum control is recommended after 6 weeks. Its content is described in a national guideline and focuses on both medical complications and psychosocial conditions, as well as contraception and sexuality. There are few studies on quality and patient experiences with the postpartum control in general practice.

This study will explore women's experiences with maternity care performed by their regular GP, including the women's expectations and needs, as well as any suggestions for improvement. The main focus is on the postpartum control.

### Methods

In January – February 2022, 500 – 800 women who have given birth in the last 2-6 months will be invited to participate in a digital, anonymous survey. Invitations will be sent out to all women who have given birth at Levanger and Namsos Hospitals. We will also invite women by using a national network for research in general practice (PraksisNett).

### Results

Preliminary data will be presented, focusing on descriptive data including differences in postpartum care based on age, education, geography, health and follow up during the pregnancy by their regular GP.

## Patient conceptions of treatment with metformin in recently diagnosed type 2 diabetes mellitus. A phenomenographic study.

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**Key words:** Conceptions, Diabetes Mellitus Type 2, Metformin, Primary Health Care, Qualitative Research,

### Background

Diabetes Mellitus (DM) is a serious disease with insufficient insulin production and/or insulin resistance. The prevalence of DM in 2014 was 422 million (8.5%) of the global adult population and is expected to increase to 642 million by 2040. Type 2 DM accounts for 85-90% of all cases of DM. Type 2 DM can also lead to severe cardiovascular complications.

Metformin decreases cardiovascular complications and mortality. Current treatment guidelines therefore recommend that metformin is started as soon as type 2 DM is diagnosed. Prior guidelines offered patients a few months to introduce lifestyle changes, such as a healthy diet and exercise, before drug treatment was started. This period offered a pedagogical experience for patients to evaluate the effect of lifestyle changes and their impact on blood glucose levels. No studies have examined patient conceptions of the treatment with metformin immediately from diagnosis.

### Methods

This study used a phenomenographic approach. Phenomenography is a research approach used to explore the participants' conceptions of a particular phenomenon, the collective variations of conceptions in the studied group, and the interrelations between the variations.

Individual interviews were held with participants selected from three primary health care centres in three cities in south-western Sweden. The inclusion criteria were a diagnosis of type 2 DM in the past six months, age above 18 and sufficient language proficiency. A total of 20 face-to-face or telephone interviews were conducted. The interviews were recorded digitally and transcribed verbatim. A semi-structured approach was used. The participants were 8 women and 12 men between 30 and 75 years of age. The interviews lasted 17-45 minutes. Ethical approval was obtained.

### Results

The results are currently being further analysed.

### Conclusion

No conclusions have yet been drawn.

Education of the primary health care  
 staf based on acceptance and commitment  
 therapy is associated with reduced sick leave  
 in a prospective controlled trial

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When one feels ill and there is no disease, it's not helpful to be treated as sick. Medicalization of personal, daily problems and physical symptoms that can't be cured with drugs or sickleave from work, is a huge problem in Sweden. The use of cognitive behavioral therapy (CBT) to cope with mental distress and pain issues has helped many patients in primary health care but at the same time no effect has been seen on the sick leave. Acceptance and Commitment Therapy (ACT) is an evolution of traditional CBT and we aimed to study if education based on ACT of the staf rather than the patients could reduce sick leave for patients in primary health care. Focus is an attitude change from reduce symptoms to elevate function and ability to live a more meaningful life. What do I want instead of what do I want to get rid of.

This was a prospective trial in 6 primary health care centers in Kalmar) in which the staf received group-based education according to ACT during 2018 and 2019. The effects were compared with 5 similarly sized control health care centers in the neighboring Region of Jönköping in which no such education took place. Results: Sick leave for ICD-10 F43 (reaction to severe stress and related adjustment-disorders) was reduced with 21%,  $p=0.033$  and in 2019 (-37%,  $p=0.038$ ). The corresponding sick leave for any diagnosis (total sick leave) was reduced with 11%,  $p=0.056$ ) The control health centers did not show any significant changes . Conclusions: This suggests a significant effect to induce a reduction in long-term sick leave for patients in primary health care in which the staf received education according to ACT. The results of this trial could serve as a basis for a randomized trial in order to ascertain causality.

## Interrater and intrarater agreement on heart sounds

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### Background

Studies suggest that the clinical examination skills are declining, and that heart auscultation has limited accuracy for detecting valvular heart disease in asymptomatic patients typically found in primary care. However, the existing studies include few raters, and to determine whether heart auscultation is reliable when classifying heart murmurs, intra- and interrater variation needs to be assessed.

### Method

Heart sound recordings from the Tromsø 7-study, including 21 murmurs and 19 normal heart sounds, were classified by 34 raters including GPs, cardiologists, and medical students. Proportion of agreement and Kappa coefficients for intrarater agreement and agreement with a reference was calculated. Regression analysis to calculate OR for experience, specialty, and murmur intensity to predict agreement.

### Results

The proportion of intrarater agreement on the presence of any murmur was 83% on average, with a mean kappa of 0.62 (range  $k=0.09 - 0.86$ ) for all raters, mean  $k=0.59, 0.66$ , and  $0.63$  for GPs, cardiologist, and medical students, respectively.

The proportion of agreement with the reference on any murmur was 81% on average, with a mean kappa of 0.63 (range  $k= 0.29 - 0.90$ ) for all raters, mean  $k= 0.62, 0.68$  and  $0.58$  for GPs, cardiologists, and medical students, respectively. Raters with low intrarater agreement tended to have less agreement with the reference.

Clinical experience >5 years, distinct murmur, and cardiology specialty were most strongly predicting the agreement with the reference with OR of 2.41 (1.63 – 3.58,  $p=0.015$ ), OR 2.19 (1.58 – 3.04,  $p<0.001$ ) and OR 2.53 (1.46 – 4.41,  $p=0.022$ ), respectively.

### Conclusion

We observed fair, but variable, agreement with a reference on heart murmurs. Experience, distinct murmurs, and cardiology specialty most strongly predicted agreement with the reference. The great variation between the raters calls for increased emphasis on cardiac auscultation in the education of doctors.

## Does point-of-care ultrasound examinations performed by general practitioners lead to inappropriate care?

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### Background

Across countries, general practitioners have started using point-of-care ultrasound (POCUS) as part of their examination of patients. Evidence for the use of POCUS in general practice is sparse. Hence, educational programs and guidelines are largely based on evidence from a secondary healthcare setting where the working conditions, patient populations, and the pre-test probabilities for disease differs. To outline appropriate and inappropriate applications of POCUS in general practice, there is a need for a thorough evaluation of the consequences following the use of POCUS in general practice.

The aim was to describe POCUS related adverse events and incidental findings identified through a six months follow-up evaluation of medical records of patients having undergone POCUS by their general practitioner.

### Method

We included medical record from 567 patients scanned by 20 office-based general practitioners between January 2018 and August 2018. The medical records included all journal notes, laboratory and other test results from both primary and secondary care from the baseline consultation, where POCUS was performed, and the following six months.

First, the medical records were screened by two medical students to identify patients with recurrent healthcare contacts that were related or possibly related to the primary complaint at baseline. Second, two professors in general practice reviewed the medical records to identify adverse events and classify these independently according to international standards. Third, disagreements between the two data extractions were discussed by the two professors and the first author to find consensus. If consensus could be reached, a professor specialized in quality assurance and patient pathways did a final assessment choosing from one of the two previous assessments.

### Results

We will present the results at the conference.

### Conclusion

This study identifies POCUS applications, where general practitioners should exercise caution in order to avoid inappropriate use and possible harms to patients.

## Action cards as instructions for the use of point-of-care ultrasound in general practice

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### Background

General practitioners increasingly use point-of-care ultrasound (POCUS) as a diagnostic tool. Despite the increased use, there is a lack of guidelines and information material to support POCUS use in a primary care setting. The Danish General Practice Ultrasound Society (Dansk Almenmedicinsk Ultralydsselskab: DAUS) and Center for General Practice at Aalborg University (CAM AAU) have developed instructive one-sided action cards framing POCUS examinations to general practice. Action cards state for a specific POCUS application: (1) in which clinical situations the POCUS examination can be used, (2) which transducer and pre-set is recommended, (3) how the POCUS examination is performed, (4) How POCUS findings should be interpreted, (5) possible errors and common mistakes, and (6) how to integrate findings in a clinical context. The purpose of this study was to explore Danish general practitioners' (GPs) experience with these action cards, as a support tool in their daily use of POCUS.

### Methods:

Eight GPs were interviewed using an explorative and descriptive approach. An invitation to participate were posted in a Facebook group for POCUS-using GPs. Sixteen participants responded to the invitation and from these eight participants were purposely selected based on maximum variation in background characteristics.

Two weeks prior to the interviews, 10 actioncards were send to participants and they were asked to use these during their clinical work in the following weeks. Due to the Covid-19 pandemic, interviews were conducted through video- or telephone connection, with the GPs situated in their practice. Interviews were audio-recorded, transcribed verbatim, and analysed using systematic text condensation.

### Results:

Action cards and the results of this qualitative evaluation will be presented at the conference.

### Conclusion:

Action cards has the potential to create a uniform understanding of POCUS use in general practice and to support GPs in appropriate use while striving to obtain or maintain scanning competence.

## Quality assurance of POCUS examinations performed in general practice: A focus group interview study

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### Background

Point-of-care ultrasound (POCUS) is increasingly used by clinicians as an add-on to the physical examination of patients. POCUS is also used in general practice. Still, evidence supporting its use in the primary care setting is sparse, guidelines are few and inconsistent, there is variation in POCUS training programs, and in many countries, there is no quality assurance.

Evidence suggest that POCUS scanning competence is attainable for clinicians following proper training. To meet their self-perceived educational needs many POCUS-using general practitioners (GPs) have constructed their own POCUS training, by signing up for available courses. Little is known about how GPs maintain scanning skills over time or the overall quality of POCUS examination performed in primary care. The aim of this study is to explore GPs' experiences with quality development and quality assurance in relation to their use of POCUS in general practice.

### Method

Semi-structured focus group interviews were conducted with a POCUS-using GPs using an explorative and descriptive approach. All GPs in the South Denmark Region were invited to participate. Eligible GPs were (1) POCUS-users, (2) practice owners, (3) trained in POCUS, and (4) willing to share quality data. Thirty-one GPs responded to the invitation and 21 GPs were strategically selected to participate in three focus groups aiming for a balance between homogeneity in the groups and variation in the participants' demographics, experience with POCUS, organizational aspects of the clinic, and experience as a GP.

An interview guide covered the central domains: obtaining and maintaining POCUS competence, quality assurance, quality development tools, and near-miss registration. Transcripts and analysis began immediately after conducting the interviews. The analysis was conducted using systematic text condensation.

### Results

The results will be presented at the conference.

### Conclusion

This study sheds light on GPs' efforts to maintain scanning competence and the quality of their POCUS examinations.



## Documenting point-of-care ultrasound examinations performed in general practice: A mixed methods study

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### Background:

The use of point-of-care-ultrasound (POCUS) is increasing among general practitioners (GPs). Standards for POCUS documentation in medical records have been developed for secondary care clinicians. GPs usually document their findings according to the SOAP (Subjective, Objective, Assessment and Plan) model in a less extensive text compared to their colleagues in secondary care. The purpose of this study was to (1) determine how GPs, who are first-movers in POCUS use, document their examinations compared to secondary care standards, (2) explore POCUS-using' GPs experiences with POCUS documentation in medical records, and (3) to contrast and compare actual documentation practice with thoughts and reflections on documentation practice in a mixed methods analysis.

### Methods:

We used a convergent mixed methods design. The quantitative part was an audit of medical records collected from 20 POCUS-using GPs, who had examined 576 patients. A data extraction tool was developed using general recommendations for POCUS documentation. The GP's note from the index consultation was compared to each recommendation and classified as either clearly described, indirectly described, or not stated. Data was extracted independently by three medical students (united to reviewer 1) and a researcher (reviewer 2). A third reviewer resolved inconsistencies. Data was summarized using descriptive statistics. The qualitative part was three focus group interviews. An invitation was sent to all GPs in The South Denmark Region. Only POCUS-using GPs were eligible to participate. Thirty-one participants responded to the invitation and from these 21 were purposely selected aiming to secure a good group dynamic. The interviews were audiorecorded, transcribed verbatim and analysed using systematic text condensation. The mixed methods analysis was made through merging of the quantitative and qualitative part.

### Results:

The results will be presented at the conference.

### Conclusion:

The results may assist the development of recommendations for POCUS documentation in general practice.

## Medical record notes in general practice

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**Background** Historically, the purpose of the medical record was to support the physician in remembering the patients' medical history. Over time, the medical record has also developed into a tool for communication with other health professionals and for teaching and quality development. In today's general practice, an increasing monitoring- and surveillance practice as well as patients' access to their record, is, however, changing the original purpose.

**Aim** To analyze the development in the content, language, length, and function of the general practice record notes through time to investigate if and how the increasing external demands have affected the GPs' presentation of the patient story.

**Method** Danish GPs were invited to collect all medical record notes from the same working day in different years.

The medical record notes are analyzed using qualitative as well as quantitative methods.

**Results (preliminary)** We will present preliminary results at the conference. In our analysis there are, as yet, no strong indications of a tendency towards increased length, amount of information or recording of negative findings.

The data suggests, however, that to other readers, GPs' notes may be opaque or require contextualization in order to be understood. This is seen in a variety of ways:

An idiosyncratic style using expressions and abbreviations that are unique to the GP, highly compressed narratives using words, phrases or clauses which suggest larger narrative arcs, indications that the GP has cause to question, wonder, or reflect on information given by the patient. Moreover, the notes display ambiguities regarding the origins of utterances and evaluations, whether from patient or GP.

**Conclusion** The preliminary results suggest that the language of GPs' notes may be a barrier to intention to give patients insight into what doctors write about them in their records.

## Long term Weight Loss in a Primary Care-Anchored Human eHealth Lifestyle Coaching Program in Denmark: A Randomized Controlled Trial

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### Abstract

**Background:** Long-term weight loss among subjects with obesity can reduce the risk, and progression of noncommunicable diseases (NCDs) such as cardiovascular disease, respiratory disease, and type 2 diabetes (T2D). Unfortunately, long-term weight loss has been historically difficult for patients with obesity and T2D to achieve and maintain. Observational studies suggest that digital coaching can lead to long-term weight loss and potentially reduce the risk of developing NCDs.

**Objective:** To assess whether an eHealth lifestyle coaching program (LIVA) for motivated subjects with obesity with or without T2D leads to significant weight loss compared to usual care.

**Methods:** In an open, randomized controlled trial, 340 subjects with obesity with or without T2D were enrolled from March 2018 to March 2019 and randomized to the intervention (200) and control (140) groups. The digital lifestyle intervention comprised an initial one hour face-to-face motivational interview followed by digital coaching using behavioral change techniques enabled by individual live monitoring.

**Results:** At 12 months, data were assessed for 200 patients, 127 from the intervention group and 73 from the control group. The mean reductions in body weight ( $P = 0.01$ ) and BMI ( $P = 0.00$ ) were significantly higher in the intervention group ( $-4.61$  kg (95% CI,  $-5.7$ ;  $-3.4$ ) and  $-1.5$  kg/m<sup>2</sup> (95% CI,  $-1.9$ ;  $-1.2$ )) compared to the control group ( $-1.4$  kg (95% CI,  $-2.6$ ;  $-0.1$ ) and  $-0.5$  kg/m<sup>2</sup> (95% CI,  $-0.9$ ;  $-0.1$ )). HbA1c was reduced in both the intervention and control group without significant group difference. Blood pressures and lipid profile did not change significantly.

**Conclusion:** Compared to usual care, digital lifestyle coaching can induce significant weight loss in obese subjects with or without T2D.

## Factors affecting the general practitioner's decision to prescribe pain medication

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**Background:** Musculoskeletal (MSK) pain is one of the most common reasons for consulting the general practitioner (GP) who can provide several treatments for managing MSK pain. One treatment option is pain medication. The aim of the present study was to explore the GPs' attitudes towards: 1) management of MSK pain; 2) prescription of pain medication for MSK pain.

**Methods:** This was an exploratory sequential mixed-method study including both a quantitative and a qualitative part. For the quantitative part, GPs were asked to complete a questionnaire-based online survey, including questions on the attitudes towards the management of MSK pain, the prescription of pain medication and factors associated with the choice (more than one response option could be selected). For the qualitative part, a subgroup of GPs participated in semi-structured interviews.

**Results:** Thirty-nine GPs (56% females; mean age  $44.1 \pm 6.3$ ) completed the online survey. For most GPs (59%), the treatment depends on the individual patient: 33% reported delivering a treatment in combination with pain medication and 8% indicated the sole use of pain medication. Factors affecting the decision to prescribe pain medication or not were: the pain characteristics (77%), the presence of comorbidities (77%), the knowledge of the patient (69%), the effect and side-effects of pain medication (64%), the patient's medical history (64%) and the patient's characteristics (56%). Seven GPs participated in the interviews and indicated pain medication prescription for the patients' daily activities and functionality (i.e., work and sleep) or after the patients' pressure and the lack of suitable alternative pain management strategies as opposed to pain medication.

**Conclusions:** This survey showed that Danish GPs tend to manage MSK pain with a patient-centered approach, and the sole use of pain medication is not the preferred strategy. The lack of alternative reliable MSK pain management strategies was stressed by GPs

## Considerations on health literacy in general practice

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**Background:** In recent decades, navigation in modern healthcare has become increasingly difficult. Since the 1970s, the term health literacy (HL), defined as an individual's ability to access, understand, appraise, and apply health information, has been increasingly used in the field of health science. Research indicates that low HL may interfere with the individual's daily living, while also increase the need of healthcare services, particularly for patients suffering from chronic diseases. The aim of this study was to investigate if general practitioners (GPs) consider their patients' level of HL when deciding on the treatment for chronic musculoskeletal pain.

**Methods:** This was a sequential explanatory mixed-method study, integrating both quantitative and qualitative data. Danish GPs were invited to respond to an online questionnaire and subsequently participate in an interview on the same subject, covering domains such as their preference regarding pain treatment and their view on HL, among others.

**Results:** Thirty-nine GPs (mean age  $44.1 \pm 6.3$  years; 56% females) completed the questionnaire, and 7 participated in the interviews. The questionnaire-based results showed that less than half (38.5%) of the GPs consider HL an important factor when deciding on the treatment for musculoskeletal pain. The same proportion (38.5%) considered the patients' ability to self-care important, while fewer GPs (28.2%) considered important the patient's ability to understand health information. However, the results from interviews showed that HL has some influence regarding the GPs decision on pain treatment, though they seemed to be unaware of it as it is an automatic part of the consultation with patients. GPs also reported that they consider their patients fairly skilful in handling their conditions.

**Conclusions:** GPs partly included the HL of patients with chronic musculoskeletal pain in an automatized and subconscious way when deciding on the pain treatment to provide to patients.

## Recruitment of co-parents to a general practice-based trial

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### Recruitment of co-parents to a general practice-based trial

**Background:** Fathers and co-parents in general are under-represented in research concerning children's wellbeing, especially in studies addressing families' psychosocial dynamics. We know that parental characteristics affect child development from an early stage in life, but most cohorts exclusively focus on the mother.

The Family Resilience (FamilieTrivsel) trial explores psychosocial and socio-economic factors (prenatal and postpartum) in children's psychological and physical development. With an initial recruitment of 806 mothers, the study also aimed to recruit co-parents (mainly fathers) via an invitation from the mother.

**Objective:** To examine the extent to which co-parents were recruited to the cohort.

**Materials/Methods:** The mothers were first recruited through their general practitioner (GP). To include the partner, the mother first had to invite them by providing a social security number to the research team, after which the partner gave electronic consent. From then on, the partner could complete questionnaires related to the study.

**Results:** Data collection is still in progress. So far, only one third of the mothers have invited their partners to the project, half of whom consented to the inclusion. One third of the consenting co-parents actually completed questionnaires, meaning that fewer than 10% of the mothers successfully included a participating partner.

**Conclusion:** Inclusion of co-parents in general practice-based studies facilitated through the mother leads to low participation rates, even in the context of an electronic recruitment method.

**Point for discussion:** How should we recruit fathers and other co-parents to future research about pregnancy or child wellbeing?

## Healthcare workers' perspective to working conditions and personal protective equipment during the COVID-19-pandemic - A qualitative comparative study between primary and tertiary healthcare

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**Introduction:** The COVID-19 pandemic has globally affected healthcare workers' (HCWs) health and wellbeing. We wanted to increase knowledge of the healthcare workers' perspectives on personal protective equipment, guidance and work-related wellbeing. We especially wished to explore the effects of the pandemic on the less studied primary healthcare.

**Design:** A retrospective cross-sectional cohort survey with self-administered online questionnaire. The survey consisted of forced choice questions, multiple choice and open ended questions. Participants included in the study were over 18 years old and worked in healthcare facilities, with direct patient contact.

**Setting:** HCWs of the City of Helsinki (primary healthcare) and Helsinki University Hospital (tertiary healthcare) in the period of June 2020 – April 2021.

Open ended questions were analyzed with N-vivo -tool and statistical analysis of forced choice and multiple choice questions by using the SPSS-tool.

**Subjects:** Altogether 1580 HCWs participated on the study, 895 from tertiary and 685 from primary healthcare.

**Main outcome measures:** Comparison of HCWs' experiences with personal protective equipment, guidance, and wellbeing during the COVID-19 between primary and tertiary healthcare.

## Insulin resistance before and after gestational diabetes - Findings from Northern Finland Birth cohort 1966

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### Background

Gestational diabetes mellitus (GDM) and obesity are getting more and more prevalent, and obesity is suggested to be the most important risk factor for increasing insulin resistance and GDM. However, there is lack of studies evaluating glucose metabolism before pregnancy in women with subsequent GDM. The aim of this study was to evaluate insulin resistance before pregnancy in BMI-matched nested case-control (GDM – non-GDM) study.

### Methods

This nested case-control study population is part of Northern Finland Birth Cohort 1966. The cases (n=82) and controls (n=191) gave birth between the ages of 31 and 46. The controls were matched by body mass index (BMI, kg/cm<sup>2</sup>) and parity at the age of 31. Body weight and height, waist circumference (WC, cm) and fasting plasma glucose (FPG, mmol/l) and fasting serum insulin (FSI, mmol/l) concentrations were measured at the age of 31 and 46 and homeostatic model assessment for insulin resistance (HOMA-IR) was calculated.

### Results

At the age of 31 there was no difference between the cases and controls in mean BMI (cases 22.7 and controls 22.2, p=0.088) and WC (cases 74.5 and controls 73.5, p=0.196). However, FPG (cases 5.00 and controls 4.80, p<0.001), FSI (cases 7.30 and controls 6.80, p=0.038) and HOMA-IR (cases 0.949 and controls 0.868, p=0.017) were all higher in cases than in controls at the age of 31. After 15 years at the age of 46 BMI (cases 26.9 and controls 24.4, p=0.001), WC (cases 90.2 and controls 83.0, p=0.002), FPG (cases 5.50 and controls 5.20, p<0.001), FSI (cases 8.70 and controls 6.10, p<0.001) and HOMA-IR (cases 1.16 and controls 0.804, p<0.001) were all higher in cases than in controls.

### Conclusions

This study suggests that women with GDM have more insulin resistance already before pregnancy than women without GDM and this is not only related to higher BMI.



## Multimorbidity and Anxiety in Midlife – Findings from Northern Finland Birth cohort 1966

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### Background

Multimorbidity is a major public health concern and one of the most challenging issue for health care system and health professionals. Multimorbidity has been suggested to associate with anxiety. However, definition of multimorbidity in previous studies have mainly based on self-reported symptoms or diseases and some of the studies have included only few diagnoses. Aim of this study was to evaluate the association between the number of chronic diseases and anxiety symptoms at the population level.

### Methods

Study population consists of Northern Finland Birth Cohort 1966 (n=5663) participants who answered 7-item General Anxiety Disorder questionnaire (GAD-7) at the age of 46 years. The cut-off point of  $\geq 7$  was used to define the presence of anxiety symptoms. Number of chronic diseases was counted using both self-reported doctor-diagnosed and register-based chronic diseases (hospital discharge and medication registers). Altogether 32 most common chronic diseases were included.

### Results

At the age of 46-years 40.4% did not have any chronic diseases, 30.2% had one, 16.5% two, 7.4% three and 5.4% had four or more chronic diseases. The presence of anxiety symptoms associated with the number of chronic diseases ( $p < 0.05$ ). The prevalence of anxiety symptoms was 6.9% in those without chronic diseases and 9.0%, 12.4%, 19.9% and 27.3% in those with one, two, three and four or more chronic diseases, respectively. When excluding psychosis, depression and anxiety from the count of chronic diseases, the prevalence of anxiety symptoms was 8.2% in those without chronic somatic diseases and 9.9%, 16.2%, 15.2% and 21.0% in those with one, two, three and four or more somatic chronic diseases, respectively.

### Conclusions

Over one fifth of those with four or more chronic diseases reported anxiety symptoms. From the clinical point of view, anxiety often precedes depression and therefore more attention should be paid for the anxiety among multimorbid patients.

## Early inspiratory crackles and its relation with COPD and variables of severity.

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### Background

COPD patients can be grouped into different phenotypes, this can help personalize treatment and predict outcomes. Inspiratory crackles correlate with a diagnosis of COPD and its prevalence is 41 %. Since early inspiratory crackles has a significant correlation with a reduction in FEV1 and SpO2 in a general population we wanted to explore the possibility that COPD patients with early inspiratory crackles may have a more severe form of COPD.

### Methods

As part of the Tromsø 7 study we auscultated 4033 participants and the lung sounds were classified as normal or having early or late crackles. Participants performed a spirometry, had blood analyses and answered questionnaires about symptoms and disease. We selected the participants with FEV1/FVC under LLN and grouped them by normal auscultation, early and late inspiratory crackles. We then performed chi square and Student T test to look for statistically significant differences between these groups in age, cough over 3 months, mMRC over 1, SpO2  $\leq$  95%, FEV1 under LLN, self-reported health scale, Hs- CRP, smoking status, blood neutrophils and eosinophiles.

### Results

From the 4033 subjects, 388 had FEV1/FVC under LLN. 24 had early crackles 33 had late crackles. We observed that the group with early crackles on auscultation had a higher age, prevalence of smoking, higher probability of dyspnea and low oxygen saturation as well as a lower self-rated health. We did not observe these differences in the group with late crackles.

### Conclusions

It seemed the presence of early crackles correlated with some variables associated with the severity of COPD. It is not clear weather this feature can effectively be used to effectively classify COPD for treatment and prognosis. More studies are needed.

## Point-of-care PCR testing for respiratory tract infections in general practice

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### Background:

Respiratory tract infections are frequent reasons for contact to the general practitioner (GP). Lack of accurate diagnostic possibilities may leave patients concerned about whether the suggested treatment is correct. Re-contacts to the GP are appropriate if the patient's symptoms worsen. They are, however, not appropriate if the reason is due to insecurity about the diagnosis and the treatment. Re-contacts are costly for society, but they are also unsatisfactory to the patient and the clinician, because they may indicate that tentative diagnosis or treatment were not successful.

Introducing point-of-care (POC) PCR in general practice may potentially improve diagnostic accuracy and hence patient re-assurance and outcome. However, to date, implementation of POC PCR in the EU including Denmark has focused on hospital and emergency care settings. In the Danish healthcare context, the GP handles most respiratory tract infections without referring the patient to further diagnosis or treatment in hospitals.

**Objective:** To investigate the effects of introducing POC PCR testing for respiratory tract infections in general practice in Denmark on the number of re-contacts to general practice.

### Methods:

A cluster-randomized controlled trial with cross-over design in Danish general practices is planned for autumn 2022. To qualify this we conducted a feasibility study in 2021.

### Results:

Five GP clinics participated in the feasibility study, and overall, the clinicians saw some potential in POC PCR in general practice. However, the feasibility study revealed some barriers for implementation and highlighted important clinical aspects. The study protocol for the RCT was qualified accordingly.

### Conclusion :

Analyses of barriers and facilitators for use of PCR in General Practice are important to ensure a relevant and highquality RCT. At the conference detailed results from the feasibility study as well as the plans for the upcoming RCT will be presented.

## Patients' couple relationship problems – what can, or should a GP do?

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### Background

Relationship problems are important risk factors for several health problems, such as coronary heart disease, stroke, immune response, and wound healing. Couple relationships are the most important relationships because of the intimate connection between the partners. This connection is supposed to replace the connection a child has to its parents and has the same quality. That is why such relations are more important for health than friends or colleagues. One in three patients want to talk with their GP about their couple relationship, and one in four patients in GP waiting rooms have done so. GPs often offer supportive therapy when patients reveal couple relationship problems in consultations but are seldom aware of the pitfalls of individual therapy on couple relationship problems, such as constraining change, side-taking, and inaccurate assessments based on individual client reports. Tools to assess and help patients with couple relationship problems in consultations have been requested.

### Aim and learning objectives

The aim of this workshop is to present research-based tools for assessing and strengthening couple relationships and discuss how they can be implemented in a GP practice.

### Methods and timetable

15 min: Introduction about couple relationship problems in general practice – what do we know?

60 min: Presentation of different tools and how they can be used in GP consultations. The presentation will contain practical exercises by the presenters to show how the tools can be used, and group discussions on the feasibility for use in general practice.

15 min: Summary and definition of take-home messages.

### Conclusions

This workshop will provide insight into possibilities of a method for handling couple relationship problems in GP consultations. Tips and tricks will be shared, and feasibility will be discussed among colleagues. After this workshop colleagues will be empowered in how they can manage their patients' couple relationship problems.

## Exploring patients' experiences from revealing couple relationship issues with their general practitioner. A qualitative study.

MD, GP, PhD-student Siri Dalsmo Berge<sup>1</sup>, MD, GP, PhD, Professor Mette Brekke<sup>2</sup>, MD, GP, PhD, Professor emeritus Eivind Meland<sup>1</sup>, MD, GP, PhD, Associate Professor Thomas Mildestvedt<sup>1</sup>

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### Background

Couple relationship problems are common and associated with health problems. Most patients agree that couple relationship problems may influence their health. One in three patients wants to talk with their GP about their couple relationship, and one in four patients in GP waiting rooms has done so. GPs are familiar with providing supportive or cognitive therapy when patients reveal couple relationship problems in consultations. The aim of this study was to explore patients' experiences and expectations when revealing couple relationship problems in consultations in general practice.

### Methods

In this exploratory and qualitative study, semi-structured interviews with 17 patients were conducted during 2021. Patients were recruited by social media, newspapers, and information screens at GP waiting rooms. The participants were asked to talk about specific consultations of their choice in which they remembered to have revealed their couple relationship with their regular GP. Data will be analyzed using systematic text condensation.

### Results

The material consists of 76.5% female and 23.5% male informants, aged 32-66 years (median 46 years). Their educational level was high school education (41.2%) and higher education (58.8%). Of those who were living with a partner (64.7%), median time of marriage/cohabiting was 16 years (range 2-45 years). The data collection is finished, and the analyzing process will be conducted during winter and spring 2022. The qualitative results will be presented at the NCGP2022 in Stavanger.

### Conclusions

This qualitative study gives guidance to what role GPs should have regarding their patients' couple relationship problems

## Temporal Changes in Sleep in Relation to Changes in Quality of Life and Work Ability among Finnish Municipal Employees

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### Background

Sleep is essential to our health, and sleep issues also affect our quality of life and ability to work. In the current study, we aimed to examine whether changes in self-reported sleep quality, sleep duration, and sleep medication use are temporally associated with changes in quality of life and work ability in municipal employees when several confounding factors are considered.

### Methods

This prospective follow-up study was conducted in Finland among 637 municipal employees (88% women, mean age 48 (SD=10) years) in 2014 and 2015. Information about the participants was collected by self-administered questionnaire and from medical history. Predicting variables were changes in self-reported sleep quality, sleep duration, and sleep medication use. Outcome variables were changes in the EUROHIS-QOL 8-item index and the Work Ability Score.

### Results

Improved or unchanged sleep quality compared to worse sleep quality were associated with a preferable change in quality of life (both  $p < 0.001$ ). No change in sleep duration compared to a decrease and no change in sleep medication use compared to increased use were also associated with favourable changes in quality of life. Increased use of sleep medication was associated with a decline in work ability, and the change in Work Ability Score also differed significantly between improved and worsened sleep quality.

### Conclusions

In this study, changes in sleep were widely associated with changes in quality of life and work ability of municipal employees. Programs aiming for better sleep health would probably be beneficial both from a health-oriented and an economical point of view. Special attention should be paid to employees with a need for sleep medication.

## Hypertension treatment in the oldest-old: Focus group interviews with Swedish GPs

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### Background:

Hypertension prevalence increases with higher age, even in Sweden. The majority of the oldest patients (≥80 years) having hypertension are cared for by General Practitioners (GPs) in Primary Health Care Centres (PHCCs) in Sweden. Decision making regarding treatment of the elderly patients is often complicated, because of multimorbidity and polypharmacy. Despite evidence supporting benefits of treating patients ≥80 years with hypertension, the elderly receive less intensive treatment than younger patients. Challenges for the GP are to balance the scale to avoid undertreatment, thus increasing risk for cardiovascular and renal complications, but also avoid overtreatment and polypharmacy with increasing risk for side-effects. This study explored the considerations and experiences of Swedish GPs of hypertension treatment in patients ≥80 years.

**Methods:** A qualitative design with focus group interviews. GPs and GP trainees working in PHCCs in the Region of Västra Götaland, Sweden were included. Data were analysed by qualitative content analysis.

**Results:** Five focus group interviews were performed. Eighteen GPs and six GP trainees participated in the study. The latent content was formulated in a theme: 'The physician's decision-making in the treatment of hypertension in the oldest-old'. The manifest content constituted three main categories: 'The patient characteristics', 'the physician's role' and 'the treatment decision'. For the future, the participants proposed better guidelines for the oldest-old multimorbid patients and increased teamwork with nurses.

**Conclusion:** Hypertension care for the oldest-old was experienced as complicated by GPs. The decision-making in treatment regarded both patient's characteristics and the GP's professional role in balancing of the scale. The GP's experience, the received support and communication with the patient were also of importance.

## “Patients with multimorbidity in physiotherapy practice: Physiotherapist’s experience of needs, treatment and cooperation – a qualitative study”

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### Background:

The number of patients with more than one chronic condition (multimorbidity) is rising. In Denmark 22% of the population above the age of 16 years and half the population above 65 years, suffer from more than one condition at the same time. This patient group suffers increased mortality and decreased quality of life, while having an excess of health care costs.

For the patients, the burden of disease (symptoms and functional impairment) and the burden of treatment (side effects of medicine, contact different places in the healthcare system) both plays places a central role. Musculoskeletal disorders are often included. The collaboration in the health care system concerning these patients are insufficient.

Physiotherapists who work in private practice also treat patients with multimorbidity, but it is unknown how the physiotherapists attend and show consideration to the different chronic conditions in the treatment.

### Aim and learning objectivities:

The purpose of this study is to create a foundation from which development and improvement of treatment in physiotherapy practice can take place and to create collaboration with other healthcare professionals regarding patients with multimorbidity.

### Method:

Two types of data was collected for this study between February 2021 and October 2021 in three different physiotherapy private practices in the region of Zealand in Denmark. A total of 13 physiotherapists (7 men and 6 women), who worked in private practice, were interviewed in focus groups divided into three groups. Observations of consultations with patients with multimorbidity were carried out in the three practices. We used an inductive approach inspired by Kathy Charmaz’s Grounded Theory to analyze the data.

### Results and conclusion:

The full analysis of the data are not yet conducted, and therefore not yet possible to make a conclusion of the results.



## Residential Radon and the Risk of Lung Cancer in Never-Smokers

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### Background

Lung cancer causes 3,574 deaths annually in Denmark [1]. An estimated 10-15% of the cases are never-smokers [2]. Radon is a known risk factor for lung cancer [3]. The action level for residential radon is set to 100 Bq/m<sup>3</sup> by the World Health Organization [4], which equals the legal limit for new houses in Denmark [5]. As a medical doctor in one of the areas of Denmark with the highest levels of radon, I aimed to investigate the significance of residential radon as an independent risk factor for lung cancer in never-smokers.

### Methods

The PubMed database was searched using the terms: Radon, residential/domestic, "lung cancer", non-smoker/never-smoker. 30 articles were found. Articles presenting diagnosis of lung cancer among never-smokers were eligible for inclusion. Two original articles and the most relevant and recent meta-analysis were selected for inclusion.

### Results

A new meta-analysis including 2,341 cases of lung cancer among never-smokers found an excess relative risk (RR) of 0.15 (95% confidence interval (CI) 0.06-0.25) per 100 Bq/m<sup>3</sup> [6]. A Danish cohort study found 99 cases among 52,692 cohort members. Incidence RR was 1.67 (95% CI 0.69-4.04) per 100 Bq/m<sup>3</sup> [7]. A Korean case-control study with 297 cases presented an odds ratio of 1.40 (95% CI 0.81-2.43) for lung cancer related to radon levels >100 Bq/m<sup>3</sup> [8].

### Conclusions

I found evidence of a linear correlation between residential radon exposure and the risk of lung cancer among never-smokers. The weaknesses of the included studies involve the sparse number of cases and the risk of residual confounding in case-control studies. Moreover, it is challenging to perform sufficient measurements of radon exposure. General practitioners in geographical areas with high levels of radon exposure should pay attention to the detection of lung cancer, also among never-smokers.

## What's in it for me as doctor - gaining control by collaborative care manager team work and person centred care

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Depression, anxiety and stress related mental disorders are increasing as reason for both care seeking and sick certification. Patients with common mental disorder often need longstanding contact with primary care and continuing sick-leave, and are often perceived as burdensome and stressful for the doctor.

We present results from the PRIM-CARE and CO-WORK-CARE RCT trials where collaborative organization at the primary care centre with a care manager supports development of a team based care. In close cooperation both the GP, the care manager (nurse), plus therapy and rehabilitation personnel when needed, cooperate around the patient. For patients with depression, return to work significantly increases, and for stress related mental disorder stress levels decrease substantially. For the GP, the structured team based cooperation is perceived as a way to perceive relief and gain control in an often complicated and protracted care situation. For the patient, the care manager and team based care gave perception of support and taken care of. Health economic evaluation reveals high and increasing cost effectiveness of the care manager organisation.

Discussion in workshop: Based on presentation of results from PRIM-CARE and CO-WORK-CARE trials we will discuss: How can a collaborative care organization with care manager and team based care be shaped to fit and be suitable for different primary care and general practice organisations when it comes to care for patients with common mental disorders? What's in it for the doctor – more job and less control – or the other way round?

## Association between maternal income and preconception psychiatric diagnosis in a Finnish birth cohort

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### Background

Physical, emotional and socioeconomical factors influence and define overall health. In a young woman's lifespan, the preconception period is vulnerable in several complex ways. Postpartum mental health has been focused upon for decades, but preconception maternal mental health has largely been neglected in research settings. In recent studies focusing on young women, association between low household income and mental illness have been reported. The prevalence of psychiatric diagnosis in women of childbearing age is globally increasing. The aim of this study was to observe the association between preconception mental health and maternal income.

### Methods

This is an observational register-based study. The study cohort consisted of 6189 women, who delivered a singleton between 1st January 2009 and 31st December 2015 in the city of Vantaa, Finland. Data of pregnancies was collected from The Finnish Medical Birth register, annual maternal income from Finnish Tax Administration and level of education from Statistics of Finland. From the Care Register for Health Care, we obtained data on maternal psychiatric diagnosis one year before conception.

### Results

The annual income of women with preconception psychiatric diagnosis was significantly lower than that of women without psychiatric diagnosis. The difference was more than 4600 euro annually after adjustment for age and education. The most common psychiatric diagnosis was CDM (common mental disorders, i.e., depression and anxiety). The prevalence of CDM was 3.1% one year prior to pregnancy. Women with mental disorders more often belonged to lower socioeconomic groups. They were younger, more often smoking and living alone and had lower educational attainment and income than women without psychiatric diagnosis.

### Conclusions

The findings of this study based on comprehensive and valid Finnish register data can be useful when planning, organizing, and providing preventive health care measures.

## Primary care referrals to acute hospital admissions

MD, Head of National Centre for Emergency Primary Health Care Jesper Blinkenberg<sup>1,2</sup>, MD, ph.d. candidate Ellen Rabben Svedahl<sup>3</sup>, Professor Johan Håkon Bjørngaard<sup>3</sup>, Clinical associate professor Claus-Henrik Rasmussen<sup>4</sup>

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### Background

Primary care is strong in Nordic countries. In Norway, Denmark and Finland, primary care doctors perform a gatekeeper function and play an important role in patients access to acute hospital care. This may reduce the number of admissions without impairing patient safety. Relative to its importance, the gatekeeper role has been sparsely explored, partly due to a lack of relevant data and methods. However, in recent years, several research groups have used large scale health registries for this purpose.

### Methods

Three studies based on national health registries from Norway will be presented, and one service innovation-project from Denmark. The effect of GP characteristics on referral rates, referral threshold, patient safety and reasons for referrals from GPs and OOH doctors will be explored, as well as the effect of enhanced and optimized medical assessment in home visits to nursing homes.

### Results

The symposium will comprise of four papers on primary care doctors' referrals to acute hospital admissions, with subsequent discussion:

1. Effects of GP characteristics on unplanned hospital admissions and patient safety, Svedahl ER.
2. Reasons for acute referrals to hospital from GPs and out-of-hours doctors, Blinkenberg J.
3. Out-of-hours referral to hospital – the impact of altering the referral threshold on patient safety and further health service use, Bjørngaard JH.
4. ED doctors and community nurses visiting nursing home patients when ambulance is called out - the effect on acute hospital admissions, Rasmussen CH.

### Conclusion

Research on primary care doctors' gatekeeping to acute hospital admission is essential to understand the healthcare system, and better knowledge on this is crucial to develop a sustainable healthcare for the future. Participants will get an update on the topic and there will be a possibility to explore opportunities for collaboration in research activities in this field.

Jesper Blinkenberg will lead the symposium.

## Cancer risk in persons with ‘anaemia of inflammation’ according to comorbidity

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**Background:** Anaemia occurs in 17% of persons aged 65+ years, and ‘anaemia of inflammation’ (AI) is one of the most common anaemia types in clinical practice. AI is associated with comorbidities (e.g. cardiovascular disease), and often referred to as chronic anaemia. However, previous research revealed that persons with new-onset AI in general practice had a cancer risk of 15-18% within 12 months. Poor evidence exists on the cancer risk in persons with new-onset AI in general practice in relation to existing comorbidity.

**Aim:** In an unselected general practice population, we aimed to establish the cancer risk in persons with new-onset AI in relation to comorbidity.

**Methods:** This observational population-based cohort study used individually linked data from Danish laboratory information systems and nationwide registries in 2014-18. We included persons aged 40-90 years without prior history of cancer and with new-onset AI detected in general practice. We measured the cancer incidence according to comorbidity during 12 months of follow-up.

**Results:** A total of 2,640 persons with AI (median age, 71 years, interquartile interval [62-79]; 57.4% without comorbidity) were included in the study. In total, 20.8% (95% confidence interval (CI): 18.7-22.8) of persons without comorbidity and 11.7% (CI: 9.8-13.5) of persons with pre-existing comorbidity were diagnosed with cancer during 12 months. Across comorbidity groups, the highest cancer risk occurred in persons with diabetes (15.3%, CI: 10.2-20.4), and the lowest cancer risk occurred in persons with mental illness (11.6%, CI: 7.0-16.2). Differences in age may contribute to disease-specific findings and age-stratified analyses are pending.

**Conclusion:** A markedly high cancer risk occurred in persons with new-onset AI without pre-existing comorbidity. Still, persons with pre-existing comorbidity had a high cancer risk. Increased awareness of new-onset AI in general practice as a marker of cancer is important in order to enable timely diagnoses with improved prognoses.

## Increased incidence of IBD and microscopic colitis after *Cryptosporidium* outbreak.

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**Background.** In 2010, the Swedish city of Östersund was hit by an outbreak of *Cryptosporidium hominis*. 27,000 inhabitants (45% of the population) contracted clinical cryptosporidiosis after drinking water from the contaminated public water supply. Östersund is the capital of Region Jämtland Härjedalen. Gastroenterologists at the regions' only hospital perceive that the incidence of inflammatory bowel disease (IBD) (ulcerative colitis, Crohn's disease, and unspecified colitis) has increased after the outbreak. We performed a study to assess whether the incidences of IBD and microscopic colitis (MC) have increased.

**Methods.** Observational study. We included adult patients (>18 years) that received a pathology-confirmed IBD or MC diagnosis in Region Jämtland Härjedalen between 2006-2019. We collected and validated sex, age at diagnosis, diagnosis and date of diagnosis from the national patient register SWIBREG and electronic patient records. Population data for each year was collected from Statistics Sweden.

Pre-outbreak (2006-2010) and post-outbreak (2011-2019) incidences were evaluated with negative binomial regression analysis and presented as incidence risk ratios (IRR) with 95% confidence intervals (CI). Data were analysed for IBD, ulcerative colitis and Crohn's disease, and MC separately.

**Results.** During the study period, 410 patients received an IBD diagnosis, and 155 new cases of MC were identified. Post-outbreak, we noted a trend towards an increased risk for IBD (IRR 1.39, CI 0.99-1.94) as well as a sixfold increased risk for MC ( $p < 0.005$ ). When looking at individuals aged  $\geq 40$  years only, we found an increased risk for IBD (IRR 1.69, CI 1.13-2.51) and Crohn's disease (IRR 2.23, CI 1.08-4.62) post-outbreak.

**Conclusions.** After the *Cryptosporidium hominis* outbreak, the incidences of MC and IBD with onset in older age, have increased. Infection with *Cryptosporidium hominis* might be an environmental risk factor for developing IBD or MC.

## Task Shifting in Out-Of-Hours Primary Care – A Review of the Literature

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**Background:** An increased workload combined with workforce shortage among general practitioners (GPs) and other healthcare staff is challenging out-of-hours (OOH) general practice. Task shifting from the GP to other professionals could improve treatment capacity, but so far, evidence mainly exists on task shifting in daytime care where it has proven to be relevant and beneficial. In contrast, evidence is lacking on task shifting in OOH services. To this end, a PhD project will: conduct a literature review and an interview study to explore factors influencing task shifting in OOH general practice; and develop and evaluate a model for task shifting at OOH general practice. The aim of the review is to assess existing evidence on the use of healthcare professionals (other than GPs) in task shifting in face-to-face contacts at OOH general practice, focusing on the content and the quality of care provided by existing models.

### Methods:

Electronic searches were conducted in PubMed/Medline, The Cochrane Library, Embase, and CINAHL on 13th of December 2021 for studies on task shifting from the GP to other healthcare professionals (e.g., nurses, physician assistants, and paramedics) in face-to-face contacts (i.e. clinic consultations and home visits) in OOH general practice.

Included articles are quality appraised and data on one or more of the following outcomes is collected:

1. Content: patient groups and type of complaints
2. Quality: patient satisfaction, healthcare professional experiences, safety (such as unplanned admissions, mortality), and efficiency (such as consultation length, diagnostic tests and referrals)
3. Existing models: healthcare professionals' role and use of skills, collaboration between healthcare professionals

### Results and conclusion:

A total of 981 articles are screened for eligibility. The screening of articles and analysis will be conducted in January-April 2022. Outcomes will be described and analyzed thematically.

## Physician factors associated with medical errors in Norwegian primary care emergency services

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Medical errors are among the leading causes of death, and they are essentially avoidable. Primary care emergency units (PCEUs) are a vulnerable arena for committing medical errors. We used written patient complaints to uncover the occurrence of patient safety incidents in PCEUs in Norway and the impact of various physician factors.

### Methods

Ten PCEUs in major cities and rural parts of Norway participated, covering one third of the Norwegian population. A case-control design was applied: cases being complaint-evoking physicians; controls were three randomly chosen physicians from the same PCEU. The chosen physician factors were gender, citizenship at, and years after, authorization as physician, specialty in general practice and workload. Workload was calculated as the number of patients during the fourteen-day period prior to and including the day of the complained consultation. Information was retrieved from the medical records and the Norwegian physician position register. This material was the basis for the assessments of medical records identifying medical errors considered potentially harmful to patients. Hereby uncover physician factors related to these errors. Physician behavior was not within the scope of this study.

### Results

78 cases and 217 controls were included during 18 months from September 2015. The risk of evoking a complaint was significantly higher for physicians without specialty in general practice, and lower for those with a workload higher than one duty during the fourteen-day period.

No differences in physician factors were found in the incidence of medical errors in the complaint group.

### Conclusion

Post-graduate education and practical experience seem to be crucial factors to address to prevent medical errors. The Norwegian regulations set requirements for independent participation in the PCEUs. This may have modulated our findings as these regulations contain requirements for both practical experience and continuing education.



## Referrals on the grounds of supplemental health insurance: A survey among general practitioners in Norway

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### Introduction

The tax-funded universal health care system in Norway is ranked as one of the best among high income countries. Nevertheless, supplementary health insurance which can give faster access to private health providers without extra costs is becoming common among Norwegians.

### Objective

To investigate Norwegian GPs' attitudes and experience with consultations where supplementary health insurance could impact on the course of action.

### Methods

All members of the Norwegian College of General Practice were in December 2019 invited to an online survey about referrals on the grounds of supplementary health insurance. Prevalence was reported as proportions. Multivariate logistic regression was used to test associations between the dependent variables and GP characteristics, as well as attitudes to, and experiences with consultations where supplementary health insurance was an issue. Two dependent variables were dichotomized; GPs who reported that they feel under pressure to refer patients covered by supplementary health insurance when they considered this not to be medically warranted, and GPs who refer these patients without further examination or questioning.

### Results

1309 responding GPs were included (response rate 28%). 42% of GPs reported experiencing pressure from patients with health insurance to refer when they considered this not to be warranted. 28% chose to refer without further examination or questioning. 67% experienced that these patients insist more on getting a referral than other patients, and multivariate logistic regression showed a correlation both with being under pressure to refer (odds ratio 7.48,  $p < 0.001$ ), and to unconditionally refer patients (odds ratio 2.00,  $p < 0.001$ ). Having often or always been met with aggression, threats or reprisals when refusing to refer was reported by 20%, and this experience was associated with pressure to refer (odds ratio 5.46,  $p < 0.001$ ) and to refer unconditionally (odds ratio 2.33,  $p < 0.001$ ).

### Conclusions

Supplementary health insurance seems to challenge the gatekeeping function of Norwegian GPs.

## Luckily – I am not the worrying kind: experiences from patients in the Danish Non-specific Symptoms and Signs of Cancer-Cancer Patient Pathway

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In Denmark, due to implementation of the Non-specific Symptoms and Signs of Cancer-Cancer Patient Pathway (NSSC-CPP), more people with symptoms such as fatigue and weight loss are informed that they might have cancer as they go through diagnostic work-up with the suspicion of cancer. But what do patients who go through an NSSC-CPP experience? We conducted participant observation and semi-structured interviews with patients referred to the NSSC-CPP to investigate their experience of the NSSC-CPP with a specific focus on their perception of symptoms and thoughts about worry of cancer. We found that the phrase “worry of cancer” was not recognized by the participants but visible in their increased healthcare use and interpretation of bodily sensations. Our study indicates the need to explore the impact of anticipation and potential worries of cancer in the participants’ everyday life as this context mediates cultural and moral roles and responsibilities and restructures social life, while keeping uncertainty and probabilities on the table.

## Sarcopenia: early prevention or overdiagnosis?

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I: Sarcopenia is the phenomenon of age-related loss of muscle mass and function. It was assigned with an ICD-10 diagnosis code in 2016. In 2050, the prevalence is expected to rise to more than 2 billion people. Expert groups recommend all individuals older than 65 years to be annually screened in general practice. At the same time, overdiagnosis is an increasing global problem. Overdiagnosis is about “making people patients unnecessarily, by identifying problems that were never going to cause harm or by medicalising ordinary life experiences through expanded definitions of diseases. The question is; does science support the sarcopenia to be a diagnosis? If not, are we then risking overdiagnosis?

M: Based on the most influential work on sarcopenia, we analyse to what extent there exist evidence to answer following essential diagnostic questions: 1) how is disease distinguished from normal age related changes? 2) Does the diagnosis affect prognosis or treatment? 3) Does the diagnosis cause unintended effects (including overdiagnosis)?

R: The quality of supporting evidence for the management of sarcopenia was low and the three questions remain unanswered by the existing evidence.

D: Thus, before establishing sarcopenia as a disease in general practice, we need more evidence that the condition meets essential diagnostic criteria. From a medical perspective, clinically assessing and improving the health of a vulnerable patient does not necessarily require more diagnoses than those already available.

## Methodological challenges in measuring unintended harms in screening and health checks

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**Background:** Our research show that quantification of harms in cancer screening trials is rare; overdiagnosis and false positives are only reported in 7% and 4% of studies, respectively. For several years, we have conducted research on potential unintended harms of medical screening and health checks using different scientific theories and methods to produce diverse types of evidence.

**Aim and learning objectives:** In this workshop, we will present empirical examples of measuring and evaluating harms of screening and health checks, while encouraging the discussion of these. The workshop aims to upskill attenders in methodological aspects of the evaluation of harms and create opportunities for research collaboration across disciplines and countries.

**Methods and timetable:** We briefly summarise theories and methodologies used to create knowledge about harms of screening and health checks, followed by discussions in small groups.

In the presentations, we will encourage critical reflection about how various types of harms are conceptualised, how economic consequences can be quantified, and the potential opportunity costs of screening programmes and health checks. Additionally, we will cover lay people's role in evaluating harms of screening, i.e., lay people's attitudes and understanding of harms, and their preferences for screening. Further, we hope to discuss the prospects of ethnographic methods within this field of research.

**Conclusion:** The presentations, discussions and input from different countries, will hopefully give participants a global picture of the potentials and drawbacks of various ways to conceptualize, measure, evaluate, and report harms of screening. This may pave the way for new ways to go.

## Mammography screening - in search of good advice

MD Manja Dahl Jensen<sup>1</sup>

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When screening programmes are implemented they are assessed as to whether or not benefits (e.g. mortality reduction) exceed harms (e.g. overdiagnosis among other). Such judgement involves values as well as evidence.

Looking at guidelines on mammography screening it is evident that experts evaluate the evidence differently and make different value judgements. In order to increase transparency and accountability in decision making about screening several commentators have called for a systematic incorporation of public opinions in the process.

Directly asking the public about their opinions on mammography screening, however, might result in responses based on nonattitudes and misconceptions. Public belief in the benefits are, in general, exaggerated and studies have demonstrated limited public awareness of the harms.

The aim of this study was to determine an informed public's recommendations about the continuation of mammography screening and their preferences regarding acceptable rates of mortality reduction and overdiagnosis in the programme. We conducted a Deliberative Poll - a method that ensure consideration of both values and scientific evidence. 89 citizens representative of the general population participated. Many participants were influenced by the process and changed their recommendation after information and deliberation. At recruitment, 72% of participants strongly supported the continuation of mammography screening. This proportion was lower after information (55%) and after deliberation (65%). A majority of participants made a recommendation that was not in line with levels of overdiagnosis and mortality reduction that they felt were acceptable.

In conclusion, information and deliberation make the public less supportive of mammography screening.

### Clinical work or data work?

How GPs respond to established and new kinds of patient-generated data in general practice.

Ph.d.fellow Christoffer Bjerre Haase<sup>1</sup>, **Professor John Brandt Brodersen**<sup>1,2</sup>

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### Clinical work or data work?

How GPs respond to established and new kinds of patient-generated data in general practice.

I: With the increasing digitization and datafication in healthcare, patients, citizens, and health and governmental professionals increasingly consider (health) data to be resources and solutions to the expanding pressure on healthcare.

In this study, we investigate and compare Danish GPs' experience of working with four kinds of patient-provided data. Two of them are already included in the current Danish healthcare data infrastructure.

M: We conducted in-depth, semi-structured, one-to-one interviews with 23 Danish GPs. We aimed for an equal number of male and female GPs as well as a variation of age, clinical experiences, geographical locations, and patient groups. An interview guide was developed and pilot tested prior.

Preliminary results: Wearables: Some GPs considered heart data valid in themselves, while other GPs found the data secondary or irrelevant compared to context. Sleep data were excluded by all GPs both because of lack of validity in themselves as well as their value in the context of the patient. Online tests: GPs never interpreted the test results; instead, they focused on the background or context of the test. Some GPs both worried and saw potential in faster focus on clinical problems when patients were prepared beforehand because of tests. Online access to lab results: The GPs expressed positive attitudes when context of data was known. Yet, data also created extra work when context was unknown as the GPs felt responsible for the uncertainty. Digital GP tools: Frequently and easily used. The GPs felt they understood the context and interpretation values. All new technologies created extra (data) work for the GPs.

Preliminary discussion: It is important that data infrastructures enable GPs to recontextualize the patient-provided data.

## Health care implications of introducing designated GPs in residential care homes: a register-based study in Denmark.

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### Background

The designated general practitioner model was introduced in Danish care homes a few years ago. To improve the designated GP model, more insight is needed into the impact of the model on the health-related outcomes in care homes residents. We aimed to investigate the correlation between having designated GPs in residential care homes and the residents' number of contacts with primary care, number of hospital admissions, and mortality.

### Methods

A retrospective register-based longitudinal study with 42 care homes (2,376 residents) in Aarhus Municipality, Denmark. We used two models to calculate the incidence risk ratio (IRR) for primary care contacts, hospital admission or dying. Model 1 compared the residents' risk time before with their risk time after implementation of the designated GP model. Model 2 included only risk time after implementation and was based on calculations of "successful implementation" (rate  $\geq 60\%$ ).

### Results

Weighted by time at risk, the proportion of females across the two models ranged from 64% to 68%. The largest group was aged '85-94' years. In model 1, the mere implementation of the model did not correlate with changes in primary care contacts, hospital admissions, or mortality. Contrarily, in model 2, residents living in care homes with "successful implementation" had fewer email contacts (IRR=0.81, 95%CI: 0.68;0.96), fewer telephone contacts (IRR=0.78, 95%CI: 0.68;0.90), and fewer hospital admissions (IRR=0.85, 95%CI: 0.73;0.99), but more home visits (IRR=1.70, 95%CI: 1.29;2.25) than residents living in care homes with lower implementation rates.

### Conclusion

The designated GP model seems promising, as a high implementation degree of the model correlated with a reduced number of acute admissions, short-term admissions, and readmissions. Future studies should focus on gaining deeper insight into the mechanisms of the designated GP model to further optimize the model.

## Quality organisations supporting General Practice in Norway, Sweden, Iceland, Finland, and Denmark. Barriers for quality improvements and how to overcome these barriers

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### Background

Worldwide, quality improvement (QI) in general practice seems to be increasingly based on mutual reflection and discussion in small groups of General Practitioners (GPs). However, common challenges have been identified: practical issues such as how to find time to meet for group discussions, how to facilitate the discussions, how to present data and how to measure the quality improvement produced in the groups.

### Aim and learning objectives

To discuss how to overcome the challenges against QI in general practice in the Nordic Countries

### Method

Workshop based on short oral presentations presenting systems for QI from all the Nordic Countries combined with involvement of the participants in small groups discussing on how to overcome barriers for quality improvements (see detailed program below).

### Conclusion

After completing the workshop, participants will be aware of the barriers against QI in the Nordic Countries and get concrete ideas on how to overcome them.

### Timetable

Oral presentations (35 min)

Short presentations on current organisations and/or structures for quality improvement:

Norway: SKIL (Senter for kvalitet i legetjenester)

Sweden: PrimärvårdsKvalitet

Iceland: Icelandic Health Care Development Center

Finland: University of Eastern Finland

Denmark: KIAP (Kvalitet i Almen Praksis)

### Workshop (25 min)

4 groups with up to 10 participants in each group.

Groups will be a mixture of all nationalities based on the registration for the workshop

Each group produces one Flip-Over with answers to the following 3 questions:

1. What are the most important barriers against QI in your clinic or workplace?
2. How to overcome these barriers?
3. Which common challenges should be addressed by our countries in the future?

Oral presentation of the content of the Flip-Over from each group (20 min)

Final discussion in Plenum /Closing remarks (10 min)



At the end of the workshop, all flip-overs will be digitalised and sent to the participants.

## Management of patients with high BMI in general practice in the Nordic countries

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**Background:** Prevalence of people with high BMI continues to rise in the Nordic countries. Simple lifestyle advice and weight loss programs have shown insufficient long-term effects on both weight reduction, and clinical health outcomes. Other treatment alternatives include bariatric surgery, which is effective but has a serious complication profile, and in recent years more potent medication have become available, but their role and utilization is yet to be defined. This raises several questions. What is the best way to go for our patients? How do we decide which patients should be referred to lifestyle intervention, medication, or bariatric surgery? Are health promotion and a person-centered approach always important, no matter the choice of treatment? What should be the role of the GP in weight-related health?

**Aim and learning objectives:** The aim of the workshop is to discuss challenges related to management of patients with high BMI in general practice; to exchange experiences and insights on the subject from different countries and settings; to gather input on the ongoing research projects that will be presented; and to facilitate new research opportunities and collaborations.

**Method and timetable:** Empirical data from six Nordic studies will be presented addressing different approaches to weight loss, clinical health outcomes, psycho-social health, and stigmatization (40 min). Workshop participants will be invited to exchange perspectives in smaller groups about challenges and successes with weight-related management, and to discuss the role of the primary care and the bio-psycho-social model in that context (20 min). Finally, perspectives will be gathered and discussed by the whole audience (20 min).

**Conclusions:** The rising prevalence of patients with high BMI calls for new primary care thinking. This workshop aims to give the participants new insights and support in their everyday practice, and will hopefully create new research opportunities and collaborations.

## Diagnosing depression: comparison of the MDI and PHQ-9 using Rasch analyses

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**Background:** The Major Depression Inventory (MDI) and the Patient Health Questionnaire (PHQ-9) are two instruments widely used for diagnosis and monitoring of depression in general practice settings . It remains unclear whether one should prefer one instrument over the other. The Rasch measurement model offers a mathematical framework to assess an instrument's capacity to emulate the properties of fundamental measurement in terms of invariance and unidimensionality. The Rasch model is based on the underlying logic that subjects have a higher probability of correctly answering easier items and a lower probability of answering more difficult items.

**Aim:** The aim of this study is to compare how simultaneously collected general practice data on MDI and PHQ-9 fit the expectations of the Rasch model.

**Methods:** A waiting room population of patients are invited to participate in the study. Participants are asked to complete both forms in SurveyXact , which are presented in a random order. Information on gender and age is included. Data will be analyzed using the Rumm2030 software package. Instruments will be compared in terms of; fit to the Rasch model, ordering of response categories, local dependency of items, differential item functioning, and reliability.

**Results:** Data collection is ongoing until April 1. 2022. Findings from this study will be presented at the conference.

**Conclusions:** Findings from this study will inform clinicians whether they should prefer MDI over PHQ-9 or vice versa.

## Sharing information about patients' medication between general practice and the hospital

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### Background

In our society, a growing proportion of people with multimorbidity are treated with many different medications, leading to polypharmacy. These patients often have stakeholders from different sectors with different goals of treatment and the use of different healthcare information systems. This challenges the cross-sectoral information sharing on patients' medication, hinders knowledge in the case of prescribing and deprescribing medication and hence impedes optimal treatment of patients.

### Purpose

This project investigates information infrastructures between general practice and the hospital, including networks, workflows and practices as a way to unfold the challenges and possibilities in sharing information on patients' medication. It will examine how information technologies, with a focus on a shared medication record (FMK), can be optimised to improve the medication information in transitions of care and thereby contribute to rationalising prescribing.

### Methods

The project consists of three components: 1) Participants observation in general practice and hospitals to map existing information infrastructures 2) Individual interviews with GPs, hospital doctors, nurses and patients to obtain in-depth experiences 3) Workshops with GPs, hospital doctors and information technology designers to discuss perspectives within the existing medication information infrastructures. The theoretical framework of the project is based on Science and Technology Studies (STS) and the socio-technological arrangement of medical information in encounters between patients, general practice and hospital units.

### Results

The project is being processed in spring 2022 and preliminary findings from initial observations in general practice will be presented at the conference.

### Conclusion

Insights into the practices of medication information technologies between sectors, are important to get a greater understanding of the usability and possibilities within these infrastructures. Using STS and ethnography will shed new light on how different healthcare workers organise and communicate about medication, hence providing new knowledge on how to optimise the medical treatment of the patients.

## Pharmacology and care: An ethnographic study of care work and medicines in everyday life of vulnerable elders

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### Background:

Polypharmacy is often present and problematized in the life of vulnerable elderly. Still, little in-depth qualitative research is done on exploring how medication influences care work for elderly who suffers from multimorbidity and receive home care services.

### Purpose:

This poster presents findings from an ethnographic research projects investigating the role of medication in encounters between vulnerable elderly patients, public home care and general practice. The aim is to supplement current knowledge on polypharmacy in old age with in-depth explorations of how polypharmacy shapes matters of care for vulnerable elderly persons.

### Methods and theory

Data is derived through an ethnographic fieldwork in a public home care facility, including participant observations and interviews with 10 elderly patients, their home care personal and their GPs. The analysis is inspired by technology-in practice theory on relational aspects of technologies and care in the homes and everyday lives of vulnerable elders.

### Findings

The poster will present in-depth ethnographic examples of real encounters of care work involving home care personal and general practitioners in relation to aspects of pharmacological treatment of vulnerable elders. The findings highlight how care work is heavily informed by instrumental and highly static logics of pharmacology in oppose to more flexible and social logics of everyday life. This comes to the fore in examples of how the management of medication in the homes takes focus away from individual patients' needs and concerns, how social effects of the medicines are ignored and how much medication work is centered on issues of compliance and patient safety.

### Conclusion

The lack of actively engaging with the ways medications fit with individual elder's needs and preferences potentially inhibits the quality of care delivered to this group of vulnerable patients, who may not themselves be capable of reaching out to change their medicines.

## The EGPRN Research Strategy for General Practice in Europe 2021 – how to apply it in your country how we can measure its impact.

Dr. Claire Collins<sup>1,2</sup>, Professor Esperanza Diaz<sup>3</sup>

*<sup>1</sup>Irish College Of General Practitioners, Dublin, Ireland, <sup>2</sup>European General Practice Research Network, Maastricht, The Netherlands, <sup>3</sup>University of Bergen, Bergen, Norway*

A strong research basis is a necessity to provide effective health care; and research in general practice/family medicine (GP/FM) is important in terms of improving patient outcomes effectively.

In 2021, the EGPRN published its updated research agenda, now framed as a research strategy providing an overall plan with guidance to achieve specific goals. Based on a review of research in GP/FM 2010-2019 and on a proposed modified research wheel, recommendations are suggested to advance research in GP/FM. Within the strategy, a framework is presented to be adapted by those involved in research in GP/FM in individual countries.

In this workshop, a participatory approach will enable all attendees to share their ideas and learn strategies from others regarding how the EGPRN recommendations can be best applied in your context. This workshop aims to create a sense of community and common purpose working together and assisting one another to both apply and monitor the progress of our efforts to contribute to the strategic development and growth of research and innovation across the European GP/FM research community.

## GPs' identification of patients with mental distress. A coupled questionnaire and cohort study from Norwegian urban general practice

Ms Mina Piiksi Dahli<sup>1</sup>

<sup>1</sup>*University Of Oslo, Oslo, Norway*

### Background

Mental health problems are one of the leading causes of disease burden worldwide, and are mainly diagnosed and treated in general practice. It is unclear, however, how general practitioners (GPs) identify mental health problems in their patients. The aim of this study was to explore how patients' self-reported levels of mental distress correspond with psychological diagnoses made by their GPs, and associations with sex, age, number of consultations, and somatic symptom diagnoses.

### Methods

A questionnaire study coupled with retrospective and prospective cohort data from 553 patients aged 16-65 years in six GP offices in Oslo, Norway during 21 months in 2014-2016.

### Results

We found a clear association between the level of self-reported mental distress and having received a psychological diagnosis amongst the participants. We found that 73.3 % of patients with self-reported high levels of mental distress had received a psychological diagnosis versus only 13.3 % of the patients with low levels of mental distress. The number of consultations was significantly higher in patients who reported high levels of mental distress ( $p < 0.01$ ). We found no significant differences between the sexes or in the number of somatic symptom diagnoses. We found that being female, increasing self-reported levels of mental distress and increasing number of consultations was associated with a higher probability for being identified with a psychological diagnosis for the participants.

### Conclusions

We found a clear association between self-reported mental distress and having received a psychological diagnosis amongst the participants, and the probability for being identified increased with increasing levels of mental distress, and increasing number of visits to their doctor. This suggests that GPs can identify patients with high levels of mental distress in general practice in an adequate way, even though this can sometimes be a complex issue.

## Extended prenatal and early childhood home visitation in a vulnerable area in Sweden.

Dr. Kuo Zhe Chin<sup>1</sup>, Dr. Sofia Dalemo<sup>1,2,3</sup>, Dr. Bertil Marklund<sup>3</sup>, Mr. Sven Kylen<sup>3</sup>

<sup>1</sup>Narhalsan Guldvingen Primary Healthcare Centre, Lidköping, Sweden, <sup>2</sup>FoU-centrum Skaraborg (R&D Centre Skaraborg), Skovde, Sweden, <sup>3</sup>Public Health and Community Medicine, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden

### Background

Despite a highly developed welfare system and an all-embracing access to the national child health care program, health divides still exist among children in Sweden. Home visitations to families with newborn babies are a cost-effective way to identify and strengthen vulnerable families. A total of four extra home visitations during the child's first 15 months has been implemented in a disadvantaged suburb in Stockholm with many positive results, such as higher vaccination coverage and increased parental engagement. The present pilot study investigates the extended home visits, supplemented with a visit during the end of pregnancy, in a vulnerable area in the countryside. The aim of the study is to evaluate the effect on children's health.

### Methods

A retrospective journal study of 30 study and 60 control families between 2016 and 2018 from a childcare centre in Sweden. Data of interest were presence during routine visitations, breastfeeding frequencies and vaccinations. Ethical approval was obtained.

### Results

There were four teenage mothers in the group studied (4.7%) and 30% of the parents were smokers. An interpreter was needed in 21% of the visits.

When comparing the study and the control group, more children in the study group were breastfed 90 vs 67%, and more children received all vaccinations 97 and 40%. Furthermore, there were fewer absentees in the study group compared with the control group during routine check-up visits 93 vs 84%.

### Conclusion

This pilot study is small; other planned studies were not carried out due to the pandemic. The high proportion of teenage mothers, smokers and interpreters required confirms that the studied area is vulnerable. Extended home visits supplemented with a visit during the end of pregnancy seem to contribute to more children being breastfed and vaccinated compared with the Stockholm study, where the corresponding figures were 69 and 94%, respectively.



## Understanding of foreign language patients in general practice after introduction of a fee for interpretation services

**Associate Professor Annette Sofie Davidsen<sup>1</sup>**, Assistant professor Johanna Falby Lindell<sup>1</sup>, PhD student Cæcilie Hansen<sup>1</sup>, Research assistant Camilla Michaëlis<sup>1</sup>, Associate professor Melissa Catherine Lutterodt<sup>1</sup>, Professor Allan Krasnik<sup>1</sup>, Professor Marie Louise Nørredam<sup>1</sup>, Professor Susanne Reventlow<sup>1</sup>

<sup>1</sup>*Department of Public Health, University of Copenhagen, 1353 Copenhagen K, Denmark*

### Background

From 2018, patients residing in Denmark for over three years but not proficient in Danish have had to pay for interpretation services in health care apart from specific exemptions. Thereafter, a drastic decline in the use of professional interpreters has occurred. Language barriers seem to cause particular challenges in general practice. We investigated general practitioners' (GPs') experiences of establishing understanding with these patients in consultations without a professional interpreter present.

### Methods

The study was based on qualitative interviews with nine purposively selected GPs. We applied interpretative phenomenological analysis.

### Results

After introduction of the fee, the patients chose to almost exclusively use family members or friends as ad hoc interpreters instead of professional interpreters, or attended consultations with no interpreter present. The use of ad hoc interpreters might cause specific problems due to their relationship with the patient and their lack of professional interpretation skills. If no mediator was present, the GPs perceived the establishment of understanding as extremely challenging, especially in cases of chronic conditions, mental or psychosocial problems, or cultural barriers. According to the GPs, these patients often had many other problems, which eclipsed the health problems. The challenges were therefore not restricted to a lack of translation. The impairment in mutual understanding led to poorer treatment at all levels, and it presented the GP with ethical and legal dilemmas.

### Conclusions

The changes in interpretation provision has led to a substantial reduction in the use of professional interpretation in general practice settings for patients subject to the fee. However, as medical malpractice due to lack of a professional interpreter is the responsibility of the doctor, the GPs felt left in ethical and legal dilemmas. They experienced considerable challenges caused by the legal changes, cultural differences and the patients' many existential and social problems.

## Diagnostic accuracy of heart auscultation for detecting valve disease. A systematic review.

**General Practitioner Anne Herefoss Davidsen<sup>1</sup>**, MD Stian Andersen<sup>2</sup>, Professor Peder Halvorsen<sup>1</sup>, Professor Henrik Schirmer<sup>3</sup>, Dr. Scient. Eirik Reierth<sup>4</sup>, Professor Hasse Melbye<sup>2</sup>

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<sup>2</sup>*General Practice Research Unit, Department of Community Medicine, UiT, The Arctic University of Norway, Tromsø, Norway,* <sup>3</sup>*Department of Cardiology, University hospital of Akershus, Lørenskog, Norway,* <sup>4</sup>*Science and Health Library, UiT, The Arctic University of Norway, Tromsø, Norway*

**Objective:** The objective of this study was to determine the diagnostic accuracy of heart auscultation by a medical doctor, to evaluate valvular heart disease (VHD) in adults.

**Design / methods:** A systematic literature search for diagnostic studies comparing heart auscultation to echocardiography or angiography to evaluate heart valve disease was performed in MEDLINE (1946-present) and EMBASE (1947-present). Two reviewers went through title and abstract and selected the studies to be included. Disagreements were resolved by consensus meetings. Reference lists of the included studies were also screened, which resulted in two more included studies. Inclusion criteria were diagnostic studies on heart auscultation compared with echocardiography or angiography to diagnose VHD in adults. Exclusion criteria were studies on children, case studies, pharmacological studies, mechanical heart valves, and other heart conditions than VHD. The results are presented as a narrative synthesis, and risk of bias was assessed using QUADAS-2.

**Main outcome measures:** Sensitivity, specificity and, if determined, likelihood ratios.

**Results:** We found 19 articles meeting the inclusion criteria. Auscultation was compared to echocardiography in 11 of the articles; three used pulsed Doppler echocardiography and five articles used aortography and ventriculography as gold standard. The articles were published from year 1967 to 2018. Sensitivity of auscultation ranged from 37 to 100%, and specificity ranged from 59 to 100%. The majority of the included studies used cardiologists and internal medicine residents or specialists as auscultators, whereas one used general practitioners and two studied several different auscultators.

**Conclusion:** Sensitivity and specificity of auscultation varied considerably across the different studies. There is a sparsity of data from general practice, where more advanced diagnostic equipment is less accessible.

## Patients' Experience with Virtual Care during COVID-19 Pandemic in Primary Care Practice

MD Ramona de Jesus<sup>1</sup>, MD Rodney Erickson<sup>2</sup>

<sup>1</sup>Mayo Clinic, Rochester, United States, <sup>2</sup>Mayo Clinic Health System, Tomah, United States

**Background:** The advent of COVID-19 pandemic in March of 2020 galvanized primary care practices into adopting telemedicine to be able to continue delivering care to patients safely. As recipients of care delivered virtually, capturing patients' experience is key to evaluating its success and shortcomings. **Objective:** To describe patients' experience and perceptions with virtual care during COVID-19 pandemic. **Study Design/Method:** A survey was distributed to 900 adult patients across primary care practices in MN, Minnesota and Arizona, USA. Questions asked included: mode of virtual care received (virtual visit, phone visit, secured patient on-line portal or POL), device used, and likelihood of using virtual care for different visit reasons (acute visit, persistent problem, routine/wellness visit or chronic care). **Results:** Five hundred ninety surveys (65.5%) were returned. Majority (72%) of responders' experience with virtual care was through use of POL to view test results or messages from their care team. Thirty percent (n=177) had phone visits compared to 26% video visits. Those over 64 years (n=139) had more phone than video visits. This age group also reported more negative experience with video visits compared to other age groups. Across all age groups, responders were "very likely" to engage in virtual visits for routine/wellness care such as medication refills; those in 30-64 age groups were more likely to utilize virtual visits from mental health and chronic disease care than the younger (18-29 years) and older (65 and up) groups. Interestingly, 84% (n=496) of responders had smart phones. **Conclusion:** Patients have varying experiences in virtual care which should be taken into consideration as this method of care delivery becomes more integrated into primary care practice. Majority of patients surveyed had access to smartphones than computers with video camera which creates an opportunity for exploring the use of this modality to expand care delivered through telemedicine.

## Increasing psychosocial focus in preventive development assessments: A qualitative study

**MD Phd Student Sarah de Voss<sup>1</sup>**, GP, DPhil FRCPCH FRCGP Philip Wilson<sup>1,2</sup>, MD Sofie Saxild<sup>1</sup>, GP, MD-PhD Jakob Kragstrup<sup>1</sup>, MA, PhD Gritt Overbeck<sup>1</sup>

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**Background:** Children's development is affected by numerous factors within the family, including parental mental health and well-being, parent-child interaction and the child's attachment security. Specific advice on how to perform psychosocial/neurodevelopmental assessments is rarely provided, despite a high prevalence of psychiatric disorders. This research was nested in a cluster-randomized trial of a web-based psychoeducational intervention, FamilieTrivsel. Participating clinicians implemented standardized child records with an enhanced focus on psychosocial factors to increase the scope of developmental assessments.

**Objectives:** To investigate barriers and facilitators when introducing standardized child records with increased focus on psychosocial well-being and mental health into preventive developmental assessments.

**Materials/methods:** General practice-based clinicians were interviewed about their experiences using the standardized child records. Data were analyzed using Normalization Process Theory.

**Results:** Clinicians were positive about increasing psychosocial focus in developmental assessments. The standardized child records allowed important topics to emerge that could have been overlooked. Nevertheless, most clinicians considered the structured history-taking encouraged by the records to be too rigid. The use of a standardized approach raised feelings of discomfort when clinicians felt forced to discuss sensitive matters and some felt they lacked options when confronted with issues. Most clinicians liked using a tool for assessing parent-child interaction and some considered that it contributed to a new vocabulary. Other issues included time-limitations and medico-legal concerns when registering findings.

**Conclusion:** The standardized child records provided a universal, continuous approach to assess risk factors and increased psychosocial focus on families. There is a case for customizing the records to fit individual needs. Assessment of parent-child interaction offers potential for improved communication, but time-limitations and documentation of sensitive matters and third-party information are potential obstacles.

**Points for discussion:** How can psychosocial factors and mental health of families come into focus in preventive developmental assessments in general practice?

## Enhancing the knowledge of, and skills in, using interpreters in health care system

Kathy Ainul Møen<sup>1</sup>, Medical student Khadra Yasien Ahmed<sup>1</sup>, Professor Esperanza Diaz<sup>1</sup>

<sup>1</sup>*University Of Bergen, Bergen, Norway*

### Background

Multicultural societies need health care systems and providers well prepared to give equitable care to all patients. A cornerstone in this work is collaborating with interpreters, which is reinforced by a new law on use of interpreters in Norway applying from January 2022. However, interpreters are still underused in the health care sector. Patients lack information about their rights to have an interpreter, doctors lack information about interpreter services and how to use them. Furthermore, medical students and colleagues in many European countries seldom get education on this field.

### Aim and learning objectives

To gain knowledge and improve skills in the use of interpreters and reflect upon best ways of teaching in this field (to students during their professional studies, in mentorship relations in the clinic and to other colleagues from different disciplines within the health care system).

### Methods and timetable

- What would you do if...? Answer casus using Yahoo – 5 min
- Why we need interpreters and what is the interpreter's role? – 10 min presentation
- When and how to use interpreters? -discussion in groups based on casus – 15 min
- Hands on: How to use interpreter – role play in plenum with telephone/video interpreter and between participants - 45 min
- How to implement teaching on use of interpreters in the health care system - 15 minutes discussion

### Conclusions

Through this workshop, we will increase awareness, knowledge, and skills regarding use of interpreters, and how to collaborate with interpreter services in order to give equitable health care to all citizens.

## Structured pharmacist-led medication reviews for Primary Health care patients – evaluation of outcome and charting a new target group

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### BACKGROUND:

Medication treatment can reduce morbidity but also cause drug-related problems (DRPs). One method to identify and solve DRPs is medication reviews (MRs), a structured analysis and evaluation aiming at increased patient safety and quality in drug treatment. In Skåne county, Sweden, a well-established multi-professional model for MRs in nursing homes is practiced. However, an increased demand for MRs regarding patients in ordinary living has emerged. We assume that these patients may be extra vulnerable since they do not have the same supervision from health care personnel as in nursing homes. Our aim was to evaluate structured MRs for the new target group; primary health care patients in ordinary living, and describe identified DRPs.

### METHODS:

General practitioners (GPs) and nurses from 14 primary health care centers identified patients considered in need of a MR. Based on electronic medication record, the symptom assessment tool; PHASE-20 (PHARmacotherapeutical Symptom Evaluation 20 questions) and current medication list, pharmacists conducted MRs and communicated adjustment suggestions via the medication record to the GP.

### RESULTS (yet unpublished):

A total of 109 patients were included in the study and 91% (n=99) of the patients were exposed to at least one DRP, with an average of 3.9 DRPs per patient. The most frequent DRP-categories were "unnecessary drug therapy" and "adverse drug reaction" which represented 23% each, from the total amount DRP categorized.

### CONCLUSIONS:

The patients in this study were selected by GPs or nurses at primary health care centers due to an assessed need for a MR. In this population we found a higher mean of identified DRPs/patient than previous Swedish studies in nursing homes. A majority of the selected patients had at least one DRP, suggesting that the target group might benefit from a MR. However, further studies are needed to comprehend the participants experiences of the model.

## Youth Depression in General Practice: Clinical and Technological Tools for Early Intervention

Md, GP Kim Kristoffer Dysthe<sup>1</sup>

<sup>1</sup>*Department of General Practice, University Of Oslo, Oslo, Norway*

**Introduction:** Symptoms of depression are common in youth. Most cases remain undetected. Symptoms can develop into more severe mood disorders, and general practice is a natural arena for early intervention. The project aims to provide general practitioners with therapeutic strategies: A toolkit of brief cognitive therapy. The project also aims to develop data algorithms for symptoms detection in written material and provide relevant and effective information about depression for use in clinical technological platforms such as chat-robots.

**Methods:** We used posts written by youth asking questions about depression on an Internet information service. A sample of 100 posts was randomly selected from a number of 870 posts for analysis, using three different qualitative methods: 1) A deductive content analysis using an a priori codebook containing information topics from existing psychoeducational programs on youth depression. We calculated the distribution of topic prevalence in the 870 posts with questions about depression. 2) A qualitative thematic analysis anchored in cognitive behavioral theory. The posts often describe narratives which show activating events (A) that trigger beliefs (B) about depression, altering the mental state (C). Following this ABC framework of cognitive-behavioral theory, we gain knowledge about the cognitive response to common beliefs. 3) Applying the principles of systematic text condensation, we analyze the cognitive schemas affecting the mental state of adolescents requesting advice about depression.

**Clinical relevance:** From the results of these three studies, our aim is to develop relevant and effective psychoeducational and brief cognitive-behavioral tools for use in general practice, demanding little therapeutic proficiency: A toolkit of targeted psychoeducation, Health information to challenge common beliefs, and a clinical alertness to common cognitive schemas. As part of the larger multi-center research project "Social Health Bots," the toolkit can be used in future chat-robot algorithm for joint therapeutic and technological clinical service designs.

## Pregnant undocumented women's use of two humanitarian clinics between 2009-2020 and their maternal outcomes in Norway: A cohort study.

**Mr Frode Eick<sup>1</sup>**, Dr Odd Martin Vallersnes<sup>1</sup>, Dr Ingvil Krarup Sorbye<sup>2</sup>, Dr Cathrine Ebbing<sup>3</sup>, Guro Storkaas<sup>4</sup>, Marthe Ekrem<sup>4</sup>, Marie Bormer<sup>5</sup>, Sara Andrea Loberg<sup>6</sup>, Dr Heidi Fjeld<sup>1</sup>, Nanna Voldner<sup>7</sup>, Dr Cecilie Dahl<sup>1</sup>  
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**Background:** Pregnancy-related complications may have long-lasting health consequences for both mothers and newborns. Increased risk of severe maternal morbidity and mortality found among migrant women may be due to substandard antenatal care or migrant women's risk profiles. In 2011, Norway granted pregnant undocumented women the right to antenatal care and to give birth at a hospital, but did not include them in the general practitioner- and reimbursement schemes. As a response to limited access to health care, non-governmental organizations (NGOs) have been running health clinics for undocumented migrants in the two largest cities in Norway. While studies in Nordic countries have investigated both utilization of antenatal care at such clinics and maternal outcome, these aspects have been reported separately. We therefore wanted to investigate the care received, occurrence of pregnancy related complications and adverse perinatal outcomes in women receiving care at these clinics. **Methods:** In this historic open cohort study we included pregnant women aged 18-49 who attended one of two NGO clinics between 2009-2020, and retrieved their birth records from three university hospitals in Oslo and Bergen. **Results:** We identified 582 pregnancies in 500 women over the eleven year period. Pregnant women attending the NGO clinics had a mean age of 29.2 (SD 5.7) at first antenatal visit. They had median 1 (IQR 0-1) antenatal visit in Bergen and 2 (IQR 1-3) in Oslo at the clinics. About half of all the women attended had their first antenatal visit after week 12. Of all women attending the NGO clinics, 77% were referred to public health care. **Conclusion:** This study suggests that increased attention should be given ensure to the accessibility of quality antenatal care to women in an irregular situation. Further study of antenatal care provided to undocumented women in Norway is warranted.



## The qualitative toolbox of general practice research

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### Background

Qualitative research methods have proved essential to understand the mechanisms in patient/doctor interaction, in implementation of new methods and in patients' everyday life. Research groups often have experience with a limited selection of qualitative methods, which may narrow the scope of research.

### Aim and learning objectives

- Inspire both young and more experienced researchers to expand their knowledge on qualitative research methods.
- Discuss experiences with different qualitative methods and theoretic anchoring.
- Provide an arena for meetings with potential new collaborative parties.

### Methods and timetable

First part (60 minutes): Four researchers present experiences with different qualitative methods, (seven minutes per presentation. Experienced researchers give a two-minute comment on each presentation, with a subsequent five minute plenum discussion per presentation.

Second part (20 minutes): Group discussion. The participants discuss either ongoing or planned projects, to receive feedback on their chosen methods.

Third part (10 minutes): Short plenum summary of important learning points from the workshop.

The following projects will be presented:

1. Guassora AD: Shame, honor and responsibility in clinical dialog about lifestyle issues: A qualitative study about patients' presentations of self. Material/Methods: Video recording. Cross-case analysis inspired by discourse analysis.
2. Johansen ML: 'I deal with the small things.' The doctor-patient relationship and professional identity in GPs' stories of cancer care. Material/Methods: Semi-structured interviews. Narrative analysis inspired by Labov /Waletzky.
3. Dysthe KK: Young people's emotional, behavioural, and symptom responses to common beliefs about depression. Material/Methods: Thematic analysis of user-generated online posts
4. Hjörleifsson S: Dilemmas of medical overuse in general practice. Material/Methods: Focus group interviews. Systematic text condensation/critical incident technique.

### Conclusion

We aim to give general practice researchers the possibility to discuss choice of methods for their qualitative research projects, and to give young researchers the opportunity to gain knowledge from and connections with more experienced colleagues.



The desire to be a better doctor versus the lack of time and resources; Promoters and inhibitors for quality improvement work in general practice.

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### Background

Continuous quality improvement (QI) is necessary to maintain and develop high quality general practice services. GPs' motivation is an important factor to understand the success of QI initiatives. There is an increasing strain on GPs' time and responsibilities, and we need more knowledge concerning GPs' reactions to participation in QI projects to help initiate and implement further QI work. We aimed to identify factors that affect GPs' motivation for and participation in QI projects.

### Methods

We used questionnaire data from the QI project "Correct Antibiotic Use in the Municipalities ", a combined electronic and face-to-face course consisting of three GP peer group meetings over 9-12 months. Each GP individually completed e-learning modules, and the content was discussed in subsequent meetings. Participants received reports detailing their individual antibiotic prescriptions for a defined period, including a comparison with the corresponding period during the previous year. We analysed 2715 free-text answers from 2208 GPs using text-driven inductive thematic analysis.

### Results

We identified three overarching themes in the GPs' thoughts on inhibitors and promoters of QI work: 1) The desire to be a better doctor 2) Practical and structural factors as both promoters and inhibitors, and 3) Properties related to different QI measures. Participants stressed the importance of a safe peer group for discussions and the motivating effect of involving the whole GP practice in QI work was underlined. The provision of individual prescription data was generally very well received. Further results will be presented at the congress.

### Conclusion

The desire to be good doctor is a strong motivator for QI work, but the framework for general practice must allow for such work. An easy access to individual clinical data may contribute to success in further QI initiatives.

## Beautified role models in peer support: On how attempts of being “the good example” can create unrealistic images of recovery in mental healthcare

Anthropologist, Research Assistant Natasja Eilerskov<sup>1</sup>

<sup>1</sup>*Forskningsenheden For Almen Praksis, Sdu, Odense C, Denmark*

The project takes place in a Clubhouse (or Fountain House) in Canada in 2019. Clubhouses work to promote recovery of people struggling with mental illness (members), by members working side-by-side with staff (staff-members). Most staff-members work as peer-supporters, but they are paid unlike many other peer-supporters. Staff-members ought to use their own experiences to demonstrate and guide members on how to live a meaningful and productive life with mental illness.

The project is based on 5 months fieldwork in a Canadian Clubhouse. By using participants-observation and doing one-on-one interviews with members and staff-members, the author participated in the daily routine of the Clubhouse throughout the timeframe of the fieldwork. Since issues of mental illness often co-exists with issues of addiction and homelessness, part of the fieldwork has taken place on the streets in a local neighborhood with high prevalence of people suffering from these issues.

While staff-members are meant to share their experiences to help members return to society, data showed that staff-members tended to hide their mental health struggles. Hiding certain behavior created a beautified – yet misleading – version of staff-members within their peer role.

Clubhouses aims is to establish recovery for people struggling with mental illness. Yet, the project shows several members who did not return to society (even after 15-30 years). Therefore, I argue that 1) it is questionable whether members move towards assimilation in society or if their struggles are merely accepted, and 2) that staff-members’ background with mental health issues – which is considered an advantage – in several cases result in a lack of openness, by which staff-members struggle with both doing their job with members and keeping their position as staff. Thus, this misleading beautification sets an unrealistic standard for what it means to live a recovered life with mental illness.

Why is recruiting and retaining doctors to general practice a challenge? Evidence based knowledge on the importance of GPs and effects of the “GP crisis”

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#### Background:

The “GP crisis” has been manifest in most countries for the last 5 years or more. Why is recruiting and retaining primary care doctors so challenging, despite massive evidence showing that this is where we get the most “value for money” in a country’s health care system?

#### Aim and learning objectives:

- To emphasize evidence-based knowledge on health effects of continuous GP services and the effects of the “GP crisis”.
- To discuss the recruitment crisis in an international perspective, sharing experiences among attending colleagues to learn from each other.

#### Methods and Timetable:

0-10 min Introduction, KE Eliassen

Part I: Continuity of care and benefits for patients in general practice

10-20 min “Continuity of care lowers risk for hospital admission and mortality” Ø Hetlevik

20-30 min “Patient-centered medicine with the same doctor over time – benefits for the patients” E Schei

30-45 min Group discussions and digital feed-back prior to plenary discussion:

- What is the most important reason why you still work (or stopped working) as a GP?
- What will it take for you to remain a GP for at least another 10 years?
- (For non-GPs attending: your impression of these questions)

Part II: Recruitment and retention of general practitioners to achieve and uphold continuity of care

45-55 min “GP’s migration in Europe – Is the grass really greener on the other side?” M Velgan

55-65 min “Recruit and retain – how to make it work”  
B Abelsen

65-80 min Group/plenary discussion (as above):

- What change/improvements would you make if you could “design” general practice services from scratch?
- How do we get more young doctors to choose general practice ?

80-90 min Summary

Conclusion: Invitation to establish a Nordic/European research network for collaboration on mutual challenges concerning recruiting and retaining doctors in general practice.

## Tick-transmitted co-infections among erythema migrans patients in a general practice setting in Norway: a clinical and laboratory follow-up study

**MD, GP, PhD Knut Eirik Eliassen<sup>1</sup>**, MD, PhD Lukas Frans Ocias<sup>2</sup>, Professor Karen A. Krogfelt<sup>3</sup>, PhD Peter Wilhelmsson<sup>4</sup>, MD, PhD Susanne Gjeruldsen Dudman<sup>5</sup>, Dr. scient Åshild Andreassen<sup>6</sup>, MD. GP, PhD Morten Lindbæk<sup>7</sup>, Professor i medisinsk mikrobiologi Per-Eric Lindgren<sup>4</sup>

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### Background

Erythema migrans (EM) is the most common manifestation of Lyme borreliosis. Here, we examined EM patients in Norwegian general practice to find the proportion exposed to tick-transmitted microorganisms other than *Borrelia*, and the impact of co-infection on the clinical manifestations and disease duration.

### Methods

Skin biopsies from 139/188 EM patients were analyzed using PCR for *Neorickettsia mikurensis*, *Rickettsia* spp., *Anaplasma phagocytophilum* and *Babesia* spp. Follow-up sera from 135/188 patients were analyzed for spotted fever group (SFG) *Rickettsia*, *A. phagocytophilum* and *Babesia microti* antibodies, and tested with PCR if positive. Day 0 sera from patients with fever (8/188) or EM duration of  $\geq 21$  days (69/188) were analyzed, using PCR, for *A. phagocytophilum*, *Rickettsia* spp., *Babesia* spp. and *N. mikurensis*. Day 14 sera were tested for TBEV IgG.

### Results

We detected no microorganisms in the skin biopsies nor in the sera of patients with fever or prolonged EM duration. Serological signs of exposure against SFG *Rickettsia* and *A. phagocytophilum* were detected in 11/135 and 8/135, respectively. Three patients exhibited both SFG *Rickettsia* and *A. phagocytophilum* antibodies, albeit negative PCR. No antibodies were detected against *B. microti*. 2/187 had TBEV antibodies without prior immunization. There was no significant increase in clinical symptoms or disease duration in patients with possible co-infection.

### Conclusions

Co-infection with *N. mikurensis*, *A. phagocytophilum*, SFG *Rickettsia*, *Babesia* spp. and TBEV is uncommon in Norwegian EM patients. Despite detecting antibodies against SFG *Rickettsia* and *A. phagocytophilum* in some patients, no clinical implications could be demonstrated.

“Reference: Eliassen, K.E., Ocias, L.F., Krogfelt, K.A. et al. Tick-transmitted co-infections among erythema migrans patients in a general practice setting in Norway: a clinical and laboratory follow-up study. *BMC Infect Dis* 21, 1044 (2021)”.

## Factors associated with statin discontinuation near end of life in a Danish primary care cohort

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### Background

Long-term preventive treatment such as treatment with statins should be reassessed among patients approaching end of life.

### Aim

To describe the rate of discontinuation of statin treatment and factors associated with discontinuation in the 6 months prior to death.

### Design and settings

A retrospective cohort study using national registers and blood test results from primary health care patients.

### Method

Primary health care patients aged  $\geq 50$  years in Copenhagen municipality, Denmark who died between 1997 and 2018 and were statin users during the 10-year period prior to death were included. We calculated the proportion who remained statin users in the 6-month period before death. Factors associated with discontinuation were tested using logistic regression.

### Results

A total of 55,591 decedents were included. More patients continued treatment (64%,  $n=35,693$ ) than discontinued (36%,  $n=19,898$ ) the last 6 months of life. The 70 and 80 age groups had the lowest odds of discontinuing compared to the 90 (OR 1.59, 95%CI 0.93-2.72) and 100 (OR 3.11, 95%CI 2.79-3.47) age groups. Increasing comorbidity score (OR 0.89, 95%CI 0.87; 0.90 per 1-point increase) and use of statins for secondary prevention (OR 0.89, 95%CI 0.85; 0.93) reduced the likelihood of discontinuation as did a diagnosis of dementia, heart failure, or cancer.

### Conclusion

A substantial portion of patients continued statin treatment near end of life. Efforts to promote rational statin use and discontinuation are required among patients with limited life expectancy, including establishing clear, practical recommendations about statin discontinuation, and initiatives to translate recommendations into clinical practice.



## What factors are most important for the development of the maternal-fetal relationship? A prospective study among pregnant women in Danish general practice

Associate Professor Ruth Kirk Ertmann<sup>1</sup>

<sup>1</sup>*University Of Copenhagen, Department of public Health, Copenhagen , Denmark*

**Background.** Development of the maternal antenatal attachment (MAA) constitutes an important aspect of the transition into motherhood. Early identification of women at risk of developing a poor MAA provides possibilities for preventive interventions targeting maternal mental health and the emerging mother-infant relationship. In this study, we investigate the relative importance of an extensive set of psychosocial, pregnancy-related, and physiological factors measured in the first trimester of pregnancy for MAA measured in third trimester.

**Methods.** A prospective study was conducted among pregnant women in Danish general practice (GP). Data were obtained in the first and the third trimester from pregnancy health records and electronic questionnaires associated with routine GP antenatal care visits. The Maternal Antenatal Attachment Scale (MAAS) was used to assess maternal antenatal attachment. The relative importance of potential determinants of maternal antenatal attachment was assessed by the relative contribution of each factor to the fit ( $R^2$ ) calculated from multivariable regression models.

**Results.** The sample consisted of 1,328 women. Low antenatal attachment (Total MAAS  $\leq 75$ ) was observed for 513 (38.6%) women. Perceived social support (having someone to talk to and having access to practical help when needed) emerged as the most important determinant. Furthermore, scores on the MAAS decreased with worse self-rated health, poor physical fitness, depression, increasing age, having given birth previously, and higher education.

**Conclusion.** Pregnant women reporting lack of social support and general low physical and mental well-being early in pregnancy may be at risk for developing a poor MAA. An approach targeting both psychosocial and physiological well-being may positively influence expectant mothers' successful adaptation to motherhood.

## Mental vulnerability before and depressive symptoms during pregnancy and postpartum: A prospective population-based cohort study from general practice.

**Associate Professor Ruth Kirk Ertmann<sup>1</sup>**, Data manager Dagny R Nicolaisdottir, Professor Jakob Kragstrup, Statistics Volkert Siersma, MD, PhD. Bente K Lyngsøe

<sup>1</sup>*University Of Copenhagen, Copenhagen , Denmark*

### Purpose

The postnatal period is a time of major transition that can be very emotional, and it has been associated with an increased occurrence of depression. Our hypothesis is that a portion of women without known mental diseases may still be vulnerable, but remain undetected. These women may be detected through a more detailed inquiry into ongoing psychological difficulties. The aim was to investigate and compare the prevalence of symptoms of depression throughout the pregnancy and postpartum period among women who before pregnancy had either 1) record of mental disease, 2) self-reported psychological difficulties but no record of mental disease, or 3) no mental vulnerability.

### Methods

Prospective cohort study. An electronic questionnaire containing the Major Depression Inventory (MDI) was e-mailed to 1,494 pregnant women after the first, second and third prenatal care consultation and eight weeks postpartum. High depression score, MDI scores  $\geq 21$ . Information on sociodemographic, somatic comorbidities and previous psychiatric disorders was collected. We used logistic regression to estimate odds ratios with 95% confidence intervals.

### Results

The overall prevalence of symptoms of depression ( $MDI \geq 21$ ) dropped throughout pregnancy. At the first prenatal care consultation the prevalence was 15.3%, 10.7% in the second trimester, 9.3% in the third trimester and 5.6% postpartum. Logistic regression showed increased risk of symptoms of depression throughout pregnancy and postpartum for both women with mental disease and psychological difficulties. For each outcome, the increase in odds for the psychological difficulties group was about one third of the increase in odds for the mental illness group.

### Conclusions

Self-reported psychological difficulties may indicate higher odds of depressive symptoms. The healthcare staff meeting the pregnant women in early pregnancy have a good opportunity to identify this subgroup of vulnerable women by means of the Pregnancy Health Records and additional questions exploring women's experiences with previous psychological difficulties.

## Using a web-based tool that estimate impact of food choices on life expectancy to guide clinical decision making in general practice: Food4HealthyLife

**Professor Lars Fadnes<sup>1</sup>**, Jan-Magnus Økland, Professor Øystein A. Haaland, Professor Kjell Arne Johansson  
<sup>1</sup>*University Of Bergen, Bergen, Norway*

**Background:** Interpreting and utilizing the findings of nutritional research can be challenging to clinicians, policy makers, and even researchers. To make better decisions about diet, innovative methods that integrate best evidence are needed. We have developed a decision support model that predicts how dietary choices affect life expectancy (LE).

**Methods&Findings:** Based on meta-analyses and data from the Global Burden of Disease study (2019), we used life-table methodology to estimate how LE changes with sustained changes in the intake of fruits, vegetables, whole grains, refined grains, nuts, legumes, fish, eggs, milk/dairy, red meat, processed meat, and sugar-sweetened beverages. We present estimates (with 95% uncertainty intervals [95%UI]) for an optimized diet and a feasibility-approach diet. A sustained change from a typical Western diet to the optimal diet from age 20 years would increase LE by more than a decade for women from the United States (10.7 [95%UI 8.4-12.3] years) and men (13.0 [95%UI 9.4-14.3] years). The largest gains would be made by eating more legumes, whole grains, and nuts, and less red meat and processed meat. Changing from a typical diet to the optimized diet at age 60 years would increase LE by 8.0 (95%UI 6.2-9.3) years for women and 8.8 (95%UI 6.8-10.0) years for men, and 80-year-olds would gain 3.4 years (95%UI females: 2.6-3.8/males: 2.7-3.9). Change from typical to feasibility-approach diet would increase LE by 6.2 (95%UI 3.5-8.1) years for 20-year-old women from the United States and 7.3 (95%UI 4.7-9.5) years for men. Using NutriGrade the overall quality of evidence was assessed as moderate.

**Conclusion:** A sustained dietary change may give substantial health gains for people of all ages both for optimized and feasible changes. The Food4HealthyLife calculator that we provide online could be useful for clinical decision making in general practice to understand the health impact of dietary choices.

## How to integrate palliative care in general practice – examples from Denmark, Norway, and Sweden

Mrs Anne Fasting<sup>1</sup>, Mr Thomas Gørlén<sup>2</sup>, Mrs Anna Weibull<sup>3</sup>, MD,GP Maria Johansson<sup>4</sup>

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Background: According to the European definition of general practice, the approach of the GP includes the whole of the human lifespan, from birth till death. This includes palliative care. An ideal in many European countries is that the patient should be allowed to choose the place of death, including the home. There's evidence that the GPs' participation in palliative and end of life care could facilitate home death. Palliative care is organized in different ways in the Nordic countries, and the GPs' role varies greatly between and within the countries.

Aim and learning objectives: Our aim is to debate and scrutinize the general practitioner's role in palliative care in Denmark, Sweden, and Norway with focus on organizational aspects.

In this workshop, we will present a short overview of the organization of primary palliative care in Denmark, Sweden, and Norway, and debate the likenesses and differences of the GP's role.

We will discuss different approaches the GP could take to make palliative care part of their every-day practice.

### Methods and timetable:

The workshop starts with three brief presentations of palliative care in Denmark, Sweden, and Norway, based on current guidelines and practices and with focus on the GPs' role, and in a research context. The subsequent three presentations will be integrated with an interactive debate, and in a clinical context.

- Palliative care in Denmark (Thomas Gørlén)
- Palliative care in Sweden (Anna Weibull)
- Palliative care in Sweden (Maria Johansson)
- Palliative care in Norway (Anne Fasting)
- Why is the GP vital to achieve home death? (All authors)
- What can the GP contribute with? (All authors)
- Is it possible to organize GP practice to improve palliative care without increased workload (All authors)

### Conclusions:

Working with patients at end-of-life is an important task for GPs. This work can be integrated into every-day-practice in different ways.

## Implementation of eHealth self-management interventions for urinary incontinence in primary care - examples from the Netherlands and Sweden

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**Background:** Urinary incontinence is highly prevalent among women and affects quality of life. Only a minority of women consult their general practitioner. eHealth increases access to care and the Swedish eContinence group (Tät.nu) have proven web-based and app-based interventions for urinary incontinence to be effective in RCTs. Swedish and Dutch implementation studies gained knowledge on eHealth usage in real-life circumstances. GPs will learn who is suitable for self-management by eHealth, leading to further discussion about implementation into primary care.

**Methods:** Two papers originate from a Dutch mixed-method study to the adoption of the web-based 'Tät-treatment of Stress Urinary Incontinence'<sup>®</sup> (translated version, under license agreement). Questionnaires and login data were collected from 515 participants and twenty were interviewed. Outcomes were website usage and barriers and facilitators for the adoption of eHealth. One paper originates from a Swedish prospective cohort study to the implementation of the app Tät<sup>®</sup>. Data from over 2 000 female users of the app for self-management were analyzed to find factors associated with improvement.

**Results:** Dutch research showed that 16.9% was high user. Higher age was associated with high usage. Reasons for drop-out were a lack of time to train, or missing personal guidance. The interviews showed that eHealth is an appropriate option for a target audience, others needed further support by a health care professional. Swedish research showed that 11.5% completed 3 months of self-management with the app but of those 65.6 % improved. Higher frequency of pelvic floor muscle training and app usage were associated with improvement.

**Conclusion:** EHealth interventions are effective treatment options for women with urinary incontinence, but different patients have different need for support from health care professionals. We need further studies and a discussion among GPs on how to best use eHealth for treatment of urinary incontinence in the primary care.

## Influence of Educational Level on Test and Treatment of Hypercholesterolemia

**MD Marius Flege<sup>1</sup>**, MD Anna Elise Engell<sup>1</sup>, PhD Margit Kriegbaum<sup>2</sup>, MD, PhD Henrik Løvendahl Jørgensen<sup>1</sup>

<sup>1</sup>Department of Clinical Biochemistry, Amager og Hvidovre Hospital, Hvidovre, Denmark, <sup>2</sup>Section of General Practice, University of Copenhagen, København, Denmark

**Introduction:** General practitioners are largely responsible for biochemical screening of patients at risk of hypercholesterolemia and for treating these patients by prescribing statins. However, the role of social inequality as a possible barrier for combating hypercholesterolemia is not well described. The aim of this study was to examine whether socioeconomic status influences monitoring, screening, and treatment of hypercholesterolemia.

**Method:** Cholesterol blood test results ordered by general practitioners in Greater Copenhagen were retrieved from 2000-2018. Data were combined with information regarding treatment of statins and educational level. Using the ISCED4 classification, the population was categorized to three levels of length of education (group 1: up to 10 years, group 2: 11-12 years, group 3: 13 years or more).

**Results:** The database comprised a total of 14,780,171 blood samples from 808,944 patients. Mean cholesterol levels from 2016-2018 were lower (5.04 mmol/L [95%CI 5.04-5.04]) for all three groups compared to 2000-2002 (5.56 mmol/L [95%CI 5.55-5.56]), with group 1 achieving the greatest reduction. Group 3 was younger at the first blood cholesterol measurement (5.33 years younger [95%CI 5.26-5.40]) and when receiving the first statin prescription (1.74 years younger [95%CI 1.63-1.84]) compared to group 2 and 1. Group 3 was measured less frequently over the period (0.22 blood cholesterol samples/Year [95%CI 0.21-0.22]) compared to group 2 and 1 (0.29 blood cholesterol samples/year [95%CI 0.29-0.30]).

**Conclusion:** This study indicates a general decrease in blood cholesterol from 2000-2018. Higher education levels correlate to earlier cholesterol-screening and first statin prescription, although the higher educated group was monitored less frequently. Inequality in screening and treatment of hypercholesterolemia is still present today but it has been reduced from 2000 to 2018.

## Practice-based research networks: A small step for a GP, but a giant leap for primary care research

Professor Egil Fors<sup>1</sup>, Professor & GP Niek de Wit<sup>2</sup>, Professor Guri Rørtveit<sup>3</sup>, Professor Gustav Bellika<sup>4,5</sup>, Researcher Stein Nilsen<sup>6</sup>, Associate professor Guro H Fossum<sup>7</sup>, Professor Bjørn Bjorvatn<sup>3</sup>

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**Background:** Most clinical research is conducted in hospitals. However, there is a continuous need for high quality primary care research on topics that is relevant for GPs and their patients. In order to achieve this, practice-based research networks (PBRNs) have been established internationally to facilitate primary care research, and a Norwegian PBRN – PraksisNett - is currently being established.

The aim and learning objectives are to give background and international perspectives of PBRNs, facilitate GPs' participation in research in a streamlined way. Further, we will present PraksisNett.

**Methods and timetable:** The session will start with four presentations:

Welcome (chair Egil Fors)

- 1) Why do we need practice-based research networks (PBRN)) in general practice? international and national perspectives - lessons learned and the way forward - (Guri Rørtveit) 20 min
- 2) SNOW - a privacy preserving IT tool for PBRNs (J Gustav Belika) 15 min
- 3) Using the Norwegian PBRN in a randomized controlled drug trial: The "Basic study" (Stein Nilsen & Guro Fossum) 15 min
- 4) Using the Norwegian PBRN to recruit patients to a cohort study on the association between sleep and infections (Bjørn Bjorvatn). 15 min

The last part of the session is 25 minutes and dedicated to questions and a general discussion of research ideas, designs and possibilities for future participation and collaboration.

**Results:** Participants will get insight into how PBRNs work and the rewards that may follow from participation in PBRN based research for patients, practice and policy. Some participants might be inspired to initiate research in their own practice.

**Conclusions:** Practice-based research networks are essential for high quality research in primary care. This workshop will inspire and prepare GPs for future participation and collaboration on their own conditions.

## The association between insomnia, sleep duration and infections among patients in general practice

**M.Econ, PhD Ingeborg Forthun<sup>1</sup>**, MD, PhD Knut Eirik Ringheim Eliassen<sup>1</sup>, MD, PhD Knut Erik Emberland<sup>1</sup>, MD, PhD Bjørn Bjorvatn<sup>1,2</sup>

<sup>1</sup>Department of Global Public Health and Primary Care, University of Bergen, Bergen, Norway, <sup>2</sup>Norwegian Competence Center for Sleep Disorders, Haukeland University Hospital, Bergen, Norway

**Background:** There is emerging evidence, both from controlled laboratory and epidemiological observational studies, that sleep disturbances and short sleep increase the risk of infection. The aim of this study was to explore the association between insomnia (based on the Diagnostic and Statistical Manual for Mental disorders (DSM)-version-5), sleep duration and infections among patients in general practice.

**Methods:** A cross-sectional study of 1848 consecutive and unselected patients (response rate 85.2%) who visited their GPs in the spring or fall of 2020. The patients completed a one-page questionnaire while waiting for the consultation, that included the validated Bergen Insomnia Scale (BIS), questions on self-reported sleep duration (<6 hours, 6-7 hours, 7-8 hours, 8-9 hours, >9 hours) and whether they have had any infections (including type of infection) in the last three months. Associations were estimated using a modified Poisson regression model.

**Results:** A total of 48.3% (95% CI 45.9-50.7%) were classified as having insomnia and infection (any type) was reported by 53.9% of the patients (95% CI 51.5%-56.2%). The risk of infection was 15% higher in those with insomnia (RR 1.15, 95% CI 1.05-1.27) when adjusting for season of data collection, sex, age, educational level, and children living at home. Compared to those who reported a sleep duration of 7-8 hours, patients with less than 6 hours or more than 9 hours had a 25% (RR 1.25, 95% CI 1.10-1.43) and 43% (RR 1.43, 95% CI 1.12-1.83) higher risk of infection, respectively.

**Conclusions:** Among patients visiting their GPs, insomnia, and both short and long sleep duration were associated with higher prevalence of infection in the last three months. This supports the notion of a strong association between sleep and infection.



## Building entrustable doctors – Medical undergraduate education in rural areas

Director Anette Fosse<sup>1</sup>, Professor in health service research Birgit Abelsen, MD Peter Berggren, MD, GP Martin Bruusgaard Harbitz, Md, GP Mante Hedman, MD, PhD Magnus Hultin, MD, PhD Thorbjørn Lundberg, MD, GP Johan Reventlow, MD, Associate professor Torsten Risør

<sup>1</sup>Norwegian Centre For Rural Medicine, UiT, Tromsø, Norge

Entrustable professional activities reflect the core competencies of licensed physicians. Many skills and competencies are more easily taught and learned on site, in rural practices. General practice in rural areas enlarge certain skills and competences, i.e. emergency medicine, some procedures, local context knowledge, team work, flexibility and creativity, geographical and demographic insight. International research on educational interventions to ensure provision of doctors in rural areas indicate that equipping medical students with competencies to work in rural areas has an impact on the recruitment of doctors. Rural hospitals perform generalist hospital medicine in a close and interdependent relationship with local primary health care. In Norway, Sweden and Denmark there are different initiatives aiming at developing rural content in medical education. In this workshop we will describe, explore and discuss similarities and differences in context, challenges and possibilities for making medical education social accountable. Aim and learning objectives: Share knowledge and experiences on how rural medicine can contribute to educate doctors for the future. Explore challenges in the Nordic countries concerning education and recruitment of doctors to GP and rural hospitals.

Methods and timetable:

- 0-5 Introduction
- 5-15 Rural medicine – where, how, why, who
- 15-25 Rural medicine curriculum, undergraduate EPAs and practice in Sweden
- 25-35 Interventions in medical education to develop rural doctors
- 35-45 Rural Immersion Programme and Rural Hospital Specialist in New Zealand
- 45-55 Rural challenges in Denmark
- 60-80 Group discussions – questions/actions for the workshop:
  - How can a curriculum with elements inspired by rural medicine and decentralized organization of medical education facilitate more social accountability medical education?
  - Perspectives, ideas, examples and experiences from the Nordic and other countries
- 80-90 Plenary session and summary

Conclusion:

Establishing a research- and education network in the Nordic countries for collaboration on rural medical education and recruitment.

Increase SF-12 mental score, reduce overweight and number of problems!

## How we performed a person-focused primary prevention to adult vulnerable patients in General Practice, Denmark. Methods and Results.

Retired General Practitioner, Phd Student Kirsten Schierup Freund<sup>1</sup>, prof. em. dr. med. Jørgen Lous<sup>2</sup>

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### Abstract:

Motivated GPs got education: 15% of invited GPs from the Region participated in the training program, and 8.6% (28) recruited patient into the study, which offered a 40 hours training program. Patient-focused preventive consultation was an important part.

Fee for extra time: The GPs got fee for courses and preventive health consultations.

Find patients who need some "intervention": A screening Questionnaire (Q33) on own resources, network, lifestyle and social conditions was completed by 2.056 patients 20-45 years old when coming to the clinic for any reason. The 30% with most psycho-social problems ( >7) were invited to participate and randomized to control or intervention with two consultations with their GP. One- year postal follow-up.

Motivate patients who feel they need some changes in thier daily life: A baseline-Questionnaire (Q0) with 84 questions on life conditions, health, life style and social problems was "priming" the participants to the patient-focused consultation. Patients might choose one or two goals for a better life.

Discuss resources, barriers and time schedule for chosen changes: Important to explore the patient's agenda and resources and support self-efficacy.

A 20 minutes follow-up within three months: What has succeeded and what is difficult and why? Support self-efficacy again.

A one-year questionnaire (Q1) like Q0. What has changed during the year, and why?

Results. After one year the intervention group had significant better SF-12 mental score 4,3 (1,6-6,9), fewer problems (10,0-8,2= 1,8 problems) and the overweight who had prioritized weight-loss had mean weight loss of 4,73 kg (95% CI: 1,8-7,7).

## Anticipating cancer within everyday life: How can primary care help people in extended surveillance for “spots” on the lungs?

Anthropologist, PhD Michal Frumer<sup>1,2</sup>

<sup>1</sup>*The Research Clinic for Functional Disorders and Psychosomatics, Aarhus University Hospital, , Denmark,* <sup>2</sup>*The Research Unit for General Practice, Aarhus, Denmark*

### BACKGROUND

In Denmark, injunctions of early cancer diagnosis imply the detection of increasingly smaller and vaguer signs of disease to increase survival. Coupled with more investigations and improved technology, it has resulted in an expanding group of people with indeterminate tissue changes, who are considered “at risk” of cancer and, therefore, offered surveillance. This standard surveillance entails that people with tissue changes are increasingly to be seen within primary care and helped in their efforts to navigate the meaning of tissue changes and the anticipation of cancer.

### METHODS

Between August 2018 and March 2020, ethnographic fieldwork was carried out in Denmark at two diagnostic lung cancer clinics and with people offered surveillance for tissue changes. It included observations of daily clinical work, especially concerning tissue changes, and home visits and semi-structured interviews with 13 persons offered surveillance.

### ANALYSIS AND RESULTS

With a theoretical focus on anticipation, the analysis emphasizes the subtleties of living lives shaped by surveillance as marked by both dramatic and unremarkable concerns. It argues that, in anticipating an uncertain future with cancer, surveillance for tissue changes affords continuous ethical and existential concerns: What is a tissue change? What does it entail? And, how to live with this ambiguous surveillance of “something”, which is probably “nothing”? Notably, people in surveillance turn to their general practitioner for help in navigating these concerns.

### PERSPECTIVES

Expectations of long life and good health have increased, and the growing dominance of early diagnosis combined with increasing access to biotechnology make those expectations seem achievable. However, in attempting to prevent suffering, fear and uncertainty is also stimulated. This brings ethical dilemmas to reflect upon regarding people with tissue changes. For primary care, it entails questions on how to help people in continuing their lives within this profound, but subtle anticipation of cancer.

## A national pilot study of a new care model for patients with complicated multimorbidity

**Researcher Nina Kamstrup-Larsen<sup>1</sup>**, Professor John Sahl-Andersen<sup>2</sup>, Associate professor Anders Prior<sup>3</sup>, Professor Per Kallestrup<sup>3</sup>, Professor Jens Søndergaard<sup>4</sup>, Associate professor Tora Grauers Willadsen<sup>2</sup>, Researcher Sanne Lykke Lundstrøm<sup>1,5</sup>, Professor Susanne Reventlow<sup>2</sup>, Professor Anne Frølich<sup>1,2</sup>

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General practice is the key organisational setting in terms of offering people with complicated multimorbidity high quality patient-centred, integrated care. However, there is limited knowledge on the most appropriate organisation of healthcare services to this patient group. Based on evidence we developed the care model “Complex intervention for patients with complicated multimorbidity model” (CIM). The CIM was tested in a feasibility study and based on the results from an improved version 2 of the model was developed (CIM2). The CIM has contributed to part of the Agreement between Danish Regions and The Danish Organization of General Practitioners (PLO) approved for 2022-2026 (OK22).

The aim of this study is to test the CIM2; 1) to assess the acceptability and feasibility of the interventions of the CIM2 among health professionals and patients, and 2) to provide important information for the project described “The National Multimorbidity Project (NMP)” in the OK22.

Methods: Thirty general practices will be included in the pilot study planned to take place in the five Regions of Denmark: two municipalities and one hospital in each region. The intervention elements in the CIM2 include training of healthcare professionals, an extended overview consultation in general practice, an individual care plan, and improved integration of care. The intervention period is 12-month. Data are collected at baseline and at 12-month follow-up.

Results: The following data are reported: CIM2 and usual care population characteristics (age, sex, multimorbidity patterns, medications, socioeconomic factors), results from patient and professionals questionnaires, results from assessment of the extended consultation and integrated care provision based on interviews with patients and professionals, and utilization of healthcare services.

Conclusions: The results from the CIM2 project provide important evidence for planning of “The National Multimorbidity Project (NMP)” in the OK22.

## Does undergraduate exposure to General Practice change Danish students' perceptions of a Career as General Practitioner?

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### Background:

It has been increasingly challenging to recruit young doctors to General Practice in Denmark within the last decade, resulting in approximately 8% fewer General Practitioners (GPs) today than ten years ago. Initiatives to increase recruitment have mainly been at the postgraduate level. Little is known about how undergraduate experiences and education affect later career choices in a Danish context. This study explores if, and how, undergraduate clinical placements in general practice affect medical students' perceptions and attitudes towards a career as GP. Furthermore, it aimed to explore if the content, temporal placement, and the length of the exposure are essential.

### Method:

This was a qualitative case study within one of the medical educational Regions in Denmark. Eighteen individual semi-structured interviews were conducted with medical students from two universities in Denmark and six doctors entering the speciality. Transcripts were thematically analysed whilst a reflective stance was maintained.

### Results:

This study is the Dissertation as part of a Masters degree in Medical Education at the University of Dundee, Scotland. The deadline for the Dissertation is May 2022. Thus, the final results will be ready for NCGP.

### Conclusion:

Data analysis has started, and the preliminary results suggest that undergraduate clinical practice placements are changing medical students' perception of a future career favouring general practice. Clinical placements present general practice as a positive early experience to medical students, but also counteracts negative prejudices about the speciality. A surprising finding was that most medical students who have their placement late in their last term state that they would not be ready to do their placement earlier due to the speciality's width and complexity.

## A multilevel perspective on digital consultations in general practice

GP and Assoc. Prof. in General Practice Bjarne Austad<sup>1</sup>, Professor Linn Okkenhaug Getz<sup>1</sup>, GP and Phd student Børge Lønnebakke Norberg<sup>1,2</sup>, GP and Researcher Tor Magne Johnsen<sup>2</sup>, Senior Advisor and Phd student Eli Kristiansen<sup>2</sup>, Phd student Frida Kofod<sup>3</sup>, Associate Professor, MD Ann Dorrit Guassora<sup>3</sup>, Phd student Elle C. Lüchau<sup>4</sup>, Associate professor Elisabeth Assing Hvidt<sup>4</sup>

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### Background:

The pandemic has boosted the GP community's experience in use of digital consultations (DCs) as supplements or alternatives to physical patient encounters. DCs are appreciated because they convey easy access and time efficacy. Increasing demand from patients can be expected. We ask: WHAT CAN AND SHOULD THE FUTURE OF DIGITAL CONSULTATIONS EMBEDDED IN THE NORDIC HEALTH CARE SYSTEMS LOOK LIKE? AND HOW DO WE GET THERE? A large body of research on DCs already exists. But once simpler questions are answered, new and more complex questions and dilemmas arise. These issues can be addressed at different system levels, with the total ecology of primary healthcare in mind.

### Aim and learning objectives:

To address possibilities and challenges associated with digital GP consultations from a systems perspective, addressing micro- meso- and macro levels.

### Content/schedule:

A PURPOSEFULLY CONNECTED SERIES OF MINI LECTURES will outline essential established knowledge, crucial research questions, and emerging paradoxes and dilemmas, for example:

-Micro level: What is known about clinical appropriateness, consultation process and effectiveness at the individual consultation level, seen both from GPs' and patients' perspectives?

-Meso level: How do digital modalities affect the local "ecology" in the individual GP practice/centre in terms of accessibility and workload, workflow and doctor/patient satisfaction?

-Macro level: how do political and bureaucratic expectations, decisions and incentives impact on the GP community's potential to optimize the use of digital consultations in general practice, aiming for effective, responsible and sustainable practice organization?

AUDIENCE INTERACTION: All participants will be invited to contribute information and reflections via their mobile phone.

## Tomorrow's general practitioner. Results from a nationwide survey on specialty orientation among medical graduates in Denmark

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As the Danish population becomes older, the demand for primary care increases and forces the public primary health care system to adapt. Therefore, to recruit and retain health professionals to general practice becomes increasingly urgent. As a contribution to the field, this study aims to produce knowledge about future general practitioners by characterizing medical graduates that intend to become general practitioners today. We conduct a population-based cohort study on specialty orientation and influencing factors measured through a self-administered electronic questionnaire. The cohort consists of all medical graduates who begin internship in Denmark in 2022 and the nationwide survey collects a wide range of data including demographics, specialty orientation and attitudes towards working conditions, specialist training and mobility. A follow-up of the study participants is planned after 15 months with a repeated collection of data. Baseline data collection among participants entering internship in first half of 2022 (n=546) was finished ultimo December 2021. Preliminary results show that 42% (n=230) responded to the survey invitation, distributed between 64,3% females (n=148) and 35,7% males (n=82) with a mean age of 27,6 years (range, 24-47 years). 22,2% (n=51) had general practice as their top priority for specialization. Baseline data collection of the participants entering internship in second half of 2022 will be finished ultimo May 2022. We will present descriptive results of the study including a demographic profile of the medical graduates that intends to become general practitioner today. Knowledge about the characteristics and traits of the medical candidates aiming for general practice are important for the planning of medical education and residencies in order to meet the future needs in primary care.

## Attitudes, Barriers, and Concerns Regarding Telemedicine Among Swedish Primary Care Physicians: A Qualitative Study

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**Background:** The primary care physician's traditional patient contacts are challenged by the rapidly accelerating digital transformation. In a previous quantitative survey analysis based on the theory of planned behavior, we found high behavioral intention to use telemedicine among Swedish primary care physicians, but low reported use.

**Purpose:** The aim of the present study was to further examine the physicians' experiences regarding telemedicine, with a focus on possible explanations for the gap between intention and use, through analysis of the free-text comments supplied in the survey.

**Material and Methods:** The material was collected through a web-based survey which was sent out to physicians at 160 primary health care centers in southern Sweden from May to August 2019. The survey covered four areas: general experiences of telemedicine, digital contacts, chronic disease monitoring with digital tools, and artificial intelligence. A total of 100 physicians submitted one or more free-text comments. These were analyzed using qualitative content analysis with an inductive approach.

**Results:** The primary care physicians expressed attitudes towards telemedicine that focused on clinical usefulness. Barriers to use were the loss of personal contact with patients and a deficient technological infrastructure. The major concerns were that these factors would result in patient harm and an increased workload. The connection between intention and use postulated by the theory of planned behavior was not applicable in this context, as external factors in the form of availability and clinical usefulness of the specific technology were major impediments to use despite a generally positive attitude.

**Conclusion:** All telemedicine tools must be evaluated regarding clinical usefulness, patient safety, and effects on staff workload, and end users should be included in this process. Utmost consideration is needed regarding how to retain the benefits of personal contact between patient and provider when digital solutions are introduced.



## Multimorbidity – unchanged challenges or new perspectives?

Mrs Tora Grauers Willadsen<sup>1</sup>, Mrs Alexandra Brandt Ryborg Jönsson<sup>1,2</sup>, Mr Anders Prior<sup>3</sup>, Mrs Cæcilie Hansen<sup>1</sup>, Mrs Kristin Hestmann Vinjerui<sup>4</sup>, Mr John Brandt Brodersen<sup>1</sup>, Mr Frederik Handberg Juul Martiny<sup>1</sup>, Mrs Elisabeth Søndergaard<sup>1</sup>, Mrs Anne Frølich<sup>1,5</sup>, Mrs Nina Katrine Kamstrup-Larsen<sup>1,5</sup>, Mr Volkert Siersma<sup>1</sup>, Mrs Solvej Skriver Hansen<sup>1</sup>, Mr Henrik Rindel Guldbergesen<sup>1</sup>, Mr John Sahl Andersen<sup>1</sup>, Mrs Bente Prytz Mjølstad<sup>6</sup>, Mrs Susanne Reventlow<sup>1</sup>, Mr Frans Waldorff<sup>1</sup>

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**Background:** Care for patients with complex multimorbidity is difficult with numerous consultations in the Health Care system. For patients living with multimorbidity, life is challenged. At a workshop titled “Patients with multimorbidity in general practice” performed during the NCGP, Finland, 2013 we led a discussion on doctors’ views on challenges and problems in relation to managing patients with multimorbidity. The discussion revealed four themes: complex care/clinical guidelines, insufficient cooperation/fragmented healthcare, difficulties with dialogue/prioritization in the consultation, the role of the general practitioner/un-adapted payment system.

**Aim and learning objectives:** Since 2013, multimorbidity has been a central area of research. However, there is still a need for understanding how to provide optimal care for these patients. This requires not only research on the organization and management of multimorbidity in general practice, but also on how multimorbidity turns out in patients’ lifeworld, but foremost a discussion of what multimorbidity is.

Therefore, taking set point in the themes from Finland we will present areas where we have gained insights over the years: definition, prioritization in the consultation, measuring life quality, lived life, interventions. Finally, we will invite the workshop participants to discuss:

How can we characterize/find patients and families with complex multimorbidity?

How does this characterization affect GP’s role in care and collaboration with other professionals within and outside the health care system?

What constitutes an optimal consultation with patients having complex multimorbidity?

What solutions have emerged in the last 10 years in how to manage these patients?

What challenges are still the most important?

**Methods:**

- Short presentations
- Panel debate - plenary and small group discussions (audiotaped/notes taken).

**Timetable:**

5 min: Introduction

30 min: Short presentations

50 min: Discussion

5 min: Closing remarks

Conclusion: Synthesize challenges and solutions in how general practice may conceptualize, care and collaborate about patients with complex multimorbidity.

## Patient experiences with depression care in general practice

Dr. Ina Grung<sup>1</sup>, Professor Norman Anderssen, Inger Haukenes, Dr. Sabine Ruths, Dr. Tone Smith-Sivertsen, Dr. Øystein Hetlevik, Dr. Stefan Hjørleifsson

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### Background.

Depression is a major health problem worldwide, with huge societal and personal consequences. In Norway, an estimate suggests that every 5th person will suffer from depression at some point in life, and it is the second most important contributor to health loss in the population.

When people seek help for symptoms of depression, the general practitioner (GP) is often the first professional contact, and the management of patients with such problems thus represents an important task for GPs.

Our aim was to investigate patient experiences and preferences regarding depression care in general practice.

### Methods.

A qualitative study based on free-text responses in a web-based survey in 2017. Participants were recruited by open invitation on the web page of the Norwegian patient organization Mental Helse (Mental Health), Mentalhelse.no. The survey consisted of four open-ended questions concerning depression care provided by GPs, including positive and negative experiences, and suggestions for improvement. The responses were analysed by Template Analysis. 250 persons completed the web-based survey.

### Results.

The analysis revealed five themes: The informants appreciated help from their GP; they wanted to be met by the GP with a listening, accepting, understanding and respectful attitude; they wanted to be involved in decisions regarding their treatment, including antidepressants which they thought should not be prescribed without follow-up; when referred to secondary mental care they did not want to have to find and contact a caregiver themselves; and they thought sickness certification should be individualized.

### Conclusions.

Patients in Norway generally seem to appreciate the depression care they receive from their GP. It is important to patients to be involved in decision-making regarding their treatment, that being talking therapy, antidepressants, sickness certification referrals to specialized health care.

## Theoretical perspectives in qualitative research

Associate Professor, MD, PhD Ann Dorrit Guassora<sup>1</sup>, Professor, GP, MA Anthropology, Dr. Med. Sci Susanne Reventlow<sup>1</sup>, Professor Emerita, GP, PhD Kirsti Malterud<sup>2</sup>

<sup>1</sup>The Research Unit and Section for General Practice, Department of Public Health, University of Copenhagen, Copenhagen, Denmark, <sup>2</sup>Department of Global Public Health and Primary Care, University of Bergen, Bergen, Norway

**BACKGROUND:** Pioneers from general practice have lead the way and established qualitative methods as a medical research discipline. General practice has a leading position in medical qualitative research but can still develop in quality. We wish to contribute to ambition and clarity in qualitative studies by introducing substantive theories as appropriate support for interpretation and analysis.

**METHOD:** Three oral presentations followed by plenary discussion.

**RESULTS:** In this symposium we argue why substantive theory is valuable in preparation, analysis and reporting of qualitative research, and we present different levels of ambitions for use. We also briefly touch on a range of examples of substantive theories of potential interest to general practice researchers.

**CONCLUSION:** We conclude the symposium by a discussion of participants' thoughts on the function of theory in qualitative research and its contribution to the foundation of knowledge in general practice. The symposium is based on the recently published book "22 temateorier til kvalitativ forskning" (2022).

Introduction and welcome (5 min)

- Why theory? Susanne Reventlow (10 min)
- How to use theory, principles and examples, Ann Dorrit Guassora (15 min)
- Twentytwo theories, brief presentation of a selection, Susanne Reventlow and Ann Dorrit Guassora (15 min)

Discussion: What is the function of theory? In research? In general practice? (15 min)

## Consultations covering multiple health problems

**Associate Professor, MD, PhD Ann Dorrit Guassora**<sup>1</sup>, Associate Professor, MA Anthropology, PhD Alexandra Brandt Ryborg Jønsson<sup>1</sup>, Associate Professor, GP, PhD May-Lill Johansen<sup>2</sup>, MA Psychology og Language, PhD-student Cæcilie Hansen<sup>1</sup>, Chair, GP Bolette Friderichsen<sup>3</sup>, MD, PhD Caroline Wachtler<sup>4</sup>, Professor, GP, MA Anthropology, Dr. Med. Sci Susanne Reventlow<sup>1</sup>

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<sup>3</sup>*The Danish College of General Practitioners, , Denmark,* <sup>4</sup>*Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, , Sweden*

**BACKGROUND:** Consultations in general practice often address several health problems and changes in disease patterns will make this more common in the future. This symposium presents current developments of types of consultations that invite discussion of more than one health problem.

**METHODS:** Four brief presentations and a panel debate.

**RESULTS:** Agenda navigation in consultations covering multiple topics and specific consultation types for patients with multiple chronic diseases - including psychiatric illnesses - will be addressed. The symposium also offers a discussion of relations with patients with multiple health problems.

**CONCLUSION:** The symposium concludes by a discussion of the future of specific types of consultations for patients with several health problems and of who needs them.

### Program

- Introduction and welcome (3 min)
- Agenda navigation in consultations covering multiple topics, Ann Dorrit Guassora (8 min)
- Developing the SOFIA consultation for patients with severe mental illness, Alexandra Brandt Ryborg Jønsson (8 min)
- Relations in consultations with multiple health problems, Cæcilie Hansen (8 min)
- Overview-status (overblikstatus) for patients with multiple chronic diseases, Bolette Friderichsen (8 min)
- Panel debate: Future consultations models and the people who need them, Susanne Reventlow, Bolette Friderichsen, Caroline Wachtler and May-Lill Johansen (20 min)
- Closing remarks (5 min)

## A comparison of eight different strategies for management of patients with an uncomplicated acute sore throat - identifying the best strategy to safely keep antibiotic prescribing at a minimum

**Professor Ronny Gunnarsson<sup>1,2,3</sup>**, A. Professor Ulrich Orda<sup>4</sup>, Doctor Bradley Elliott<sup>5</sup>, Professor Clare Heal<sup>4</sup>, Professor Chris Del Mar<sup>6</sup>

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Rheumatic fever (RF) is internationally prevalent in low-income countries and some high-income countries while it is almost absent in most high-income countries. Antibiotic treatment for patients with a sore throat caused by group A Streptococci (GAS) is likely to reduce the incidence of RF. However, the main reason for prescribing antibiotics to patients at low risk for RF is merely to reduce symptoms.

Internationally there are many contradicting guidelines and many practitioners don't adhere to any of them. In most countries 40-80% of patients attending PHC for an apparently uncomplicated acute sore throat are prescribed antibiotics.

In this study eight very different strategies, similar to guidelines from several countries, were tested against a validation data set being a construct from six prior studies. It was found that all patients should be swabbed in their throat irrespective of the magnitude of symptoms in a setting with high risk for rheumatic fever. In all other settings the optimal strategy would be to take a throat swab only on patients with more than low pain after adequate analgesics and fulfilling 3-4 Centor criteria. Throat swabs should be analysed on site using a point of care test and patients with presence of GAS should be offered antibiotics. In a setting with low risk for RF this strategy would result in only 8.0% of patients being swabbed and only 3.9% prescribed antibiotics.

## The effect of a single visit to a health coach on perceived health in 50-year old residents in a high-income country – a randomised controlled trial

Dr Sofia Ryd<sup>1</sup>, Dr Gert Persson<sup>3</sup>, **Professor Ronny Gunnarsson<sup>1,2</sup>**

<sup>1</sup>General Practice / Family Medicine, School of Public Health and Community Medicine, Gothenburg University, Gothenburg, Sweden, <sup>2</sup>Research, Development, Education and Innovation, Primary Health Care, Region Västra Götaland, Gothenburg, Sweden, <sup>3</sup>Gothenburg Assessment Centre, Region Västra Götaland, Gothenburg, Sweden

Although residents in many high-income countries perceive their health as good, the prevalence of lifestyle-related conditions, including poor mental health, is increasing. Primary prevention is likely a part of the solution. Primary health care (PHC) is well placed to implement both targeted primary prevention to risk groups as well as a broader primary prevention to the overall population. However, in many countries PHC lack resources to forcefully engage in primary prevention. Hence, there is a need for alternative ways, such as health coaching, to deliver primary prevention.

Most studies of health coaching has been prevention to promote self-management of chronic health conditions and less often primary prevention in apparently healthy people. Most studies on health coaching have used extensive health coaching interventions with multiple sessions. Although a series of multiple health-coach sessions seem effective PHC might not be able to afford that. Hence, there is a need to investigate if a single visit to a health coach for the broader population is beneficial.

50-year-old residents of the town of Alingsås, Sweden were randomly selected from the Swedish Population Register. All participants were asked to complete the validated SF-36 health survey questionnaire version 1 at baseline and after 12 months. Participants were randomised so half (52/105) received a single one-hour visit to a health coach immediately after returning the baseline survey. The outcome was change in perceived health-related quality of life during 12 months.

The control group changed their perceived health more favourable than the intervention group in the following dimensions of the SF-36; general health ( $p=0.0055-0.025$ ), role-emotional ( $p=0.034-0.040$ ) and mental component summary ( $p=0.033-0.073$ ). The conclusion is that a single visit to a health coach does not improve perceived health or exercise-level in 50-year-old citizens. On the contrary it may make perceived health-related quality of life worse.

## Proton pump inhibitor use among patients at risk of peptic ulcer bleeding

**Associate Professor, MD, PhD Peter Haastrup<sup>1</sup>**, MD, PhD Jane Møller Hansen<sup>2</sup>, GP, clinical pharmacologist, PhD Jens Søndergaard<sup>1</sup>, GP, PhD Dorte Jarbøl<sup>1</sup>

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**Background:** Proton pump inhibitors reduce the risk of peptic ulcer bleeding in patients at risk. The knowledge about the extent of gastroprotection in patients at increased risk and factors associated with prophylactic treatment is limited.

In this study we aimed (1) to analyze the extent of gastroprotective undertreatment in patients using aspirin/non-steroidal anti-inflammatory drugs and (2) to analyze which patient characteristics are associated with proton pump inhibitor prophylaxis among those at increased ulcer bleeding risk.

**Methods:** A Danish nationwide register-based study. Based on a risk stratification model we identified citizens at increased ulcer bleeding risk and analyzed the proportion concomitantly treated with proton pump inhibitors. Further, we analyzed associations between use of ulcer prophylaxis and comorbidity and socioeconomic characteristics.

**Results:** Some 44.4% of the high-risk patients were concomitantly treated with proton pump inhibitors. In the crude analyses cohabiting, having a high educational level and a high income were significantly associated with lower odds of being treated with proton pump inhibitors. When adjusting for medication use, age, sex and comorbidity the associations were statistically insignificant.

**Conclusions:** There is room for improvement in the extent of ulcer prophylaxis but no clear social gradient in underprescribing of gastroprotection was found. With the substantial risk-reducing possibility, concomitant proton pump inhibitor use could save numerous patients from ulcer bleeding each year. Our study calls for increased awareness of peptic ulcer bleeding risk and dissemination of knowledge to clinicians about risk factors for gastrointestinal hemorrhage and the risk reducing potential of co-prescribing proton pump inhibitors to patients at risk.



## Videoconsultations between primary and secondary care in the care planning of patients with functional disorders: a pilot RCT and feasibility study

**Chief Physician Pia Hakio<sup>1</sup>**, Markku Sainio, Helena Liira

<sup>1</sup>*Inkoo Health Centre, Inkoo, Finland*

### Background

In functional disorders patients have symptoms without explaining somatic or psychiatric reason. GPs regard the care of functional disorders as challenging. The Clinic for Functional Disorders at Helsinki University Hospital wants to increase collaboration between primary and secondary care in the treatment of functional disorders. One way to improve integration is real time videoconsultations (VCs) where the GP, patient and specialist gather for care planning.

### Methods

In this pilot we will study the feasibility of real time videoconsultations in the care of patients with functional disorders. Primary care patients with functional disorders (n=60) are randomized either to VC or control group. Feasibility is considered both from patients' and doctors' point of view. The patient and the GP are asked to fill in short questionnaires after the consultation. Patients and doctors are interviewed to study the strengths and weaknesses of VCs in this patient group. In the interviews, 'think aloud' - method is used followed by structured questions. Doctors are invited to focus group interviews at the end of the study.

### Results

This study is a pilot where 40 patients are recruited to the intervention group (VC) and 20 patients serve as control. This pilot randomized controlled trial (RCT) and feasibility study prepares for a larger RCT. The study commences in February 2022. First results from the feasibility study will be presented at the congress.

### Conclusions

Real time consultations increase integration between primary health care and specialized health care. This new method is widely taken into use but there are few studies regarding its effectiveness and feasibility in patient care. It has not been studied in the care on patients with functional disorders, a group of patients that uses many resources. This study provides information for integrated service delivery in this patient group.

## Implementation and assessment of a cross-sectoral intervention targeting diabetes distress in people with newly-diagnosed type 2 diabetes: A cluster-randomized trial.

**MSc Steffan Holst Hansen<sup>1</sup>**, MSc Gitte Stentebjerg Petersen<sup>2</sup>, Ph.D. Anders L. Sønderslund<sup>1</sup>, Ph.D. Troels Mygind Jensen<sup>1</sup>, Professor Jens Søndergaard<sup>1</sup>

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### Backgrounds and aims

Distress is frequently associated with having diabetes and include worries about disease management, emotional burden, support, and access to health care. Such diabetes distress (DD) is associated with a range of deleterious physical and mental health outcomes, including poor glycemic control and reduced mental wellbeing. However, few interventions address DD. Hence, this study will assess the efficacy of a cross-sectoral intervention targeting DD in people with newly diagnosed type 2 diabetes.

### Methods

The intervention includes a structured startup routine for patients with newly diagnosed type 2 diabetes and provides specific tools and guidelines for general practitioners and municipalities to support treatment and cross-sectoral collaboration of care. Within the first three months, patients are offered several startup consultations, education in blood glucose measurement, individual counseling in the municipality and diabetes complication screening.

This cluster-randomized clinical trial will be conducted in the Region of Southern Denmark, with 28 randomly assigned General Practices to intervention or control group (routine care). A total of 416 patients are to be included in the trial. The primary outcome is change in DD severity over a 12-month intervention period. Secondary outcomes relate to patient-reported outcomes, such as quality of life, depression, self-care, and self-management. Clinical and biochemical measures are also collected for analysis.

### Expected Results

A significant decrease in DD severity in the intervention group compared to controls is expected. As a result, self-care and self-management are likely to increase significantly, further reinforcing the positive intervention effect on DD.

### Implications

This study is designed to increase our understanding of DD and has the potential to provide evidence-based, applied recommendations for general practitioners as well as the municipal healthcare systems targeting DD in newly diagnosed type 2 diabetes.

## Relations in Consultations and Institutional Conditions: a Ph.D. study in the professionalization of relational competence for GPs

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### Background

The relationship between doctor and patient is an important part of General Practice as an institution of health care. However, there is limited research on the professionalization of the relational competence (da. Relationskompetence) of the GP. The term relationskompetence has already been evolved in pedagogical research aimed at teachers in municipal primary and secondary school in Denmark. Evolving the term and its mentioned components in a new institutional setting, such as General Practice, begs for attention to new institutional conditions, which is intertwined with the institutional aim. This study sets out to define the relational competence of GPs in general practice as an institution while defining what institutional conditions affects the GP as a step to professionalize the relational competence of GPs.

### Method

The project is based in Psychology of Language is a research field where relationships, and the communication within, them can be investigated and theoreticalized, as well as broader institutional communication and discourse. Thus, the methods used for this study are conversation analysis multimodal interactional analysis, systematic text condensation and document analysis.

### Results

“Relationskompetence” fathoms several parts for investigation in the professionalization of relational competence, including the institutional aim/goal, which preliminary results show is beneficial to discuss in regards to institutional conditions.

### Conclusions

The larger parts of the study is yet to be conducted, and the conclusion of preliminary results is merely, that this exploration is beneficial to General Practice as an institution. Researching phenomena, which simultaneously delves into the psychology of interpersonal relationships, institutional discourses, analysis of both actions and conversation, and intersubjectivity, requires a research field spanning all these areas. The theoretical base in Psychology of Language as a study field, will make the project possible to carry out, through the integration of communicative and psychological approaches.

## Challenged understanding in consultations with language barriers

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### Background

Since 2018, patients with who have lived in Denmark for more than three years and in need for interpreter assistance have had to pay for interpreter service when using health care. A decrease has been found in the use of interpreter services following the introduction of the user fee. This study investigates which strategies and resources the participants, GPs and patients, use to overcome language barriers in the consultations in the absence of a professional interpreter.

### Method

The study is based on 11 video-recorded consultations without a professional interpreter present in general practice in two out of five regions in Denmark. Using conversation analysis, we investigated how GPs and patients worked to establish intersubjective understanding in consultations.

### Results

The study showed that the language barrier caused great challenges for establishing an understanding in these consultations. The GP had to prompt the patient in several ways to present their concern. When the patient did present their concern, the “problem presentations” resembled fragmented symptom descriptions, were long and repetitive while at the same time limited in the dimensions they included. Gesture was used by patients as a linguistic resource but could only signify vague bodily placements or bodily phenomena.

Thus, both participants seemed to work hard to understand each other and express themselves, yet fell short of establishing sufficient mutual understanding about what the patient tried to present and what the GP tried to ask and inform about.

### Conclusion

The absence of a professional interpreter in consultations with language barriers affects the establishment of intersubjective understanding between GP and patient and how far the patient’s problem can be explored. This hampers the quality of treatment and the process of shared decision making with the patient and the patient-centredness of the consultation.

## GP depression care in Norway and the Netherlands: registry-based study

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### Background and purpose

Depression is highly prevalent in general practice, but there is little knowledge about whether the organisation of primary health care affects the provision of depression care. General practitioners (GPs) in Norway and the Netherlands fulfil comparable roles. However, primary care teams with a mental health nurse (MHN) assisting the GP have been established in the Netherlands, but not yet in Norway. Thus, we aimed to examine cross-national differences in GP depression care.

### Methods

Registry-based cohort study comprising patients aged >18 years with new depression episode(s), 2011-2015. The Norwegian sample was drawn from the entire population (national health registries); 297,409 episodes. A representative Dutch sample (Primary Care Database at NIVEL) was included; 27,362 episodes. Outcomes were follow-up consultation(s) with GP and/or MHN and antidepressant prescriptions during 12 months from date of diagnosis. Differences between countries were estimated using negative binomial and Cox regression models, adjusted for patient gender, age and comorbidity.

### Results

Norway and the Netherlands differed regarding the proportion of patients having GP follow-up consultations (65.4% vs. 57.3%), receiving antidepressants (47.2% vs. 59.5%) and receiving prescriptions within one week from the date of diagnosis (42.7% vs. 52.7%). The relative difference between Norway and the Netherlands was IRR (incident rate ratio) =1.36 (95% CI 1.34-1.38) for GP follow-up consultation(s), and HR (hazard ratio) =0.76 (0.75-0.77) for drug treatment. When comparing follow-up consultations in GP practices, including MHN consultations in the Netherlands, no cross-national differences were found, IRR 0.99 (0.98-1.01).

### Conclusions

The cross-national differences found in this study indicate that MHNs assist Dutch GPs in providing follow-up consultations. Drug treatment for depression was prescribed more frequently and sooner in the Netherlands than in Norway.

## Promoting prudent antibiotic use in nursing homes – a Norwegian nation-wide antibiotic quality improvement program

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### Background

The Norwegian Government published its “National Action Plan against Antibiotic Resistance in the Health Services” in 2016, where measures addressing nursing homes (NHs) were specified in a separate chapter. In response to this plan, our Antibiotic Centre for Primary Care designed a nation-wide multi-faceted quality improvement program on antibiotic prescribing in Norwegian NHs.

### Methods

The intervention was launched as a pilot in Østfold county in October 2016. We invited nurses and physicians from each NH to a one-day conference led by an Antibiotic Centre for Primary Care team. Ahead of the conference, the NHs received a report comparing their own antibiotic use with other participating institutions. Short lectures were given on antimicrobial resistance, infection diagnosis, national guidelines, infection control and ethics, which was further discussed in workshops. Distinguishing asymptomatic bacteriuria from cystitis was emphasized, and we provided educational material and clinical checklists. After six and twelve months, we held follow-up conferences and distributed new antibiotic reports for audit and feedback. Primary endpoints included total antibiotic usage and oral urinary tract infection (UTI) antibiotics measured in defined daily doses/100 bed days (DDD/100BD). Usage is aggregated antibiotic sales data from pharmacies.

### Results

By October 2017, 92% (34/37) of relevant NHs had completed the one-year intervention. Preliminary results show total mean systemic AB use decreased from baseline 8.7 DDD/100BD (range 0.6 – 28.8) to 7.3 DDD/100BD (range 2.6–22.1) during the intervention year, accounting for a total reduction of 16.1%. Mean UTI oral AB use decreased from baseline 4.1 DDD/100BD (range 0.6–12.1) to 2.7 DDD/100BD (range 0.5–8.1) during the intervention year, accounting for a 34.1% reduction.

### Conclusions

Preliminary results show us that it is possible to successfully implement multifaceted interventions in Norwegian NHs, and achieve a marked reduction in total and oral UTI AB use for at least one year.

## Communication between GPs and specialist mental health care – need for new interventions

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**Background:** Ensuring timely and equal access to specialist mental health care is challenging in most countries. Many patients experience readmission. Low quality referral and discharge letters is suggested as one reason for these challenges. The objectives of the symposium is to present and discuss results from a research project investigating the referral and discharge communication. We aimed at assessing the impact of referral- and discharge letters on the reliability of specialists' triage decisions at intake and on readmission into mental health specialist care.

**Methods:** Qualitative and quantitative methods were employed. GPs, mental health specialist and patient representatives participated. Data was gathered by means of focus group interviews and questionnaires. Checklists for quality of referral- and discharge letters were developed and tested. Regression models were employed to investigate the impact of the quality of referral and discharge letters on reliability of patient triage decisions and readmission. The study was conducted in Western Norway.

**Results:** Psychiatrist and psychologist responsible for assessing referral letters (N=42) rated 19 information items as essential referral information, and GPs (N=50) rated 26 items as essential discharge information. Mental health specialists triaged one of two referrals differently after meeting the patient, compared to when assessing the referral letter (N=264). However, the quality of the referral letters was not associated with diverging triage decisions. Neither did we find the quality of discharge letters to be lower among readmitted patients (N=50), compared to those not readmitted (N=50). Interviews revealed deviating interpretation of "need for specialist mental health care" among GPs, mental health specialists and patient representatives.

**Conclusions:** Improving the quality of referral and discharge letters may only partly reduce the risk of readmission or over- and underestimation of the urgency of need for specialist mental health care. More innovative methods for the cooperation are needed, in addition to further research.

## Who are at highest risk of long-term sick-leave? A gendered GP perspective

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### Background.

General practitioners have a crucial role in certification of sick-leave and follow-up of sick-listed workers. To select patients for careful follow-up, knowledge on risk-factors associated with gendered structures in work life is useful. This study examines the association between the gender-segregated work life and days of sickness absence in a comprehensive dataset from Sweden.

### Methods.

The Northern Swedish Cohort consists of all pupils in Luleå (1981) attending their last year of compulsory school (N=1083). All participants in the Cohort belonging to a specific workplace, were identified by Statistics Sweden (2007), and linked to data on all co-workers at workplaces of the participants (N=132,464, 67,839 women and 64,625 men). Exposure was the percentage of women at the workplace, ( $\leq 20.0\%$ , 21%–40%, 41%–60%, 61%–80% and  $>80\%$ ) and outcome, cumulative days of physician certified sickness absence ( $\geq 90$  days) during 2007. Analyses were descriptive statistics, logistic regression of the exposure – outcome association and sensitivity analyses.

### Results.

Workers at extreme women-dominated workplaces had significantly higher likelihood of sickness absence (OR=1.84, 95% CI = 1.68–2.02) compared to workers at gender-equal workplaces. This pattern was found for women as well as for men. The risks among women and men at extreme men-dominated work-places were no different from the gender-equal workplaces.

### Conclusions.

General practitioners certifying sick-leave to employees working at extreme women-dominated workplaces, should be particularly aware of their higher likelihood of multiple sick-leave days. Careful follow-up of these patients including contact with the work-place may promote a more sustainable return to work.



## Doctors' experiences of providing care in rural hospitals in Southern New Zealand

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**Background:** Rural hospitals are small hospitals in sparsely populated areas in New Zealand, typically far from nearest general hospital. Patients with different medical conditions covering many vocational areas of clinical practice are admitted and cared for by generalist doctors. Patients hospitalised in rural hospitals are older than those referred to larger hospitals, and common conditions include exacerbation of chronic diseases and infections in the elderly. These patient groups are elsewhere hospitalised in general hospitals and treated by hospital specialist doctors, but in areas supported by rural hospitals they are treated by generalist doctors.

**Aims:** To describe rural hospital doctors' experiences of providing care in rural hospitals in South Island, New Zealand.

**Methods:** A semi-structured qualitative interview study with 16 rural hospital doctors working in 9 different rural hospitals. Transcribed interviews were analysed according to qualitative content analysis using an inductive approach.

**Results:** Preliminary findings include identification of three themes: 'Applying a holistic perspective in the care', 'Striving to maintain patient safety in sparsely populated areas', and 'Cooperating in different teams around the patient'. Doctors emphasized a holistic perspective on rural hospital patients based on closeness to home and family, a generalist perspective and relational continuity as important advantages compared to general hospital care. Limited access to ambulance transportation and limited experience of managing low-frequency conditions were discussed as safety concerns for severely ill patients. For adequate patient groups patient safety in rural hospitals was considered equal or better than in general hospitals. The central role of the rural hospitals in the health care pathways of rural patients was expressed, as well as advantages and disadvantages with small non-hierarchical multidisciplinary teams.

**Conclusions:** Our findings indicate that rural hospital doctors value the holistic generalist perspective in rural hospital care and illustrate how they thrive to maintain quality and safety in that care.

## Hypertension management in primary health care – a survey in eight regions in Sweden

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### Background

Hypertension (HT) is a common condition and the most important risk factor for chronic cardiovascular diseases. Most patients are diagnosed, treated and followed-up within primary health care (PHC). Optimal treatment is therefore of utmost importance. Despite this, several studies have shown that only about 50% of patients with HT reaches the treatment goals.

### Methods

The goal of this study was to investigate the organization and management of HT on a local, regional and national level using interviews by telephone in a randomized selection of 76 PHC centres from eight regions in Sweden. About 80 % of the interviewed PHC centres were public and 20 % private. About 1 out of 3 were located in a rural area and 1 out of 3 had a specified hypertension unit. The median PHC centre had 9 368 listed patients, seven GPs and eight nurses working full time. The median number of patients per GP was 3192.

### Results

To identify hypertension in patient's both digital and manual blood pressure measurements were used. Only 2 (3 %) PHC centres said they never use an ambulatory 24h measurements and 25 (75 %) used a sitting position, and 87 % did not routinely measure the standing blood pressure. At diagnosis of hypertension the following measurements were done: kidney function 100 %, S-potassium 96 %, blood lipids 95 %, blood glucose 92 %, ECG 79 %, BMI 74 %, blood counts 65 %, microalbuminuria 61%, urine stick 47%, waist measurements 41 % and S-calcium 25%. There was a statistically significant and clear decrease in the amount of measurements at routine follow ups.

### Conclusions

Overall it is clear that there are considerable differences in management of hypertension and this survey could serve as a clinical guideline for references on how to manage hypertension in a PHC setting.

## Perceived burden in LGBTQIA+ persons compared to cis-heterosexual persons during COVID-19 social distancing measures in Germany

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**Background:** In most European countries, social distancing measures have been implemented to restrict the transmission of COVID-19. While positively influencing infection rates, research on the effect of these measures on sexual minorities' daily lives remained limited. Thus, we aimed to investigate perceived burden of LGBTQIA+ compared to cis-heterosexual persons.

**Methods:** An online survey during the first two waves of the COVID-19 pandemic in Germany. The survey allowed self-categorization regarding sexual orientation and gender identity and contained an open question on perceived burden. Additionally, we asked among others if the participants had a General Practitioner (GP) and for loneliness (De Jong Gierveld Short Scale).

We used qualitative content analysis to analyze the answers on perceived burden. Codes were constructed out of the text corpus and clustered into categories. Chi square test was used to evaluate whether there was a significant difference in perceived burden between LGBTQIA+ and cis-heterosexuals for every category. Health care and loneliness were analyzed statistically using R.

**Results:** 6784 individuals took part in the online survey. Nine different categories of perceived were identified: 'social life and dating', 'work and finance', 'education', 'mental health', 'burden directly referring to COVID-19', 'family and relatives', 'health and healthcare utilization', 'society and politics', as well as a category exclusively for LGBTQIA+ related topics. LGBTQIA+ people were more likely to experience burden in 'social life and dating' as well as 'mental health' compared to cis-heterosexual participants, while cis-heterosexual participants' burden was significantly higher in the categories regarding 'family and relatives' as well as 'society and politics'. There was no difference in having a GP between LGBTQIA+ and cis-heterosexual participants; LGBTQIA+ participants were much more likely to experience loneliness.

**Conclusion:** GPs should be aware of the burden of their LGBTQIA+ patients during social distancing measures and ask specifically for social connections and loneliness.

## Social Prescribing to Improve Primary Health Care? Evidence from a Systematic Review of Social Prescribing Interventions

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**Background:** In social prescribing, patients with psychosocial problems are referred to local services via a link worker. Social prescribing aims to provide targeted psychosocial prevention and close the gap between medical and non-medical services. Social prescribing has been widely implemented in the UK. In several other countries, there have been pilot projects implementing social prescribing. This review assesses the effectiveness of community-based social prescribing interventions.

**Methods:** Systematic review of interventional studies of community referral interventions focused on facilitating psychosocial support. We considered health-related endpoints, other patient reported outcomes and health care utilization. We searched six databases, grey literature, and additional trials registers. Results were screened by two independent reviewers in a two-step process, followed by data extraction. Whenever possible, effect sizes were calculated. Risk of bias was assessed with the EPHPP and the Cochrane RoB2 tools.

**Results:** We identified 68 reports from 53 different projects. Of these, only three were controlled studies and just two with randomization. Uncontrolled studies with shorter time frames frequently reported positive effects. This could largely not be seen in controlled settings and for longer follow-up periods. Designs, populations, and outcomes evaluated were heterogeneous with high risk of bias for most studies. **Discussion:** Current evidence suggests positive effects of social prescribing on a variety of relevant endpoints. However, the design limitations of the available studies limit the evidence. We recommend to conduct further methodologically rigorous controlled trials, especially outside the UK.

## To code or not to code ? - that's not the question

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Background: Coding of diagnosis in general practice can help capturing the patient's problems to adapt the care, help getting insight in own practice and build a ground for research on primary care.

The International Classification of Primary Care (ICPC) is widely used in GP practice. The new version, ICPC-3, supports a further shift from a medical perspective to a person-centered perspective in primary health care, by introducing functioning as part of the classification. ICPC is used in research on primary care epidemiological by aggregated data in registries or research networks.

SNOMED is getting increased actuality for GPs internationally with a much broad set of codes for all parts of healthcare, in Norway chosen as the "common language" in health care.

The terminology in coding must be closely related to the terms naturally used in practice to increase usability. There is an ongoing work to connect the language of practice capturing patient's problems and link this to the codes in SNOMED and ICPC.

The aim of the workshop: To gain insight into the "latest news" in coding in primary care and discuss challenges improving the classification tools and coding in GP practice

Method:

The workshop combine short presentations intertwined with small group discussion and polls using interactive response applications based on clinical cases from daily practice.

In the presentations describe:

- examples from recent research based on coding in GP practice
- principles and challenges defining most useful terms for general practice, experiences from Netherlands, Belgium and Norway.
- experiences introducing the new Norwegian reference set in "Helseplattformen"
- The new concepts in ICPC-3 and possibilities to support practice and research

Time table: Alternate between short presentations and participant activity, 45 minutes for each part.

Conclusion: Increasing the awareness of clinical coding may improve patient care and research.

## The GP waiting room screen – an underused resource

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### Background

In GP waiting rooms, TV screens can fill many purposes that include: To provide local information about the practice and care delivery, waiting times, appointment types, vaccination programmes, etc; calm and welcome patients, provide little words of wisdom, etc. to convey the 'spirit' of the practice and build mutual trust between patients and the practice; to increase patient's knowledge about crucial methods, core values and principles in general practice such as continuity of care and stepwise work-up; and to educate patients about the use and limitations of different investigations and treatments that are frequently requested in general practice, e.g. by quoting antimicrobial stewardship and campaigns against medical overuse such as Choosing Wisely.

### Aim and learning objects

The aim of the workshop is (i) to increase participants' awareness of the potential for waiting room screens to enhance the communication between GP practices and their patients and promote the health literacy of the general population; and (ii) to collectively explore ways of developing waiting room screen content that will serve the purposes outlined in the background section.

### Methods and timetable

The workshop will commence with interactive presentations of existing waiting room screen content and ideologically motivated principles regarding general practice healthcare literacy and medical overuse, before the participants discuss the topic among themselves and workshop organizers.

20 min: Current ways of using the GP waiting room screen in Denmark and Norway.

15 min: Challenges and core values in general practice.

10 min: Participant feedback.

15 min: Choosing wisely and Sustainability in general practice.

30 min: Group and plenary discussions.

### Conclusions

Ideas and suggestions from the workshop discussion will inform ongoing projects, including the Danish 'Praksisskjærm' and the Trondheim/Bergen Research unit for general practice initiative to develop waiting room screen contents for general practice in Norway.

## How to ameliorate health inequity in general practice

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### Background

The health of those with less social resources tends to be worse than those who enjoy more privileges. But what happens in general practice? Ideally GPs should give equally good help to everyone, which implies not giving the same help to people regardless of their social background, but to adapt care to the patient's circumstances. Unfortunately, the opposite often happens, namely that GP services exacerbate inequity and make the situation worse for those who already are underprivileged. To address this, the Spanish Society of Family and Community Medicine has published innovative guidance for GPs on how to avoid amplifying or sustaining social inequality in health and rather reduce or at least to cushion them. In the Nordic context, this approach resonates strongly with the Choosing Wisely initiative to deimplement health services that harm patients.

### Aim and learning objectives

First, to provide a brief overview of the international evidence on how primary care influences social inequality in health and what has been done in Norway to address this, and more generally to prevent GP care from harming patients. Second, to introduce an innovative and practical approach to social inequality developed by Spanish GPs. Finally, in the light of the above, to discuss new interventions in general practice in Norway and other Nordic countries to address social inequality in health.

### Methods and timetable

The workshop will be thoroughly interactive, with participant feedback and group discussions. A digital participant feedback method will be used to elicit and visualize participant experiences and perspectives throughout.

20 min: Background on social inequality and general practice.

10 min: Choosing Wisely in Norway and the Nordic countries.

30 min: Spanish recommendations.

20 min: Group discussions.

10 min: Summary and further plans.

### Conclusions

The workshop will conclude with an agenda for addressing social inequality in general practice.

Utilization of acute care after nonsuicidal self-harm.

## A mixed-methods systematic review

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**BACKGROUND:** Nonsuicidal self-harm (NSSH) is a growing health concern globally, especially among young people. Even if the self-harming acts are performed without conscious suicidal intention, NSSH is one of the most significant risk factors for future suicide. Acute care, including emergency primary health care, encounter persons presenting with self-harm, and these services have a scope for initiating necessary treatment and preventive measures. In this review we aim to explore acute services' role in the care for people who engage in nonsuicidal self-harm. We want to identify barriers and facilitators regarding use of such services.

**METHODS:** We are conducting a systematic review which follows the Joanna Briggs Institute (JBI) methodology for mixed-methods systematic reviews. We carried out structured searches in PubMed, Embase, CINAHL, APA PsycINFO, AMED, Web of Science, Proquest, and Scopus. Two independent researchers currently perform a two-stage selection process and are including all eligible original quantitative, qualitative or mixed-methods studies written in English or Norwegian. All eligible studies are included without publication date restricts. Reference lists of included studies will be scanned for additional relevant studies. JBI SUMARI will be used as tool for data extraction, analysis, and quality assessment. A detailed protocol of the review is available from the international prospective register of systematic reviews, PROSPERO, and has the record number CRD42021222613.

**RESULTS:** The systematic searches identified 10 053 records. These are currently screened on title and abstract. So far, 229 studies have been included. Eligible studies will be further selected based on the full-text version. The data will be analyzed and synthesized during the spring.

**CONCLUSIONS:** There is a substantial number of eligible studies about the use of acute care due to nonsuicidal self-harm. Findings and conclusions will be presented at the conference.



## Perspectives on quality in the education of specialist candidates in general practice

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**Background:** Good quality in guidance and supervision is important in education in general, so also for medical specialists. The term quality is widely used in today's educational policy climate, but less frequently tried to define in the specific contexts the term is used.

**Methods:** This study generates new knowledge about the quality of the guidance and supervision that takes place in ALIS-Vest, a project that aims to facilitate specialist education in general practice in Western Norway, with two purposes: 1) to get a well-structured specialist education for the education candidates, and 2) to ensure recruitment and stabilization of GPs and other general medical tasks in the municipalities. The aim of this study is to present a multi-voiced view of what quality entails in this context. The question is in what way different perspectives of quality may deepen our understandings made so far on how to organize and run specialist education for GPs. Based on analyzes of data from quantitatively and qualitatively oriented questionnaires and telephone interviews, different perspectives and understandings of quality dimensions (scheme, content and relationships) are presented.

**Results:** The participants in the ALIS Vest program are generally satisfied with both individual and group guidance, but most satisfied with the groups. The group guidance seems to address several of their needs. It serves both social and professional needs though it focus on sharing experience. Another finding is a need for more qualified mentors, and that these should be both trained and supported in carrying out individual and group guidance and clinical case-oriented supervision.

**Conclusion:** Recruiting and supporting mentors leading the specialist education must be strengthened so that this work becomes attractive to a greater number of experienced specialists. The ALIS candidates points at stability, predictability and immediate presence when they highlight characteristics of quality concerning the ongoing learning process.

## Quality in digital consultations in future general practice

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Digital consultations (telephone, e-messages, and video) have become additional consultation formats to provide treatment and continuity of care for patients in today's general practice. During pandemic times in Scandinavia and worldwide, telephone- and e-consultations have increased in number, and video consultations were rapidly implemented in general practice and out-of-hours services. To reach the full potential of care delivered through digital consultations, we need more insight into, when, and why general practitioners (GPs) utilise them and what gives them quality.

### Aim and learning objectives

To facilitate knowledge exchange among Nordic colleagues regarding digital consultations for the benefit of future clinical work and research.

### Methods and timetable

0-30 min: Introduction to digital consultation

30-70 min: Case-driven group discussion.

Case 1: Digital communication and interaction. Each digital consultation request different communication principles and doctor-patient interaction. How is relational quality and person-centred communication obtained in digital consultations? Is there a need to develop training for GPs in digital communication and how may this training be carried out?

Case 2: Equal access to care. Digital consultations may provide improved access to care but may also increase health inequities. Is the 'digital divide' present when using digital consultations? What motivates our choices of which digital consultation to use and for whom?

Case 3: Organization and implementation. Digital consultations are organized and implemented in various ways. Which factors facilitate and make implementation successful? How might organization- and implementation practices of digital consultation in daytime and out-of-hours services ensure quality 24/7?

70-90 min: Feedback from groups and 'take home key points'.

### Conclusion

Discussion and exchange of experiences throughout the workshop will increase our knowledge regarding digital consultations.

## End-of-life care for nursing homes residents and the role of the general practitioner – an observational study in Denmark

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### Introduction

The end-of-life period remains sparsely investigated in Danish nursing home residents. This study aimed to estimate medication use, drug reimbursement for terminal illness and hospital admissions and to compare these estimates between two different groups of nursing home residents.

### Methods

This small-scale observational study was based on residents who died while residing in a nursing home in 2019. We estimated medication use, drug reimbursement for terminal illness and hospital admissions during the three months before their death. Estimates for residents registered with a nursing home GP were compared to estimates for residents registered with their usual GP.

### Results

We included 67 residents (mean age: 88 years, 78% female). On average, residents with a nursing home GP (n=21) received ten different medications, and residents with their usual GP (n=46) received seven; almost three 'often inadequate' medications were prescribed in the last three months. At 1-11 days (median: 3 days) before death, 39 (58%) residents received drug reimbursement for terminal illness; 65% were registered with their usual GP and 43% with a nursing home GP. Five (24%) residents with a nursing home GP died at the hospital compared to eight (17%) with their usual GP.

### Conclusion

The residents received many drugs in the three months before their death; 90% of the residents received 'often inadequate' medications. More focus should be placed on optimizing end-of-life care for nursing home residents.

## Opioids Against Chronic Non-malignant Pain - How do GPs do it in practice?

Mr Trond Høibø<sup>1</sup>

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### Background

Longstanding pain is a major public health issue. First line treatment is non-medical. Opioids is a treatment option in selected patients with chronic non-malignant pain (CNP), although the effect is disputed, there is substantial risk for side-effects, and serious adverse events are not uncommon. The Norwegian state provide reimbursement for medicines against chronic conditions. For reimbursement of opioids against CNP, an individual application is necessary. This study looks into how general practitioners (GPs) treat and follow-up patients that have been granted this reimbursement.

### Methods

All GPs in Rogaland that at least once had applied for reimbursement of opioids against CNP were invited. 61 out of 193 (32%) submitted an anonymous web-based questionnaire. The GPs were asked to answer the questionnaire based on the last patient they remembered applying reimbursement for, not on how they usually do it.

### Results

Total daily oral morphine equivalents (OMEQ) were lower if the GP him-/herself had taken the decision on starting the opioid treatment (36 OMEQ vs 108 OMEQ,  $p=0,001$ ). Only 38% of the GPs agreed to the statement that the patient had been offered sufficient help with coping strategies. About half (51%) of the patients used other substances with addictive properties in addition to the opioids. With such concurrent use, less GPs regarded the medical treatment as appropriate (41%,  $n=13$ ) than without concurrent use (72%,  $n=21$ ,  $p=0,013$ ).

### Conclusion

When opioid treatment is initiated, the direct involvement of the patients GP is highly likely to affect the treatment outcome. There is need for better non-medical treatment, especially coping strategies/psychological measures. Concurrent use of other substances with addictive properties continue to be a problem, even though the GPs in this study regarded this treatment as less appropriate.

"We don't need no education"

## Danish General Practitioners not participating in Continuous Professional Development: Characteristics and motives.

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### Background:

90% of Danish GPs participate in public funded Continuous Professional Development (CPD). Lifelong learning is shown to be an important factor for professional well-being and for inhibiting early retirement.

However, some GPs do not participate in CPD despite the activities are fully or partly funded.

Hence, we aim to explore why 10% of Danish GPs choose not to participate in funded CPD activities.

### Purpose:

To analyse whether certain characteristics and motives are pertinent to non-participation in CPD activities.

### Methods:

A register study identifying GPs not using their funds

A semi-structured qualitative interview with 10 GPs not using CPD funds.

The interviews will be analysed by systematic text condensation. Quantitative data will be analysed with descriptive statistics as well as multi variable methods.

### Results:

The preliminary data shows that motives for non-participation are related to the GP's personal life and to the work and everyday life in the GP's clinic.

### Conclusion:

A deeper insight into the motives behind non-participation in CPD activities will enable us to tailor activities for GPs who are not currently using their funds.

Further research is needed to show whether non-participation is either episodic in a long career or a long-lasting approach to CPD by a small group of GPs.

## Using the c.a.s.e. approach to address covid-19 vaccine hesitancy

Prof. Robert Jacobson<sup>1</sup>, Prof. John Wilkinson<sup>1</sup>

<sup>1</sup>*Mayo Clinic, Rochester, United States*

### BACKGROUND

Mayo Clinic, best known for its referral care, also provides primary care to a local population of over 140,000 patients. We too are challenged by patients (and parents) who are vaccine hesitant and as result, refuse or postpone their COVID-19 vaccinations. Studies show clinicians should engage the patient and make strong recommendations based on shared values, rather relying on written educational materials or, worse, direct confrontation and argument. However, many general practitioners feel that they lack the time, knowledge, confidence, or necessary skills to address the concerns of vaccine-hesitant patients and instead offer the vaccine in a neutral way (implying that the vaccine is optional). In the C.A.S.E. approach, we CORROBORATE the concern (helping patients articulate their specific concerns and highlighting our shared values), talk ABOUT ME (emphasizing our professional standing as a trusted advisor), summarize the SCIENCE (briefly and in plain language), and EXPLAIN our advice in terms of the patient's concern, on the basis of our relationship, and the science.

### AIMS AND OBJECTIVES

Upon completion of this interactive workshop, participants will have learned and practiced the C.A.S.E. approach to address various expressions of COVID-19 vaccine hesitancy, to work more compassionately and effectively with vaccine-hesitant patients, and to be comfortable in making strong, evidence-based recommendations of COVID-19 vaccination.

### METHODS AND TIMETABLE

We will first invite participants to share specific challenges related to vaccine hesitancy, after which we will demonstrate specific formats and scripts of the C.A.S.E. approach. Breaking into smaller groups for role-playing, participants will practice with each other (in their own language). Upon reconvening, participants will share what they have learned about which approaches were (or were not) successful.

### CONCLUSIONS

In similar workshops, using an experienced moderator and effective time management, we have successfully engaged all participants, allowing them to share experiences and learn from one another.

## The pathway and characteristics of patients with non-specific symptoms of cancer: A systematic review

**MD and Phd Student Ellen Jensen<sup>1,3</sup>**, Professor, GP Jette Kolding Kristensen<sup>1</sup>, MD Rikke Tveden Bjerglund<sup>1</sup>, Professor, MD Søren Paaske Johnsen<sup>2</sup>, Professor, GP Janus Laust Thomsen<sup>1</sup>

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**Background:** Non-specific symptoms are common and often sign of a non-serious disease. Because of this, patients with non-specific symptoms of cancer (NSSC) present a challenge for general practitioners (GP). Studies describing characteristics of patients with NSSC have been done after fast-track pathways were created to diagnose and treat patients with NSSC. This study reviews characteristics of patients with NSSC and their patient pathways.

**Materials and methods:** Database searches of Embase, Cochrane, PubMed, Cinahl and Web of Science were performed. Search terms used were cancer, patient pathway, and NSSC with their synonyms. The flow diagram Preferring Reporting Items for Systematic Review was applied to the systematic search. The Newcastle–Ottawa Assessment Scale (NOS) was used to compare the quality of the included studies.

**Results:** Nine cohort studies met the inclusion criteria. All studies were considered to be of good methodological quality.

**Patient Pathway:** 11-35% of patients were diagnosed with cancer. Median number of days through diagnostic process was 7-10.

**Patient Characteristics:** The most prevalent cancers included hematological-(14-30%), gastrointestinal-(13-23%) and lung cancers (13%). Rheumatological, musculoskeletal and gastrointestinal diseases were among the most common non-malignant diseases diagnosed. Weight loss, fatigue, pain and loss of appetite were the most common symptoms. Cardiovascular diseases, lung diseases, diabetes and previous diagnosed cancer were the most common comorbidities. Mean age of included patients was 60-79 years.

**Conclusion:** Limited information about characteristics of patients with NSSC who were seen by GPs and their subsequent patient pathways were found. The most common symptoms, diagnoses and comorbidities were described.

Cost-effectiveness of a rule-out algorithm of acute myocardial infarction in low-risk patients:

## Emergency primary care versus hospital setting

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### Background

Hospital admissions of patients with low-risk chest pain contribute to increased costs and crowding. This study aims to estimate the cost-effectiveness of assessing these patients in emergency primary care, using a 0/1-hour algorithm for high-sensitivity cardiac troponins for the rule-out of acute myocardial infarction, compared to standard hospital management.

### Methods

A cost-effectiveness analysis was conducted. For the primary care estimates, costs and health care expenditure from the observational OUT-ACS (One-hour Troponin in a low-prevalence population of Acute Coronary Syndrome) study, conducted at an emergency primary care clinic in Oslo, Norway, were compared with anonymous extracted data on low-risk patients at a large general hospital in Drammen, Norway. Loss of health related to a potential increase in acute myocardial infarctions the following 30-days was estimated. The primary outcome measure was the costs per quality-adjusted life-years (QALYs) of applying the 0/1-hour algorithm in emergency primary care. The secondary outcomes were health care costs and length of stay in the two settings.

### Results

Differences in costs comprise personnel and laboratory costs of applying the algorithm at primary care level (€192) and expenses related to ambulance transports and complete hospital costs for low-risk patients admitted to hospital (€1986). Additional diagnostic procedures were performed in 31.9 % (181/567) of the low-risk hospital cohort. The estimated reduction in health care cost when using the 0/1-hour algorithm outside of hospital was €1794 per low-risk patient, with a mean decrease in length of stay of 18.9 hours. These numbers result in an average per-person QALY gain of 0.0005. Increased QALY and decreased costs indicate that the primary care approach is clearly cost-effective.

### Conclusion

Using the 0/1-hour algorithm in low-risk patients in emergency primary care appears to be cost-effective compared to standard hospital management with an extensive reduction in costs and length of stay per patient.



## Mapping the Approach to Cancer Diagnostics among the Diagnostic Centers in the Region of Southern Denmark. Early detection and entry to DC from general practice.

AC-employee Emilie Kirstine Madsen<sup>1</sup>, Specialist Consultant; Cancer in General Practice Gitte Kjær Nielsen<sup>1</sup>, Specialist chief physician Peter Thye-Rønn<sup>1</sup>, MD, GP, Chief Physician, Lars Gehlert Johansen<sup>1</sup>

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### Objectives

This study investigates how the four Diagnostic Centers (DC) in the Region of Southern Denmark (RSD) diagnose cancer among patients with nonspecific signs and symptoms of cancer (NSSC), including which similarities and variations that can be identified between the DCs approach to cancer diagnostics.

### Method

Individual semi-structured interviews were conducted with the medical specialist in charge from each of the four DC in RSD. In addition, the website [www.sundhed.dk](http://www.sundhed.dk), which is the Danish digital health care service, is used to uncover the referral requirements from general practice to DC to investigate differences and similarities.

### Results

Variations have been found in four different areas of cancer diagnostics between the DCs in RSD. (1) The DCs are organized differently at following parameters: Organizational affiliation, physicians' professional background and staffing at the DCs. (2) There are various referral requirements from GP to the DCs. This applies to the requirements for conducting anamnesis, objective examination as well as paraclinical examinations. (3) Practices for diagnostic imaging differ between DCs. There is variation in the diagnostic imaging both before referral and when attending DC. (4) Finally, follow-up and data recording of patients at the DCs are very different. Three out of four DCs do not collect historical data for their patients.

### Conclusions

Based on the obtained results, it can be concluded that different practices exist among cancer diagnostics in NSSC-patients between the DCs in RSD. These variations can reduce the overall quality of cancer diagnostics, starting from GP's referral to DCs due to variation in referral requirements. The results support previous studies that have compared DCs in Denmark in general. These variations invites to further investigation. At present, we cannot determine which model will produce the best result. Further research must be done to enable us to conduct cancer diagnostic on an evidence-based basis.

Talking together in rural palliative care:  
A qualitative study of interprofessional collaboration in Norway

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**Background:**

Caring for people with palliative care needs in their homes requires close collaboration within primary care and with hospital care. However, such close collaboration is often lacking. Few studies have explored the experiences of healthcare professionals in the community who receive patients from hospital care and provide them with palliative care at home.

**Objective:**

To explore how rural health professionals experience local and regional collaboration on patients in need of palliative care.

**Methods:**

Qualitative focus group and interview study in rural Northern Norway involving 52 primary care health professionals including district nurses, general practitioners, oncology nurses, physiotherapists, and occupational therapists. Transcripts were analysed thematically.

**Results:**

“Talking together” was perceived as the optimal form of collaboration, both within primary care and with specialists. Nurses and GPs had similar perceptions of their worst-case scenario in palliative care: the sudden arrival after hours of a sick patient about whom they lacked information. These situations could be the result of a short notice transfer from secondary care or an emergency presentation after a crisis in patient management locally. Participants missed timely and detailed discharge letters, and in complex cases they preferred a telephone call or tele-conference with the hospital. Locally, co-location was perceived as advantageous for communication, support, and knowledge about each other. Because local health professionals belonged to different units within the primary health care organisation, in some places they had limited knowledge about each other’s roles and skill sets.

**Conclusions:**

Lack of communication, both locally and between specialist and primary care, was a key factor in the worst-case patient scenarios for GPs and nurses working in primary palliative care in rural Northern Norway. Co-location of primary care professionals promoted local collaboration and should be encouraged. Hospital discharge planning should involve the receiving primary care professionals.

## Multimorbidity and Health Related Quality of Life in Midlife – Findings from Northern Finland Birth cohort 1966

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### Background

Multimorbidity is a major public health concern and an important issue in primary health care. According to previous studies multimorbidity is shown to be associated with Health-related Quality of Life (HRQoL). Defining multimorbidity varies and multimorbid patient can be identified using different criteria. Definition in previous population studies have mainly based on self-reported symptoms or diseases and some have included only few diagnoses. Aim of this study is to evaluate the association between the number of doctor-diagnosed chronic diseases and HRQoL at population level.

### Methods

Participants of the Northern Finland Birth Cohort 1966 (n=5663) answered 15-Dimensional HRQoL questionnaire (15D) at the age of 46 years. Number of chronic diseases was count using both self-reported doctor-diagnosed and register-based chronic diseases (inpatient and outpatient hospital discharge and medication registers). Altogether 32 most common chronic diseases were included (hypertension, coronary heart disease, atrial fibrillation, heart failure, type I and II diabetes, inflammatory bowel disease, hypo- or hyperthyreosis, psoriasis, glaucoma, macular degeneration, epilepsy, stroke, cerebral hemorrhage, TIA, Parkinson disease, goat, cancer, psychosis, depression, anxiety, alcoholism, substance use disorders, endometriosis, migraine, rheumatic arthritis, osteoarthritis, osteoporosis, prostatic hyperplasia, asthma and COPD). 15D scores (mean, varies between 0-1) were compared between number of chronic disease groups.

### Results

At the age of 46-years 40.4% did not have any chronic diseases, 30.2% had one, 16.5% two, 7.4% three and 5.4% had four or more chronic diseases. Women had more chronic diseases than men ( $p<0.05$ ). HRQoL associated linearly negatively with number of chronic diseases ( $p<0.05$ ). The mean HRQoL was 0.94 in subjects without any chronic diseases, 0.93 with one disease, 0.91 with two diseases, 0.89 with three diseases and 0.84 with four or more diseases.

### Conclusions

HRQoL decreased linearly with the increasing number of chronic diseases. Further investigation is needed concerning causality between multimorbidity and quality of life.

## A syndemic approach – and why it is important in General practice

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### Background

Every day, GPs deals with patients with multimorbidity, mental health problems and a history of adverse life circumstances and experiences. It is often hard to help these patients, as conventional treatment and lifestyle advice tend to fail when a person's body, mind and social resources all appear mutually affected. How does such ill health actually develop during a person's life, and what can be done in terms of prevention or more appropriate intervention?

We argue that the concept SYNDEMIC adds new and sophisticated nuances to these questions. It emphasizes how two or more diseases can reciprocally and negatively affect the course of each other biologically (bio-bio influence), enhanced by feedback loops that extend to the social, economic, environmental, and political context (reciprocal biopsychosocial influences). A syndemic perspective thereby provides a consistent and solid theoretical foundation for bridges between social epidemiology and clinical practice.

### Methods and results

In the presentation, I will review and discuss some key publications on the topic of syndemics, involving clinical topics such as COVID-19, diabetes, depression and HIV/AIDS. I will show how theoretical discussions from epidemiology, anthropology and biology contribute to a useful framework with high clinical relevance for doctors in primary care.

### Conclusions

Although several innovative and inspiring studies on syndemics already exist internationally, we lack studies that explore the concept from a Norwegian or Nordic perspective. In high-income countries with welfare systems, less overt violence, poverty and structural discrimination, syndemic problems are not so immediately visible and rough. We postulate that they still are highly relevant and suggest that a common denominator for escalating syndemic phenomena is marginalization and low sense of mattering in early adult life.

## Someday soon we will all be patients...Clinical, Philosophical and Social Science Perspectives on Overdiagnosis

Associate Professor Alexandra Brandt Ryborg Jønsson<sup>1,2</sup>, Professor John Brodersen<sup>2</sup>, Associate Professor Stefán Hjörleifsson<sup>3</sup>

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### Background

Healthy people being overdiagnosed owing to overdetected, overdefinition or overselling of diseases is an increasing phenomenon in affluent healthcare systems. To an individual, being overdiagnosed often triggers a cascade of psychosocial harms and overtreatment, in a societal perspective overdiagnosis is extremely costly, and to General Practitioners, overdiagnosis means more work, perhaps more defensive medicine, and not least clinical work that increase the inverse care law.

### Methods

The symposium will consist of four brief presentations followed up by facilitated plenum discussions:

What is overdiagnosis (John Brodersen)

The quest for eternal life: Healthism and Risk-Perceptions among patients in affluent welfare states (Alexandra Jønsson)

Is knowledge always for the better? On coping with uncertainty as patients and as GPs (Alexandra Jønsson & John Brodersen)

Drivers for overdiagnosis in general practice and ways to address these (John Brodersen)

Chair and facilitator of discussion (Stefán Hjörleifsson).

### Results

Based on Jønsson's and Brodersen's award-winning book "Snart er vi alle patienter" (2022) we will combine medical evidence with social science and philosophical theories to present research on why overdiagnosis exists and what general practice need to be able to handle the rise of apparently healthy people seeking or receiving unnecessary diagnoses.

### Conclusions

We conclude the symposium by a facilitated discussion of participants' experiences or thoughts on overdiagnosis in general practice and how to proceed against unnecessary diagnoses, 'too much medicine' and overmedicalisation of life.

## Video-analysis of how patients' explanations of their medically unexplained symptoms are thematized in GP consultations

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**Background:** When patients' symptoms remain medically unexplained, GPs are in a certain sense at loss as how to provide help. Many patients with such symptoms suffer for a long time, and the lack of cure and medically accepted explanations can be frustrating and add to the patient's burden. Still, patients seek their GP for external, professional help, reflecting the fact that they are biological organisms that can be examined from the outside at the same time as they are persons with their own internal perspectives and experiences. However, when external biomedical explanations of symptoms are lacking, it can be particularly important for the GP to identify and explore the patient's own explanations or hypotheses regarding their symptoms. Still, little is known about how patients' explanations are brought to the fore or fail to be thematized in consultations with GPs.

**Objectives:** To explore how patients' own explanations for their medically unexplained symptoms are thematized in GP consultations.

**Methods:** In February-April 2022, we will video-record ten ordinary consultations between GPs and patients with medically unexplained symptoms in Norwegian general practices. The recordings will first be analyzed to detect situations where the patient's explanations come up or could have come up. These sequences will be further analyzed by the method of videography, a method for interpretative analysis of social interactions in video-recordings, focusing on the interaction between verbal and non-verbal communication, body language and social speech-acts. We will analyze how the GPs provide or fail to provide space for the patients' explanations, and what the patients themselves do to bring their own explanation into the discussion. Further, we will focus on how the patients' explanations are received and handled as the patient perspective meets the professional and external perspective of the GP.

**Results:** To be presented at the conference.

## Social prescribing - a cowork between GPs, the social authorities and community groups. Building a database and forming a frame for the future.

Gp Berit Enggaard Kaae<sup>1</sup>

<sup>1</sup>*Lægerne på tredje, København V, Danmark*

Social prescribing - a co-work between GPs, the social authorities and community groups in socially deprived areas. Building a database and forming a frame for the future.

### Back-ground:

In local societies in the range of population of 20.000-100.000 inhabitants it is shown that it is possible to increase the health of the most vulnerable citizens by making caring networks between healthworkers and social groups and institutions in the local area.

This has been shown, for instance i Frome, England. By networking and social care in the local society, has it been possible to lower use of medicine and increase the level of health in the population. At limited expenses it is possible that the health workers (doctors, nurses etc.) by social prescribing can make it possible to connect vulnerable patients , with chronic diseases, to existing local social projects.

Vesterbro-Sydhavnen is a part of Copenhagen with a high rate of patients with chronic diseases and social deprivation.

To do this the first step is to map and index the social projects (private and public) in the local area, this step we now have data from. Furthermore the project protocol is written and all stakeholders including the Mayors office and the GPs in the area have been engaged. These results we would like to present.

The further steps will be to make ways of referral from the GP to the projects and to employ a social connector . It is our goal to use the knowledge and cross-sectional experiences to make a stronger connection between the social- and healthworkers in the local area and thereby increase the social robustness and the health of the citizens .

The project will consecutively be evaluated by researchers from the Faculty of Public Health, SDU, International University of Southerne Denmark.

## Dancing with the patient: A qualitative study of General Practitioners' experiences and thoughts about improving care for patients with multimorbidity and common mental disorders

Phd-student, Resident Physician Caroline Kappelin<sup>1</sup>, MD, PhD Caroline Wachtler<sup>1</sup>, Professor Jeanette Westman<sup>3</sup>, RN, PhD Christina Sandlund<sup>1,2</sup>

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### Introduction

Patients with multimorbidity, defined as two or more chronic diseases, are an increasing challenge in primary care. In this patient group common mental disorders such as depression and anxiety are common with poor health outcomes. However, due to single disease management, the mental disorders are many times undetected, and the patients suffer from a great burden of illness and treatment. However, studies of general practitioners' experiences of meeting multimorbid patients with common mental disorders and their thoughts on how to improve care for these patients are sparse.

The aim of this study was to address general practitioners' experiences of handling multimorbid patients with common mental disorders and their thoughts of how the care for these patients can be improved.

### Methods

We conducted five focus group interviews with 28 physicians (3-8 participants in each group) in five primary care centres in and outside of Stockholm, Sweden in November 2020 until January 2021. We used a semi-structured interview guide regarding the physicians' experiences of meeting and treating multimorbid patients with common mental disorders and their thoughts on how to improve care for these patients. The result was analysed using thematic analysis.

### Results

Two major themes were derived from the text: Stressed patients and physicians because health care systems do not address elderly multimorbid patients' needs, regarding the physicians experiences of handling multimorbid patients today; and Dancing with the patient individually and together with others leads to confident and satisfied patients and physicians, regarding the physicians' thoughts on how to improve care.

### Conclusions

Our research group will use the findings from this thematically analysed qualitative study when developing an intervention to test and implement in primary care for multimorbid patients with common mental disorders.



## Age, income, sleep-duration and screen-time were associated with outcomes in children participating in weight management

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**Background:** Childhood obesity has well-documented adverse health consequences. Multidisciplinary family treatment is the treatment of choice, but there is high variability in weight-related effects post-intervention. We aimed to explore associations between baseline factors and weight-related outcomes among participants enrolled in a paediatric obesity trial. **Methods:** We included children aged 6-12 with overweight and obesity participating in Finnmark Activity School, a two-year multidisciplinary family programme, who attended a post-intervention follow-up 36 months from baseline (n=62). Outcome measures were change in body mass index standard deviation score (BMI SDS), reduction in BMI SDS  $\geq 0.25$  and change in waist circumference (WC). Independent variables included in linear and logistic regression models were age, sex, household income, parents' education, sleep duration, screen time and physical activity. **Results:** Altogether 26 children (42%) attained a reduction of BMI SDS  $\geq 0.25$ . Higher age was associated with greater change in WC (-2.0 cm per year, 95% CI -3.6 to -0.2), but lower odds of attaining a reduction in BMI SDS  $\geq 0.25$  (OR per year 0.70, 95% CI 0.50 to 0.98). Higher family income was associated with a greater reduction in BMI SDS (-0.05 per 100.000 NOK, 95% CI -0.10 to -0.003) and trended towards an increased likelihood for attaining a reduction in BMI SDS  $\geq 0.25$  (OR 1.25 per 100.000 NOK, 95% CI 1.00 to 1.58). Longer sleep duration were associated with greater change in BMI SDS (-0.21 per hour, 95% CI -0.41 to -0.01). Daily screen time (0-1 hour, 2-3 hours, 4 hours or more) was associated with greater change in WC (3.7 cm per level; 95% CI 0.5 to 6.9). **Conclusion:** Age, family income, sleep duration and screen time at baseline were associated with weight-related outcomes one year post-intervention. A tailor-made approach is needed when caring for obese children and their families.

## How to increase quantity and quality of placements for medical students in general practice?

MD Julie Solberg Knutsen<sup>1</sup>

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How to increase quantity and quality on placements for medical students in general practice?

### Background:

The placement for medical students in general practice is one of the most important arenas where undergraduate medical students get a taste of what it's like to be a general practitioner (GP). Due to the GP-crisis in Norway there are now challenges with the recruitment to general practice. At the same time the number of Norwegian medical students are increasing and demands more GPs to become supervisors. How can we give the growing number of students the placements they need, both in quantity and quality? The project "FRONESIS" at University in Bergen aims to answer this question and will address directly to the GPs in Norway in order to increase the amount supervisors in general practice and their competence in clinical teaching.

### Methods:

The project FRONESIS started the fall of 2021 and shall last 4 years. It has several approaches in order to increase the number and quality of placements in general practice. First, a digital questionnaire will be sent out to all GPs in Norway (almost 5000) during winter 2022. The questionnaire includes questions on GPs attitudes, motivation, limits and needs for hosting students, as well as supervision and competence in clinical teaching. The GPs in University of Bergen's region will additionally be asked to participate in a case-control study where interventions to increase the number of supervisors will be given.

### Results:

The results of the questionnaire will be available spring 2022. They will be presented in Nordic Congress of General Practice.

### Conclusion:

This study will give valuable information on important factors for recruiting GPs as supervisors and will be used to customize further interventions in the project.

## The vocabulary of psychotherapy can motivate GPs to better understand patients , and to manage their own emotions as professionals

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### Background and aim:

According to professor of family medicine and medical philosopher Ian McWhinney, general practice is the only discipline which defines itself in terms of relationships. This is highly relevant in Norway and other countries with Regular GP schemes (fastlegeordning). In such settings, part of being an ambitious GP is to really try and understand what is going on in the patient, in the clinical relationship and in oneself in the role of professional helper. As an experienced GP with some training in psychiatry, I have realized that familiarity with some psychodynamic key-concepts represents a road to deeper understanding of both the patient's problems, the dynamics of the consultation, and how I can help. Not only the strictly professional aspects, but also the fundamental human aspects that are often at stake. Many GPs are only vaguely familiar with psychodynamic terminology and might see it as too theoretical or distant from primary care. Contrary to this, my aim is to show how relevant the terms are!

### Methods:

My presentation includes authentic case histories from my own practice (one case is about myself in a crisis). I will demonstrate how psychodynamic phenomena play out in these cases. The examples will refer to some of the following terms: Conscious and unconscious, Affect, Attachment, Defense mechanisms, Affirmation, Transference/Countertransference and Resistance.

### Results, Discussions and Conclusions:

The terminology of psychodynamics is highly relevant for GPs. However, it is important to find out what each term means to you, including what words and metaphors to use in dialogues with patients and colleagues. In short, it is important to make the terms part of your own professional "toolkit." Closed doors may open and new narratives are likely to be born. The goal is thoroughly understood patients and more inspired and less frustrated GPs.

## Nature excursions or sport facilities as a guided group activity, the effect on wellbeing and physical activity in a primary care setting

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Background: Nature promotes health through several mechanisms. The positive effects of outdoor exercise seem to be stronger for those suffering from poor mental health. A diverse microbiota activates our immune system, crucial during childhood but important also later in life. Less pollution and noise reduce stress levels, and nature has an add on; by activating senses simultaneously we experience a deeper relaxation. The psychological restoring is described through stress reduction, attention restoration, and by biophilia, a feeling of belonging. Nature promotes social interaction, important as loneliness is a major health issue.

Inverse association between surrounding greenness and all-cause mortality has been shown in longitudinal studies, a green surrounding promotes sleep, and reduces the need of pain medication after operation. But can nature be used as a treatment? There are few clinical trials. We don't know who or what we best treat with nature, nor the dose.

Methods: This intention to treat, intervention study was carried out at the Healthcentre in Sipoo, Finland 2018-2019. We compare group excursions in the forest to group activity in sports facilities. The participants (n=80 age M=57 (19-81)) were identified by health professionals to be at risk for illness, groups are not based on diagnosis. Participants could choose group on own preference, both groups met 7 times. Results are being analysed. Mental Wellbeing measured on the Warwick-Edinburgh Mental Well-being Scale (WEMBS) is our main outcome. We also measured physical activity (PA) and quality of sleep using an accelerometer worn 2 days at beginning and end of intervention. Commitment is also of interest, as many in need of health promoting activity tend to drop out.

Can nature be as effective, or even amplify effects of PA and being part of a group? There is a big need for research on effects of nature based social prescribing.

## Primary care prevention program for cardiovascular disease: kidney function and effect on mortality

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<sup>1</sup>*University of Turku, Turku, Finland*

### Background

Chronic kidney disease (CKD) is estimated to be the fifth leading cause of death globally by 2040. Development and complications of CKD may be prevented by addressing adverse lifestyle habits and cardiometabolic risk factors. Thus, primary care has a major role in slowing the loss of kidney function.

### Methods

A two-stage screening and intervention program was conducted in two Finnish towns in 2005–2007. All home-dwelling, 45–70 years old residents (n=6,013) were posted a cardiovascular disease (CVD) risk factor survey. Respondents (74%) with at least one risk factor (n=2,752) were invited for laboratory tests and an appointment with a public health nurse. Subjects with hypertension, obesity, glucose disorder, metabolic syndrome or ten-year risk of CVD death  $\geq 5\%$  (n=1,928) were invited for an appointment with a general practitioner. Lifestyle counselling was given and preventive medication was prescribed according to national guidelines. Estimated glomerular filtration rate (eGFR) was calculated using the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) formula. For the present analysis, patients with previously diagnosed CVD, diabetes or kidney disease were excluded. Data on mortality was obtained from Statistics Finland.

### Results

During the 14-year follow-up, 230 deaths occurred. When adjusted for conventional CVD risk factors, hazard ratio (HR) for all-cause mortality was 2.15 (95% CI 1.24 to 3.73, p=0.006) for eGFR  $\geq 105$  ml/min and 1.33 (95% CI 0.70 to 2.51, p=0.38) for eGFR  $< 60$  ml/min compared with eGFR 90–104 ml/min.

In comparison to the mortality rate in the general population throughout Finland, eGFR 75–89 ml/min was associated with standardized mortality ratio of 0.62 (95% CI 0.49 to 0.78) and eGFR  $\geq 105$  ml/min 2.01 (95% CI 1.5 to 3.23).

### Conclusions

In primary care, attention should be paid to both low and high eGFR values.

## Pulse wave velocity in offspring of type 1 diabetes pregnancies: A cross-sectional study.

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### Abstract

#### Background

Offspring of type 1 diabetes (T1D) pregnancies have an increased risk of acquiring type 2 diabetes and cardiovascular disease (CVD). Carotid-femoral pulse wave velocity (cfPWV) is a novel biomarker for individual CVD risk assessment and recent evidence supports its use as a predicting tool for incident diabetes, CVD and mortality.

#### Objective

To determine whether cfPWV is increased in offspring of women with T1D and its application as an early CVD riskfactor.

#### Patients/Materials and Methods

This is an observational case-cohort study from the hospital district of Helsinki and Uusimaa, Finland. 75 offspring of T1D pregnancies (cases) and 84 offspring of non-diabetic pregnancies (controls), aged 18-23 years, were enrolled in this study. All participants attended clinical assessment, including questionnaires and laboratory tests. Carotid-femoral PWV and carotid-radial pulse wave velocity (crPWV) were recorded from each participant using the Complior Analyse piezoelectric mechanotransducer (Alam Medical, Vincennes, France).

#### Results

The mean age of the cases was 20.5 (SD 1.6) years and for the controls 20.6 (SD 1.6) years, while 67% of the cases and 65% of the controls were women. For the parameters, the results are currently being analyzed.

#### Conclusions

If accepted, the results of this study will be presented during the 22nd Nordic Congress of General Practice.

## Longitudinal continuity in Danish general practice and the reasons why patients shift their GP: A protocol and preliminary results

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**Background:** Greater continuity with a GP has been shown to be associated with improved patient outcomes and reduced use of health services. However, the majority of studies of continuity have included limited patient samples and short observation periods and did not include reasons why inhabitants changed their GPs.

**Aim:** the aim of this study is to present a protocol including data and initial results for a continuity analysis of all citizens listed in Danish general practice. A subobjective was to present results regarding the reasons why patient shift GP.

**Methods:** We use a comprehensive data set for the population of Danish inhabitants for the years 2007 to 2021 to prepare analysis of longitudinal continuity and explore reasons why inhabitants change their GP. A change of GP is defined as a situation where inhabitants receive a new public insurance card. The data includes a start date, a stop date, a social security group and not least causes of GP shifts and information on user charges for shifts.

**Results:** We identified multiple reasons why people change their GP: 1) Inhabitant chooses a new GP when moving address 2) Child<15 follows parent, 3) change of insurance group 1-9, 4) placed under prison system without choice, 5) institutionalized, 6) Moved abroad, 7) canceled cpr, 8) Dead, 9) Change of GP made by inhabitant via citizens solution, 10) closure the present clinic, 11) Transfer – from old GP to new GP, 12) Conscription/repatriation 13) administrative municipality staff, 14) cpr-event, 15) the municipality reform 2007 16) reason unknown. Initial results: Followed parent (17%), administrative staff (14%), patient chooses new GP (13.8%), old GP transfers to new (13.6%) etc.

**Conclusions:** There are less informative reasons why inhabitant change GP. However, this does not prohibit, that other causes may help explain movements in GP patient population lists.

Profiles of GPs with High and Low Physician Empathy:  
Personal, Professional, and Antibiotic Prescribing Characteristics

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General Practitioner's (GPs) professional empathy has been hypothesized to have substantial impact on their delivered healthcare and use of medicine. This study compares profiles of personal, professional, and antibiotic prescribing characteristics of GPs with high and low empathy. We apply an extreme group design and a unique combined set of survey and drug register data. The survey was sent to a stratified sample of 464 GPs comprising 30% of the Danish GP population. GPs in the top and bottom decile of empathy levels were identified. The applied Jefferson Scale of Empathy for Health Professionals includes 20 items that fall into three factors: perspective taking, compassionate care, walking in patient's shoes. Total scores, factor scores, and individual item scores were calculated to disentangle the differences between the profiles. All intra- and inter-profile descriptive statistics and differences were bootstrapped to estimate the variability and related confidence intervals (CIs).

61% of GPs in the top decile of the empathy score were female. GPs in this group reported the following person-centered factors as more important for their job satisfaction than the bottom decile: The Patient-physician relationship, interaction with colleagues, and intellectual stimulation. High-empathy scoring GPs prescribed significantly less penicillin than the low-empathy GPs. This was true for most penicillin subcategories. There were no significant differences in age, practice setting (urban vs. rural), practice type (partnership vs. single-handed), overall job satisfaction, or GP's value of prestige and economic profit for their job satisfaction. The intra profile variation index and CIs show less prescribing uncertainty among GPs with high empathy.

This study reveals that high empathy GPs may have different personal, professional, and antibiotic prescribing characteristics than low empathy GPs and have less variable empathy levels as a group. Furthermore, person-centered high empathy GPs on average seem to prescribe less penicillins than low empathy GPs.



## Unrecognized depression among the elderly – a cross sectional study from Norwegian general practice

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### Introduction:

Depression is common in old age and is associated with both disability, increased mortality and increased impairment from physical diseases.

### Aim:

To estimate the prevalence of depression among old patients in Norwegian general practice, to evaluate the extent they talk about it during their consultation, and if it was previously known or suspected by their general practitioner (GP).

### Methods:

We did a cross-sectional study among patients and GPs at 18 primary care clinics in the south of Norway. Patients  $\geq 65$  years who visited their GP were asked to respond on the Patient Health Questionnaire-9 (PHQ9). The GPs were unaware of the patients' response on the questionnaires, but registered what kind of issues the patient presented at the consultation, and if any psychiatric disturbances were previously known or not.

### Results:

532 patients responded on the questionnaire and in 375 cases we had complete data from both patient and the GP. In total, 53 patients (10%) reported moderate depressive symptoms ( $\text{PHQ9} \geq 10 < 20$ ). Among the cases with data from both patient and GP, 38 patients (10%) reported moderately depressive symptoms. Of these, 26 (68%) did not mention any psychological problems to their GP during the consultation, and 9 (35%) of the 26 were neither known to the GP with previous depression nor suspected by the GP of having a current one.

### Conclusion:

It's challenging to help old patients with depressive symptoms properly when more than 2/3 of them seem not to report it to the GPs, who are unaware of 35% of them. GPs should more often address mental health issues when talking to their elderly patients.

## Radio Ligevægt – an evidence based podcast series about body weight, lifestyle, stigma and health

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### Background

Weight management in general practice is characterized by a high degree of tradition and little evidence for the anticipated health benefits. In contrast to the general trend in family medicine - to see the patient in a holistic perspective – the aim is most often weight reduction rather than improvement of the overall health. The podcast series Radio Ligevægt (Radio Equilibrium) set out in 2021 to systematically review the evidence about body weight, nutrition, lifestyle and health, and discuss; how do we best manage patients with high BMI in general practice? The aim of the abstract is to present metrics for downloads and discuss if the podcast media is an efficient method to change knowledge, attitudes and practice.

### Method

Radio Ligevægt is a podcast series in Danish by two Danish family medicine doctors. The approach is evidence based medicine. It is a communication project from the Research Unit for General Practice, University of Copenhagen. The metrics for downloads were provided by the podcast distributor site [www.buzzsprout.com](http://www.buzzsprout.com). Qualitative evaluations were systematically collected from social media and online podcast reviews.

### Results

Since March 1st 2021 Radio Ligevægt has posted 20 episodes on publicly available podcast platforms. During 10,5 months (per 15/1 2022) an episode was downloaded 25.004 times. 92% of the downloads took place in Denmark, 4% in Sweden (n=1059, of these 925 in Stockholm), and 1% in Norway (n=236). Qualitative reviews of Radio Ligevægt from both health professionals and laypeople were all positive.

### Conclusions

Radio Ligevægt has become one of the most downloaded health podcast in Denmark in 2021 and has a substantial group of listeners in Sweden. The podcast media seems to be an efficient method to convey knowledge to both professionals and laypeople. However, more research is needed to evaluate if Radio Ligevægt has affected attitudes and practice.

## Chronotype and cardiovascular autonomic function in midlife

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### Background

Evening chronotype is known to be associated with various chronic diseases and cardiovascular risk factors. On the other hand, impaired heart rate variability (HRV) is a well-known cardiovascular risk factor but the association between chronotype and HRV is not known. Aim of this study was to evaluate the association between chronotype and HRV at the general population cohort.

### Methods

Study population consists of Northern Finland Birth Cohort 1966 participants (n=5098, 56% female) at the age of 46 years. Chronotype was determined with shortened Morningness–Eveningness Questionnaires and expressed as morning (n=2073), intermediate (n=2719) and evening types (n=306). Mean heart rate (HR) and standard deviation of all normal-to-normal R-R intervals (SDNN) were analyzed from ECG recordings over 3 min at sitting position. One-way ANOVA was used to compare the chronotype groups followed by multivariate linear regression (enter method) to adjust the results by appropriate covariates (sex, body mass index, mean blood pressure, glycated hemoglobin, and total cholesterol).

### Results

HR was 72±11, 72±11 and 74±13 beats/min (ANOVA main effect p=0.007) and SDNN 39±18, 39±18 and 35±15 ms (ANOVA main effect p<0.0001) for morning, intermediate and evening groups, respectively. After adjustment by covariates, HR (p=0.013) and SDNN (p=0.002) were still significantly different between groups. Body mass index was 26.7±4.7, 26.6±4.7 and 28.0±5.5 kg/m<sup>2</sup> (ANOVA main effect p<0.0001) for morning, intermediate and evening types, respectively. Mean blood pressure, glycated hemoglobin or total cholesterol did not differ between groups.

### Conclusions

In a large general population, evening chronotype was associated with altered cardiac autonomic regulation, documented by higher HR and lower HRV, compared with morning and intermediate chronotypes. This association was independent from the most important cardiovascular risk factor such as sex, body mass index, blood pressure, lipid profile and glucose metabolism.

## Implementation of health checks to people with mental and physical disabilities who reside in assisted living facilities – a study protocol

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### Background

Evidence shows that health checks offered to people with mental and physical disabilities are effective in detecting unmet health needs. The recent agreement between the Danish Regions and the Organization of General Practitioners stipulates that, as of January 2022, all general practitioners (GP) in Denmark are obliged to offer health checks to people with mental and physical disabilities who reside in assisted living facilities. Although Danish studies suggest that this type of action often requires appropriate staff and GP training, a clear division of responsibilities, as well as adequate financial and managerial support, the agreement only describes the initiative in very general terms. As such, the implementation and organization of these health checks is very much up to the individual GP and living facility administration.

The aim of the present study is to examine how the initiative is accepted and adopted by GPs and staff at assisted living facilities and to provide recommendations on how health checks in this setting may best be implemented.

### Methods

The study comprises three parts. WP1 provides a systematic literature review on barriers and facilitators of the implementation of health checks in this particular setting. WP2 and WP3 use ethnographic fieldwork and surveys to examine how the action is accepted and adopted by GPs and staff at the assisted living facilities. All three WPs feed into a program theory that underpins our recommendations for how health checks may best be implemented in assisted living facilities.

### Results

The nationwide roll-out of health checks at assisted living facilities provides a unique opportunity for thorough data collection and identification of barriers and facilitators of successful implementation.

### Conclusions

We expect the study to provide qualified recommendations on how to appropriately implement health checks in assisted living facilities. This will ultimately benefit a particularly vulnerable group of people.



## Communicating with parents in telephone triage – does the quality of communication depend on socioeconomic position? A combined observational and register-based study in Denmark

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**Background:** Social inequality in health is a well-documented phenomenon, but the link between socioeconomic position (SEP) and health status is very complex. One factor that may mediate the relationship between SEP and health status is communication. Verbal communication is of the utmost importance in telephone triage at out-of-hours (OOH) primary care where visual clues are not present. We aim to investigate if parents' SEP influences the quality of communication when they contact OOH primary care on behalf of their children.

**Methods:** We performed a combined observational and register-based study. Telephone calls to the Danish OOH primary care services concerning children below the age of 16 were collected over a two-week period in 2016. Doctors working at an OOH primary care service evaluated the calls on five communicative parameters (categorised into sufficient vs. poor communication). We added register data about the calling parents' SEP: ethnicity, educational level, labour market affiliation, and OECD-modified household disposable income. To investigate possible associations between the socioeconomic parameters and sufficient communication logistic regression analyses were performed.

**Results:** 251 telephone calls were analysed. The calling parent being an immigrant or descendant significantly lowered the odds of receiving a sufficient rating on the item 'Ensures that the caller agrees on the triage decision and advice given and is accommodating in case of disagreement' compared to parents of Danish origin (OR: 0.33, 95% CI: 0.15-0.74). No other statistically significant associations were found.

**Conclusion:** In general, parents' SEP does not appear to affect the quality of communication when calling the Danish OOH primary care services on behalf of their children. However, the caller being an immigrant or a descendant may affect the quality of communication. Further research should investigate this association, and the possible influence it has on childhood health.

## Timely cancer diagnosis: The significance of patient characteristics, symptom presentation and cancer type on general practitioner-reported assessment of the diagnostic process.

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**Background:** Timely diagnosis is crucial for the prognosis of cancer. A prerequisite for timely diagnosis is that the general practitioner (GP) suspects cancer and initiate further investigation. The course of the diagnostic process is determined by several factors. This study aims to determine patient characteristics, symptom presentation and cancer type among cancer patients and investigate the association with the GP-reported assessment of the diagnostic process.

**Method:** All general practices in North-, Central, and South Region of Denmark were invited. The participating GPs received a list of affiliated incident cancer patients during the past two years based on regional hospital data. A questionnaire for each patient addressed symptom presentation and duration, events in the diagnostic process, as well as the GP's assessment of the diagnostic process.

**Results:** A total of 182 general practices participated. In total 8252 patients were identified with a new cancer diagnosis and of those, 5921 patients were registered with general practice as the first place of contact. The incidence of cancer increased from 40-50 years with highest incidence among the 70-year-olds. Some 53.1% of the patients presented with specific cancer symptoms. A total of 55.3% of the diagnostic processes were reported as "extremely good", and 32.1% "overall good" when assessed by the GPs. The remaining 11.9% were reported as "overall poor" or "extremely poor". The diagnostic processes of cancer types that often present with unspecific symptoms were assessed as poorer than that of other cancers.

**Conclusions:** The findings of this study support previous findings regarding age and gender distribution, and symptom presentation among cancer patients with only half of the patients presenting with specific symptoms. Several factors such as age and symptom presentation are associated with assessment of the diagnostic process. Results of further analyses will be presented at the conference.

## Continuity of Care and Hospital Use among Health Centre Visitors

**MD Emmi Lautamatti<sup>1,2</sup>**, Prof, MD, PhD Sakari Suominen<sup>3,4,5</sup>, Statistician Lauri Niittymäki<sup>3,5</sup>, Prof (emeritus), MD, PhD Kari Mattila<sup>1</sup>, Prof, MD, PhD Markku Sumanen<sup>1</sup>

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### Background

Continuity of care constitutes the basis of primary health care services. It is associated with decreased mortality and use of secondary services. In Finland, accessibility to primary health care and associated increase of use of hospital services are recognized challenges. The aim of the study is whether continuity of care was associated with use of hospital services among the population with health centre visits.

### Methods

The data are part of Health and Social Support –study (HeSSup) based on a random Finnish working aged population sample. The cohort of the study comprised participants of postal surveys in 1998 (n=25898) who also returned the follow-up questionnaires both in 2003 and 2012. In the surveys background characteristics and use of primary health care services were inquired. Hospitalization was derived from national registries (HILMO).

### Results

Only one third of the cohort had a named GP in 2003 and 2012. Respondents with a named GP had more often chronic diseases and more hospitalization days than respondents without continuity. The results are still preliminary and will be specified in greater detail in the congress.

### Conclusions

Continuity of care is rarely achieved in Finland even among the population with chronic diseases. However, based on previous studies, the benefits of continuity of care is most crucial among precisely this group of patients.



## Salutogenesis among patients with medically unexplained physical symptoms

General Practitioner, Ph.d Candidate Ingunn Leeber<sup>1</sup>, Professor dr. med., GP Erik Werner<sup>1</sup>, Ph.D., Clinical psychologist Sverre Urnes Johnson<sup>1</sup>, Dr.med., specialist in general practice May-Lill Johansen<sup>1</sup>

<sup>1</sup>*University Of Oslo, Oslo, Norway*

### Background

Long-lasting physical symptoms that remain medically unexplained (MUPS) has a prevalence similar to diabetes or depression. Typical symptoms are generalised pain, digestive problems and fatigue. The general practitioner (GP) has a key-role in following-up these patients.

Unanswered questions regarding symptoms, handling and prognosis may induce preservative thinking and additional distress. A salutogenic approach may turn negative spirals.

### Methods

This Ph.D project constitutes two work packages (Wp).

#### Wp 1: Digital survey

An assessment of salutogenic factors; general resistance recourses, sense of coherence and metacognitions among patients with MUPS who are invited by their GPs to answer a digital survey. We hope for at least 150 respondents.

#### Wp 2: Feasibility study

Exploring the feasibility of metacognitive therapy as a means to follow up patients with MUPS in GP. Five GPs specialised in metacognitive therapy (MCT) are recruited and offer MCT to their patients with MUPS.

Feasibility is evaluated through

the share of the invited patients who accept and complete the treatment. We estimate that each doctor will recruit 2-4 patients to the treatment.

a focus group discussion with the doctors after completing the treatment-sessions, asking about their experiences regarding obstacles, challenges and key factors of success.

individual semistructured interviews with a strategic sample of 10-12 patients asking for their motivation and experience with MCT.

A secondary outcome; perceived benefit, may be a stepping stone for later intervention-studies.

### Results

This is a project in progress and at present we are collecting data. Hopefully some preliminary results will be ready by the time of the congress.

### Conclusions

By presenting this topic we hope to increase attention towards both intrinsic and extrinsic health resources in patients with long term medically unexplained physical symptoms.

## Do symptoms persist in old age? Observations from the Helsinki Aging Study 2019–2021.

**MD, MSc Tuuli Lehti<sup>1,2,3</sup>**, MD Mia Knuutila<sup>1,2,3</sup>, MD, PhD Hannareeta Öhman<sup>4</sup>, Hannu Kautiainen<sup>1</sup>, MD, PhD Helena Karppinen<sup>1</sup>, MD, PhD Reijo Tilvis<sup>5</sup>, Prof. Timo Strandberg<sup>5,6</sup>, Prof. Kaisu Pitkälä<sup>1,2</sup>

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**Background:** Symptoms cause suffering among older adults, and their number correlates with the frequency of health care visits as well as prognosis. Factors affecting the persistence of symptoms have gained very little research attention.

**Aims:** 1) To analyze the prevalence and persistence of 10 common symptoms among community-dwelling older adults between 2019 and 2021 using Finnish cohort data. 2) To analyze factors affecting the persistence of symptoms.

**Methods:** 1651 people aged  $\geq 75$  participated in the Helsinki Aging Study postal survey in 2019, where they reported the presence of daily symptoms over the last two weeks. Of them, 668 participants were recruited to a follow-up in 2021, where the same symptoms were inquired. We examined symptom prevalence and statistical agreement in symptom reporting between 2019 and 2021. Further, we studied factors affecting symptom persistence using a logistic regression model.

**Results:** Of participants, 37% reported at least one daily symptom in 2019, while 48% reported at least one daily symptom in 2021. The most common symptoms were joint pain, back pain, urinary incontinence, and fatigue. Of participants, 23% reported the same daily symptom in 2019 and in 2021. Higher age, female sex, poor functional capacity, and lower income predicted the persistence of a daily symptom in the logistic regression model.

**Conclusions:** Not all daily symptoms persisted between 2019 and 2021 among community-dwelling people aged 75+. Higher age, female sex, poor functional capacity, and low income increased the risk of having persisting symptoms.

## Pragmatic case finding as a strategy to improve addressing alcohol in general practice – a theory-guided pilot study

MD PhD Torgeir Gilje Lid<sup>1</sup>, MSc PhD Sebastian Potthoff, MPA PhD Amy O'Donnell

<sup>1</sup>*Stavanger University Hospital, Stavanger, Norway*

### Background

Alcohol screening and brief interventions (SBI) are proven effective, and has the potential to reach a large proportion of the population at relatively low cost. However, there are many barriers to widespread implementation of SBI in primary health care, both on an individual, organisational and societal level. Most studies on SBI have focused on universal, widespread screening.

Pragmatic case finding (PCF) is a strategy based on clinical relevance as an alternative to universal screening, where the GP addresses alcohol when it might be relevant for the condition that the patient is presenting with.

The Theoretical Domains Framework (TDF) with the Behaviour Change Wheel (BCW) is well suited to map implementation barriers and facilitators. The Capability-Opportunity-Motivation-Behaviour (COM-B) system is essential in TDF, and provides a theoretical basis for exploring barriers and facilitators in each domain in TDF. The BCW and the Behaviour Change Techniques Taxonomy (BCTT) offers guidance for intervention design, based on the identified barriers and facilitators.

### Methods and setting

After an in-depth exploration of barriers and facilitators for PCF informed by BCW and COM-B, we developed and performed a pilot study of a four-session teaching seminar for GPs on pragmatic case finding (PCF), delivered in the GP clinics, as an intervention to implement PCF. Findings from the explorative process informed the planning of the seminar series, and intervention functions from BCW were chosen based on the needs identified.

### Results

Four GP clinics, three in Stavanger, and one in Oslo, met the eligibility criteria and accepted participation. Due to the Covid-19 pandemic, all clinics experienced long delays, and frequent postponements of sessions. We investigated potential effects of the intervention on the theoretical domains (TDF), regarding participants' capability, opportunity and motivation for alcohol conversations. Results from the pilot study will be presented.

## How to become published - a workshop with editors of Scandinavian Journal of Primary Health Care

Editor-in-Chief Helena Liira<sup>1</sup>, Prof Hans Thulesius, Dr Mikael Ekblad, Ass Prof Svein Kjosavik, Ass Prof Jørgen Nexøe

<sup>1</sup>*Scandinavian Journal of Primary Health Care, , Finland*

### Background

The main mission of the Scandinavian Journal of Primary Health Care (SJPHC) is to publish original, peer-reviewed research on topics related to general practice and primary care. The journal operates by an editorial team with national and assistant editors from five Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) and an editor-in-chief. Good collaboration with authors of the papers is crucial for the journal.

### Aim and learning objectives

This workshop opens the editorial process to the potential authors of the journal. With the editors of SJPHC, we will follow the steps of a research paper, from being submitted to the journal through review, amendments, re-submission and finally publication. We will introduce the editorial system of the SJPHC and guide the researcher through the different steps the paper goes through before becoming published.

### Methods and timetable

This is an interactive workshop. The participants will have the opportunity to take the roles of editors and reviewers in the assessments and decisions the paper goes through. At the same time, we will focus on the aspects of a good and interesting research paper and how to communicate your message effectively. The workshop will also teach how to write the accompanying letter, why it is important to follow the instructions for authors and how to make sure the paper runs through the process as quick and smooth as possible.

### Conclusions

We will make conclusions on the most effective strategies to ensure that your research findings become published in an effective manner.

## Changing a population's health seeking behaviour out-of-hours – a task for telephone triage nurses?

**Dr. Bent Lindberg<sup>1</sup>**, Dr. Ingrid Keilegavlen Rebnord<sup>2,3</sup>, Dr. Sigurd Høye<sup>1</sup>

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<sup>3</sup>*Department of Global Public Health and Primary Care, University of Bergen, , Norway*

**Background:** Telephone triage nurses assess callers to the Norwegian out-of-hours general practitioners' (GPs) cooperatives. Respiratory tract infections (RTIs) are mainly self-limiting, yet constituting 16 % of all consultations out-of-hours. RTI-consultations increase busyness and consequently the risk of inappropriate antibiotic prescribing. We do not know why telephone triage nurses assign callers with RTIs to doctors' consultations out-of-hours, even if they could manage with self-care or an appointment with their regular GP. There is also limited evidence available regarding the effect of training interventions on health personnel's telephone consultation skills and patient outcomes.

**Methods:** We used a biangular approach. First, a qualitative study with 22 nurses in 4 focus groups, aiming to explore how telephone triage nurses assess callers with mild-to-moderate symptoms of RTIs. Second, a randomized controlled intervention for telephone triage nurses in 64 out-of-hours GP cooperatives, serving 64% of the Norwegian population. 32 cooperatives were randomized to an educational intervention about RTIs, telephone communication skills and local practices. A negative binomial regression model was used to assess the effect of the intervention on attendance for RTIs, comparing the intervention and control groups during the winter months before and after the intervention.

**Results:** Telephone triage nurses are reluctant to call themselves gatekeepers. They seek consensus with the callers, and triage decisions are largely influenced by external factors. The intervention did not change the number of consultations for RTIs between the two groups (incidence rate ratio 0.99, 95% confidence interval 0.91–1.07).

**Discussion/conclusions:** The consensus-seeking approach of telephone triage nurses may limit the effect of a single-level educational intervention. The decision to seek health care is a complex process influenced by several factors. Changing a population's health seeking behaviour may be a too complex task for individual nurses in the out-of-hours cooperatives and needs to be targeted at several levels.

## Handling of infections in primary health care - is everything changing?

**Professor Emeritus Morten Lindbæk<sup>1</sup>**, Associate professor Sigurd Høye<sup>1</sup>, Docent Per Daniel Sundvall<sup>2</sup>, Professor Ronny Gunnarsson<sup>2</sup>, phd student Stefan Malmberg<sup>2</sup>

<sup>1</sup>*Antibiotic Centre For Primary Health Care, University of Oslo, 0317 Oslo, Norway,* <sup>2</sup>*Research and Development Primary Health Care, Region Västra Götaland, Research and Development Centre, Borås, Sweden*

### Background :

Antibiotic use is decreasing significantly in the Nordic primary health care service, and is probably now lower than in several decades. This is very beneficial and contributes to further slow down the development of antimicrobial resistance. The workshop will raise questions about controversial areas in this area.

### Aims and learning objectives

1. Should the antibiotic use be further reduced?
  - Will the reduced use give a greater risk of complications?
2. As a result of the pandemic and private providers, infections are increasingly handled by telephone / video consultation.
  - can infections be handled via telephone / video consultation?
  - if so: which infections and how to do it in busy general practice and out-of-hours service?
3. New studies provide good answers on sufficient treatment duration
  - can you cut the cure when you are better?
  - How long to treat strep throat and other infections
4. An overview of own prescriptions has become more readily available to most GPs in the Nordic countries.
  - How to conduct good quality work over time, such as Audit & Feedback.
5. Some infections in primary care are serious. Hence, to be on the safe side should we scale up our use of vital signs? A new quick contactless technique where photoplethysmography is combined with artificial intelligence will be presented. It shows that contactless measurement of blood pressure, pulse, respiratory rate and oxygen saturation works.

### Methods and time table

Each of the 5 topics will have an introduction of 10 minutes with a following short discussion of 8 minutes. The participants will be organised in groups of 5-7 persons.

### Conclusion

The workshop will shed light on controversial topics in handling of infections in future Nordic general practice. This may contribute to new research topics and network building among Nordic GPs.

## Perceived food intolerance after an outbreak of *Campylobacter jejuni* in Askoy, Norway: a longitudinal cohort study

**Md, Phd Sverre Litleskare<sup>1</sup>**, MD, PhD Knut-Arne Wensaas<sup>1</sup>, MD, Professor Guri Rørtveit<sup>1,2</sup>, MD, PhD Knut Erik Emberland<sup>2</sup>, MD Arild Iversen<sup>3</sup>, MD, PhD Kurt Hanevik<sup>4,5</sup>, MD, Professor Nina Langeland<sup>4,6</sup>

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**Background:** *Campylobacter jejuni* is common as the agent in infective gastroenteritis (campylobacteriosis) in Western countries and long-term complications such as irritable bowel syndrome and arthritis have been documented. Perceived food intolerance (PFI) after campylobacteriosis has not been investigated previously. In June 2019 there was a large waterborne *Campylobacter* outbreak in Askoy, Norway. At least 1500 people fell ill. We aimed to compare the incidence of PFI among cases with non-cases, after this outbreak.

**Methods:** We sent text message invitations to 16 000 of Askoy's 29 500 inhabitants to participate in this web-survey. At baseline 3 885 people answered the survey, and these were also invited to participate at follow-ups 3, 7 and 12 months later. A case was defined as the self-reporting of illness during the outbreak. Perceived food intolerance (PFI) was assessed at all follow-ups, and associations between PFI at any follow-up and campylobacteriosis investigated with Poisson regression with robust standard errors. The adjusted regression model included sex, age, atopy, PFI at baseline, depression, anxiety, and irritable bowel syndrome.

**Results:** Of the 2959 eligible participants for this study, 636 could be classified as a case, 1966 as non-cases, and 357 as uncertain. PFI prior to the outbreak was not associated with being a case during the outbreak ( $p=0.062$ ). Campylobacteriosis was associated with reporting PFI at least once during the three follow-ups after the outbreak. PFI incidence among cases was 33.3%, and 10.9% for non-cases ( $p<0.001$ ), with an incidence rate ratio (IRR) for PFI among cases at 3.06 (95% CI: 2.53 - 3.70). The association was still significant in the adjusted model, with an IRR of 2.84 (95 % CI: 2.30 - 3.52).

**Conclusion:** An increased incidence of perceived food intolerance after a *Campylobacter* outbreak was seen among cases as compared to non-cases, several months after the acute event.

## HAPPY PATIENT - Health Alliance for Prudent Prescription and Yield of Antibiotics in a Patient-centred Perspective

**PhD, MD Carl Llor<sup>2,3</sup>**, PhD, MD Jesper Lykkegård<sup>3</sup>, PhD, MD Malene Plejdrup Hansen<sup>3</sup>, Associate professor Ingrid Rebnord<sup>1</sup>, MD Isabel Sebjørnsen<sup>1</sup>, PhD, MD Lars Bjerrum<sup>4</sup>, Athina Chalkidou<sup>4</sup>, MSc., PhD. Jette Nygaard Jensen<sup>5</sup>, MSc. in Public Health Matilde Bøgelund Hansen<sup>5</sup>, PhD Katja Taxis<sup>6</sup>, Maarten Lambert<sup>6</sup>  
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### Background:

Increased antimicrobial resistance is one of the most threatening global health catastrophes, with excessive and inappropriate use of antibiotics being the main driver. Extensive international travelling deepens the crisis. Several initiatives have addressed the inappropriate use of antibiotics in the community, but the results are generally poor. The aim of the HAPPY PATIENT project is to increase the impact of European Union recommendations on the prudent use of antimicrobials in human health.

### Methods:

The HAPPY PATIENT involves 15 partners from 9 countries. The different professionals participating in the project – doctors, nurses, and community pharmacists – will be audited by means of the Audit Project Odense (APO) method before and after a multifaceted intervention in four different settings: primary care, out of hours services, nursing homes and community pharmacies in four high antibiotic prescribing countries (France, Poland, Greece and Spain) and one low prescribing country (Lithuania). A minimum of 25 health care professionals in each country and setting will register at least 25 cases during two audit periods. Before the second registration, participants will receive feedback from the first registration and training courses on enhancement of communication skills, management of infections, dissemination of clinical guidelines with recommendations for diagnosis and treatment. Patient educational/communication material (e.g. posters/leaflets) will also be developed

### Results

The 1st audit registration will be performed in February 2022 and we plan to present the results of the audit at NCGP 2022.

WP2: Results on misconceptions about the use of antibiotics: a modified Delphi study

WP3: Results from the general practice setting

WP4: Results from out-of-hours services

WP5: Results from nursing Home

WP6: Results from community pharmacies



## Association between previous antibiotic exposure and COVID-19 severity. A population-based cohort study.

Dr Dan Ouchi, Dr Maria Giner-Soriano, Dr Ana Garcia-Sangenís, Dr Lars Bjerrum, Dr Rosa Morros, Dr Ana Moragas

<sup>1</sup>University of Southern Denmark, Odense, Denmark, <sup>2</sup>Primary Care Research Institute Jordi Gol. Via Roma Health Centre, Barcelona, Catalonia

Catalonia was hard-hit by the first wave of the COVID-19 pandemic. We examined the correlation between previous antibiotic exposure and COVID-19 severity.

A population-based observational matched cohort study with patient level data obtained for more than 5,8 million people registered in SIDIAP (Information System for Research in Primary Care) database in Catalonia. We included all patients newly diagnosed with COVID-19 from March to June 2020 and identified all their antibiotic prescriptions in the previous two years. We used a composite severity endpoint, including pneumonia, hospital admission and death due to COVID-19. We examined the influence of high antibiotic exposure (>4 regimens), exposure to highest priority critically important antimicrobials and recent exposure (< 2 months). Potential confounders were adjusted by logistic regression.

A total of 280,679 patients were diagnosed with COVID-19, 146,656 of whom were exposed to at least one antibiotic course (52.3%) during the preceding two years. 25,222 presented severe COVID-19 infection (9%), and the risk of severity was highest among those exposed to antibiotics (OR 1.12; 95% CI: 1.04-1.21). Among all individuals exposed to antibiotics, those with recent antibiotic exposure had a higher risk of COVID-19 severity than patients with past antibiotic exposure (OR 1.41; 95% CI: 1.36-1.46). Those with high and exposure to highest priority critically important antimicrobials were correlated with increased COVID severity (OR 1.19; 95% CI: 1.14-1.26 and 1.35; 95% CI: 1.30-1.40, respectively).

The interplay between bacteria, viruses and host physiology is complex, and we still have much to learn. Despite this, an increasing body of evidence is beginning to reveal how antibiotic exposure appears to impair antiviral immunity. Our findings support this hypothesis as they confirm a significant correlation between previous antibiotic exposure and increased severity of COVID-19 disease.

## Stopping an antibiotic course for an uncomplicated respiratory infection when no longer is necessary is effective and safe. Results from a randomised clinical trial

Dr Carl Llor<sup>1,2</sup>, Dr Ana Moragas<sup>2</sup>, Dr Marc Miravittles<sup>2</sup>, Dr Carolina Bayona<sup>2</sup>, Dr Silvia Crispi<sup>2</sup>, Dr Silvia Hernandez<sup>2</sup>

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**Objectives:** To determine the benefits and harms of discontinuing unnecessary antibiotic therapy for uncomplicated respiratory tract infections when antibiotics are considered no longer necessary.

**Methods:** Multicentre, open-label, randomised controlled clinical trial in health centres from 2017 to 2020. Adults with acute rhinosinusitis, sore throat, influenza or acute bronchitis-who had previously taken any dose of antibiotic for less than 3 days, which GPs no longer considered necessary were recruited. The patients were randomly assigned in a 1:1 ratio to stopping antibiotic therapy or the usual strategy of continuing antibiotic treatment. The primary outcome was the duration of severe symptoms (number of days scoring 5 or 6 on a six-item Likert scale). Secondary outcomes included days with symptoms, moderate symptoms (scores of 3 or 4), antibiotics taken, adverse events, patient satisfaction and complications within the first 3 months.

**Results:** A total of 467 patients were randomised, out of which 409 were considered valid for the analysis. The mean (SD) duration of severe symptoms was 3.0 (1.5) days for the patients assigned to stopping and 2.8 (1.3) days for those allocated to the control group (mean difference 0.2 days; 95% CI -0.1 to 0.4 days). Patients randomised to the discontinuation group used fewer antibiotics after the baseline visit (52/207 (25.1%) versus 182/202 (90.1%);  $p < 0.001$ ). Patients assigned to antibiotic continuation presented a relative risk of adverse events of 1.47 (95% CI 0.80-2.71), but the need for further health-care contact in the following 3 months was slightly lower (RR 0.61; 95% CI 0.28-1.37).

**Conclusions:** Stopping antibiotic treatment for uncomplicated RTIs when GPs consider it unnecessary is effective and safe.

## Does participating in a research study influence the participants healthcare-seeking behaviour?

PhD student Charlotte Raadkjær Lykkegaard<sup>1</sup>, Professor Niels Wedderkopp<sup>5</sup>, Biostatistician, PhD Sonja Wehberg<sup>1</sup>, Professor Frans Boch Waldorff<sup>1,6</sup>, Associate Professor Sinead Holden<sup>2,3,4</sup>, Professor Jens Søndergaard<sup>1</sup>

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**Background:** In many research studies participants are in contact with health personnel during the study period. However, whether participating in such studies influences the participant's healthcare-seeking behaviour during and after study end has not previously been analysed.

In the period from 2008-2014, a longitudinal quasi-experimental trial comprising school students ("The Childhood Health Activity and Motor Performance School Study – Denmark", CHAMPS-study-DK) was performed. The study investigated effects of increased physical education lessons on outcomes such as pain and injuries. Every week, parents responded if their child had experienced pain during the preceding week. If pain was reported, a telephone consultation was carried out by a healthcare professional on the following Monday.

We hypothesize that (1) participants in the CHAMPS-study-DK, due to increased focus on musculoskeletal complaints and healthcare, more frequently seek help from healthcare professionals after study end compared to other children and adolescents, and (2) that children's and adolescent's use of healthcare is associated with their parents' use of healthcare.

**Methods:** Study participants will be compared to a control group in a register setting. Nationwide longitudinal data from 1997 to 2019 from the Danish National Health Service Register, the register of rehabilitation, and the Danish National Patient Register will be used. The data will be linked by Statistic Denmark using the personal identification number uniquely assigned to all Danish citizens and all permanent residents of Denmark. Data on income, education, moves within Denmark, immigration, and emigration will be included as well. Finally, data on physical activity, musculoskeletal complaints, and sports participation collected in the CHAMPS-study-DK will be linked to the register data, also.

Associations between specific defined healthcare services (outcomes) and the primary exposure defined as participation in the CHAMPS-study-DK or not participating in the CHAMPS-study-DK, will be investigated.

The results of the analyses will be presented and discussed.

## Healthcare costs of patients with chronic obstructive pulmonary disease in Denmark – specialist care versus GP care only

Professor, Gp, Phd, Bba Jesper Lykkegaard<sup>1</sup>, Professor Jesper Bo Nielsen<sup>1</sup>, Statistician Maria Munch Storsveen<sup>1</sup>, Professor, GP, PhD Dorte Ejg Jarbøl<sup>1</sup>, Professor, GP, PhD Jens Søndergaard<sup>1</sup>

<sup>1</sup>*Research Unit Of General Practice, Department Of Public Health, University Of Southern Denmark, Odense, Denmark*

**Background:** Many patients with chronic obstructive pulmonary disease (COPD) are treated in general practice only and have never received specialist care for COPD. They are seldom included in COPD cost studies but may account for a substantial proportion of the total costs.

**Objective:** To estimate and specify the total healthcare costs of patients who are treated for COPD in Denmark comparing those who have- and have not had specialist care for COPD.

**Setting:** Denmark, population 5.7 million citizens.

**Methods:** Via national registers, we specified the total healthcare costs of all +30-years-old current users of respiratory pharmaceuticals. We identified the patients with COPD and compared those with at least one episode of pulmonary specialist care to those with GP care only.

**Results:** Among totally 329,428 users of respiratory drugs, we identified 46,084 with specialist-care- and 68,471 with GP-care-only COPD. GP-care-only accounted for 40% of the two populations' total healthcare costs. The age- and gender-adjusted coefficient relating the individual total costs specialist-care versus GP-care-only was 2.19. The individual costs ranged widely and overlapped considerably (p25-75: specialist-care €2,175 - €12,625, GP-care-only €1,110 - €4,350). Hospital treatment accounted for most of the total cost (specialist-care 78%, GP-care-only 62%; coefficient 2.81), pharmaceuticals (specialist-care 16%, GP-care-only 27%; coefficient 1.28), and primary care costs (specialist-care 6%, GP-care-only 11%; coefficient 1.13). The total costs of primary care pulmonary specialists were negligible.

**Conclusion:** Healthcare policy makers should consider the substantial volume of patients who are treated for COPD in general practice only and do not appear in specialist statistics.

## Opportunities and challenges in Nordic GP Specialist training - can we meet the young doctors' expectations?

Gp & Assoc. Professor Roar Maagaard<sup>1,2</sup>, Gp & Assoc. Professor Joachim Frølund Hansen<sup>2</sup>, MD & Docent Arja Helin-Salmivaara<sup>3</sup>, GP Gösta Eliasson<sup>4</sup>, GP in training Katrina Tibbals<sup>6</sup>

<sup>1</sup>Dsam, Copenhagen, Denmark, <sup>2</sup>Center for Health Sciences Education, , Denmark, <sup>3</sup>Joint hospital district of Helsinki and Uusimas, , Finland, <sup>4</sup>Svensk förening för allmänmedicin, Stockholm, Sweden, <sup>5</sup>ALIS-kontor Nord, Bodø, Norway, <sup>6</sup>NYGP (Nordic Young General Practitioners), Oslo, Norway

### Background:

NYGP (the Nordic Young Doctors organisation) has in 2021 launched a statement on GP Specialist Training in the Nordic countries.

### Methods:

Tibbals will present this statement in more detail (20 minutes)

Helin-Salmivaara (H-S), Eliasson (E) and Frølund (F) will respond to and challenges this statement (20 minutes in total)

A discussion with the audience will give voice to trainees as well as trainers (20 minutes)

Maagaard will chair the symposium.

### Results:

The NYGP statement is a comprehensive list of recommendations to GP Specialist Training. Experienced Nordic trainers will praise, but also challenge these recommendations.

H-S: NYGP wish a total training plan for the whole training time, but this is not easy as this might also encompass up to 3 maternity leaves....NYGP expects a compulsory research/quality project during the training – how is this feasible?

E: NYGP focuses on length of training, but content is also important. A clear descriptions of training goals is needed, and a learning portfolio is useful here. Training must at least include 2 GP settings.

F: NYGP highlights training in emergency skills and out-of-hours training – but in some countries the GPs are perhaps leaving the principle of 24 h service for their patients? A clear description of the obligations for both trainee and trainer is essential.

The 3 challengers above come from Finland, Sweden and Denmark – but perspectives from all 5 Nordic countries will be on the table as the audience is invited to the discussion on how we all can help in creation of the absolute best training for our future colleagues in the Nordic countries.

### Conclusion:

NYGP will present their statement on how to improve GP training – and experienced educators will contribute to this process.

## Clarifying cooperation between general practitioners and hospitals in a 1.2 million region of Denmark

M.D. General medicine Simon Nyvang Mariussen<sup>1</sup>

<sup>1</sup>*The region of Southern Denmark, Vejle, Denmark*

Pursuing the goal of equal offers of health care to all citizens of the Region of Southern Denmark the County Council decided to initialize an overview of hospital diagnostics and advice services to general practitioners and clarification of cooperation between GPs and hospitals.

### Method

The first analysis was conducted by looking at all hospitals' ward homepages concerning specific information to general practitioners including hot-line present or not, date for most recent update and possibility for direct specialist contact

The second and biggest part of the clarification consisted of a web-based questionnaire that was sent to all general practitioners in the Region of Southern Denmark. The questionnaire was based on questions concerning the satisfaction among GPs with hospitals' services and assistance.

### Results

The mapping of the hospitals' supporting health care diagnostics and treatments to the general practitioners clarified the differences and deficiency in the hospital's information to GPs.

The questionnaire was responded by 333 GPs ie approximately 42 % response rate. The results from the questionnaire illuminated big regional differences in the satisfaction of the cooperation between GPs and hospitals.

The research identified culturally discoveries of great importance for the good cooperation:

- Constructive and equal dialogue
- Being open and listening
- Recognizable regarding question and issue presented by colleague

### Conclusions

Being GP optimal easy access for diagnostics or relevant referral using homepage help the GP for optimal patient diagnostic and care.

Based on the GPs' answering of the questionnaire there is a big will and wish to enhance the professional cooperation between the GPs and hospital. This cooperation should be based on more frequently and direct dialogue between the two sectors.

A workshop was conducted involving representatives from hospitals' management, GPs, and the Union of the GPs in order to discuss possibilities and identifying method for the good cooperation

## Countering the syndemic vulnerability of unemployed people – a complex systems approach to co-designing an intervention promoting rehabilitation across employment, health and social care services.

**Mr. Frederik Martiny<sup>1,2</sup>**

<sup>1</sup>The Research Unit for General Practice In Copenhagen, Denmark, Copenhagen, Denmark, <sup>2</sup>Centre for Social Medicine, University Hospital Bispebjerg-Frederiksberg, Denmark., Copenhagen, Denmark

### Background

Vulnerable unemployed people (VUP) supported by social assistance cannot obtain a job due to extensive physical, psychological, social, and existential problems. Despite reform promoting more active employment policies and a myriad of welfare-to-work initiatives, the number of social assistance recipients has largely remained unchanged across the Nordic countries. Adding to the stigmatized issue of unemployment, VUP have poor access to health and social care services, leading to inequity in health. Further, the plethora of problems faced by VUP interacts, forming vicious cycles or syndemics, which leads to chronic and complex life situations. Further, VUP both risk receiving care that is too little, too late and too much, too soon, due to poor coordination and collaboration between employment, social, and health care services. In other words, VUP challenges employment, health and social care services, including general practice. There is a need for timely, patient-centred, and integrated services delivered in a collaborative care scheme to mitigate the challenge of VUP, i.e. a rehabilitation approach to care.

### Methods

The first aim of the research project is to use complex systems theory, syndemics theory and stakeholder engagement to describe the lifeworld of VUP and the frontline professionals tasked with caring for them. Secondly, the research project aims to co-design a complex intervention that promotes rehabilitation of VUP across employment, health, and social care services.

### Results

Literature in the area suggests that key stakeholders are keen to support an intervention aiming to promote the rehabilitation of VUP across services. The presentation will cover preliminary results from the research project, its overall design, and its potential implications for general practice.

### Conclusions

The presentation aims to facilitate an informed dialogue about how the research project's methods and findings may be of most value to the everyday life of general practitioners.

## The impact of body mass and body dissatisfaction on health and wellbeing among adults and adolescents

Professor Emeritus Eivind Meland<sup>1</sup>

<sup>1</sup>*University Of Bergen, Bergen, Norway*

Background: We have performed two cohort studies, one among adults and one among adolescents. The studies examined how body mass and body dissatisfaction were mutually impacted and how health and wellbeing were influenced prospectively.

Methods: We studied 118 participants in a RCT at Healthy Life Centers with 6 months and 1225 adolescents from 11 to 13 years with 2 years follow-up. The randomized groups in the RCT were treated as one cohort. We performed linear regression analyses with outcomes at the end of observations as outcome. We also performed residual change analyses in order to firmer establish causal associations.

Results: Body dissatisfaction, impaired self-esteem, weight-cycling and controlled motivation predicted weight loss in the adult population, but these factors also predicted body alienation. Autonomous motivation and self-efficacy for physical activity also predicted a leaner body, and these factors, plus being content with life and self-rated health, also predicted satisfaction with own body. In the adolescent population self-esteem and subjective health predicted a leaner body, while dieting and the intention of achieving a leaner body predicted weight gain. Adolescents content with their body and their health experienced improved self-esteem during the follow-up. Body dissatisfaction, on the other hand, predicted impaired self-rated health.

Implications: The studies indicate that health promotive efforts should adopt a weight neutral approach built on health and acceptance for all bodies.



## The mutual importance of both parents after divorce

**Professor Emeritus Eivind Meland<sup>1</sup>**

<sup>1</sup>*University Of Bergen, Bergen, Norway*

**Background:** We have examined how the health and wellbeing among adolescents were impacted by divorce and loss of parental contact in four studies.

**Methods:** Two cross sectional and two cohort studies among adolescents in the age of 11-17 years in the former county of Sogn og Fjordane. With linear regressions we examined how health and wellbeing were impacted by divorce, conversational quality, and loss of parental contact.

**Results:** Loss of parental contact was nearly almost linked to loss of contact with fathers. The percentage with loss of paternal contact increased from 5% among the 11 years' old to 12% among the 17 years' old. The group with divorce experience (DE) but preserved contact with both parents had significantly but modestly more mental distress. However, adolescents with concomitant loss of parental contact experienced emotional distress to a far greater degree than their peers. Divorce increased from 1997 to 2009 by 34%, but we observed no signs of attenuated effects on emotional health as DE became more common, and the emotional distress was not mitigated by time since the DE.

In the prospective studies we revealed that DE predicted deterioration of conversational quality and contact only with fathers. Conversational quality was of equal importance for health and wellbeing with both fathers and mothers. Only the conversational quality with fathers impacted the improvement on health measures during two years' observation, and it was the preservation of paternal contact that modified the health impact from divorce on the outcomes.

**Implications:** Preserving contact with fathers after divorce and improving confidence in the dialogue with both parents seems an important task in clinical as well as in public health service.

## Point-of-care ultrasound in general practice – how do we develop evidence-based training programs?

GP Troels Mengel-Jørgensen<sup>1,2</sup>, GP Thomas Løkkegaard<sup>1,2</sup>, GP Søren Kæseler Andersen<sup>1,2</sup>, MD, PhD Camilla Aakjær Andersen<sup>1</sup>, GP Mariela Skendi<sup>3</sup>, GP Roxane Liard<sup>3</sup>, GP Bjarthe Sørensen<sup>4</sup>, GP Hans-Christian Myklestul<sup>5</sup>, GP Canh Le Nygaard<sup>6</sup>, GP Roman Hari<sup>7</sup>, MD, resident Nico Zumstein<sup>7</sup>

<sup>1</sup>Center for General Practice at Aalborg University, Aalborg, Denmark, <sup>2</sup>Board, DAUS (Dansk Almenmedicinsk UltralydsSelskab /Dansk Society for ultrasound in General Practice ), , Denmark, <sup>3</sup>Sorbonne University, Paris, France, <sup>4</sup>Department of Quality and Health Technology at Stavanger University , Stavanger, Norway , <sup>5</sup>Department of General Practice at University of Oslo, Oslo, Norway , <sup>6</sup>Board, FUA (Foreningen For Ultralyd i Allmennpraksis/Norwegian Society for Ultrasound in General Practice), , Norway, <sup>7</sup>Institute of Primary Health Care (BIHAM) at Bern University, Bern, Switzerland

### Back-ground:

The use of point-of-care ultrasound (POCUS) in general practice is rapidly increasing across countries due to the development of new, affordable ultrasound scanners. This development is further propagated by new generations of GPs who in their training have acquired the competencies and used ultrasound in their daily work. Implementing POCUS as a new diagnostic tool in general practice sets requirements for the training of GPs in order to avoid doing harm to patients. A recent review has shown that very little is known about how to train GPs in POCUS. With this paucity in the knowledge base, how do GPs in the Nordic countries and Europe as a whole, go about developing evidence-based training programs in POCUS?

### Aim:

The aim of the workshop is to discuss and share knowledge on how to implement evidence-based training programs in point-of-care ultrasound in general practice.

### Learning objectives:

1. What do we know about training of GPs in POCUS?
2. What elements do I need to consider when developing training programs?
3. How do different countries approach this problem?

### Methods:

Oral presentations

Group discussion

### Preliminary timetable (90 minutes):

1. What do we know about training of GPs in POCUS? (Camilla Aakjær)
2. How do we develop an ultrasound curriculum? (Thomas Løkkegaard)
3. Experiences in Denmark (Søren Kæseler/Troels Mengel-Jørgensen)
4. Experiences in France. (Mariela Skendi et al)
5. Experiences in Norway. (Bjarthe Sørensen et al)
6. Experiences in Switzerland. (Roman Hari et al)

7. Group discussion.
8. Plenary discussion
9. Conclusion

Conclusions:

The workshop should leave participants with a better understanding of and serve as inspiration on how to develop POCUS training programs for GPs.

We will strive to create a network of GPs interested in ultrasound in Europe.

## Feasibility of a longitudinal point-of-care ultrasound training program for GPs.

GP Troels Mengel-Jørgensen<sup>1</sup>, GP Søren Kæseler Andersen<sup>1</sup>, GP Ulrike Mehnert<sup>1</sup>, MD, PhD Camilla Aakjær Andersen<sup>1</sup>

<sup>1</sup>*Center for General Practice at Aalborg University, Aalborg, Denmark*

### Background

Point-of-care ultrasound (POCUS) is an operator-dependent examination, that is increasingly used in general practice. Little is known about the best and most efficient method for POCUS training of general practitioners. Previous POCUS-training programs have been stand-alone courses leaving attendees with the task of implementing POCUS into clinical practice.

The aim of this study was to test the feasibility of a POCUS training program for general practitioners that focuses on learning over time while offering continuous feedback and focus on the integration of POCUS into patient care.

### Method

A longitudinal training program for GPs was developed based on a systematic review of the scientific literature and experiences collected by the research group. The training program was a three months intervention with hands-on workshops teaching 10 commonly used POCUS examinations on days 7, 30 and 90 and continuous access to an online platform providing opportunity for self-study of course material, access to quizzes, assignments, and feedback from teachers. The training program consisted of a preparation phase (days 1-6), a training phase (days 8-29), and a practice phase (days 31-89). During each phase, the participants had POCUS-related tasks and assignment to do during their clinical work. In 2021, GPs in the North Denmark Region were invited to participate in the training program along with their residents. Six GPs signed up to participate along with six accompanying residents. The following data was collected for each participant: Online activity, test results from quizzes, number of returned assignments, test results from practical tests, and evaluation of the educational intervention.

### Results

We will present the results at the conference.

### Conclusion

The shift from a traditional short focused course to a longitudinal training intervention with continuous obligations requires more commitment from participants and lack of time during clinical hours was found to be a dominating barrier.

## How do GPs manage suspicions of child maltreatment? A mixed methods study.

**Associate professor Camilla Merrild<sup>1</sup>**, MD, PhD Ioanna Milidou<sup>2</sup>, MD Hans Christian Kjeldsen<sup>3</sup>, MD Lise Frost<sup>4</sup>, Professor Annie Vesterby Charles<sup>4</sup>, PhD, clinical professor Charlotte Søndergaard<sup>2</sup>

<sup>1</sup>Center for general practice at Aalborg University, , Denmark, <sup>2</sup>Pediatric Department, Regional Hospital West Jutland, , Denmark, <sup>3</sup>Department of Public Health, AU and Lægefællesskabet, Grenå, , Denmark, <sup>4</sup>Department of Forensic Medicine, Aarhus University, , Denmark

### Background

Many children who have been subjected to child neglect and abuse have a long record of contacts with the health care system, and studies suggest that up to 90% of the maltreatment goes unnoticed. General practice is the first point of care for children, offering preventive health checks, treating minor diseases, injuries and other health concerns, and is centrally placed in terms of ensuring child wellbeing. The aim of this presentation is to explore how Danish General Practitioners (GPs) and Practice Nurses (PNs) manage suspicions of child maltreatment, and how they decide on what and/or when something is wrong with a child or a family.

### Methods

We draw on a nationwide questionnaire sent to all registered GPs in Denmark, combined with ethnographic fieldwork consisting of five weeks of observation in five different general practices, and 20 semi-structured interviews with GPs and PNs.

### Results

Out of 1,252 completed questionnaires 89.8% of the respondents had suspected child abuse and/or neglect at some point during their work life, and 1/3 of the GPs had not made a mandatory report despite having had the suspicion. In the qualitative data, it was clear that GPs and practice nurses were challenged by those cases where there were no clear indications, such as broken bones, bruises, cuts or bites, but where they were left with a feeling that something was wrong. Often, they practiced watchful waiting and scheduled follow up to manage their uncertainty or discussed their suspicion with colleagues.

### Conclusion

General practice provides an important but also difficult context for detecting child maltreatment. Uncertainty is a central and intrinsic aspect of acting on suspicion of child neglect and/or abuse, and it seems vital to improve the communication, transparency, collaboration, and feedback between the different specialties and sectors of the health care system.





## How Monthly Educational GP Trainee Meetings Affect Work Satisfaction During the Hospital Part of GP Training

MD Senior Resident Christian Quaade Michelsen<sup>1</sup>

<sup>1</sup>*Hospital of South West Jutland, Esbjerg, 6700, Denmark*

**Background:** Danish junior hospital doctors in training to become specialists in general practice have an increased sensation of loneliness and stress during their 2.5 years training in hospitals. In order to cope with these challenges we organized monthly meetings among the doctors in training to become specialists in general practice. The meetings started in October 2020 and focused on how to prepare for the different hospital specialties, how to increase the educational output and how to learn from others' mistakes.

**Aims:** With this study, we aim to explore how participation in monthly GP trainee meetings influences the GP trainees work satisfaction while attending the hospital part of their training.

**Methods:** We conducted a qualitative study at the Hospital of South West Jutland in Denmark and invited all participants of the meetings who had been in the hospital program for a minimum of 6 months between October 2020 and March 2022 to participate in individual interviews for 15 to 20 minutes. All received the same 15 questions, 5 questions regarding stress and loneliness during their hospital program, 5 questions regarding the meetings, 3 questions about the balances and the relevance between the different tasks at the hospital and 2 questions to explore for ideas on how to improve the hospital program.

**Conclusion:** We will be present the results at the conference. We expect to present new ideas on how to improve the young doctor's training program for general medicine.



## Emergency primary health care contacts in Norway during the COVID-19 pandemic

**Researcher III Vivian Midtbø<sup>1</sup>**, Professor, MD, Ph.D. Steinar Hunskaar<sup>1,2</sup>, MD, Ph.D. Ingrid Hjulstad Johansen<sup>1</sup>

<sup>1</sup>National Centre for Emergency Primary Health Care, NORCE Norwegian Research Centre AS, Bergen, Norway,

<sup>2</sup>Department of Global Public Health and Primary Care, Faculty of Medicine, University of Bergen, Bergen, Norway

**Background:** In Norway, the primary health care services have been responsible for most of the COVID-19 testing, contact tracing, and follow-up of COVID-patients in their homes. However, individual municipalities had differing strategies for handling the pandemic. The aim of this study was to describe how contacts to the emergency services were affected during the first 15 months of the pandemic, in terms of patient contacts related to COVID-19, first actions taken, and how different municipal strategies of involvement of the emergency primary health care clinics affected the load on the clinics.

**Methods:** We analysed data on patient contacts from seven emergency primary health care clinics, which constitutes a sentinel network called the Watchtower project.

**Results:** Within the study period January 2020 - May 2021 there were 137 974 contacts to the seven clinics. In total, 1 of 4 contacts were related to COVID-19. However, the proportion of COVID-related contacts ranged from 5% to 58% between the different clinics. 96% of the total contacts related to COVID-19 were triaged to the lowest urgency level (green), while this applied to 57% of the contacts not related to COVID-19. All the services had a spike in number of contacts during the week in March 2020 when the Government initiated a lockdown of the country. During this period, 1 of 2 contacts were related to COVID-19, and 57% of contacts were handled by nurse telephone advice. During the rest of the study period, we found several distinct contact patterns among the clinics, which reflected differences in involvement in testing regimes and other organizational factors.

**Conclusions:** COVID-19 affected the emergency primary health care clinics differently dependent on how the local municipalities organised their response to the pandemic.

## The GPs role in young settled unaccompanied residents need of help and support with health-related issues

Phd Candidate Gjertrud Moe<sup>1</sup>, Associate professor Bente Mjølstad<sup>1</sup>, Professor Linn Getz<sup>1</sup>, Professor Borgunn Ytterhus<sup>1</sup>

<sup>1</sup>*Department of Public Health and Nursing, NTNU, Trondheim, Norway*

**Background:** When young unaccompanied refugees settle as residents in a Norwegian local community, GPs are expected to play an important role in understanding, supporting, and solving their health issues. Today, over 200 000 people with refugee background live in Norway and about 10 000 of them arrived as unaccompanied minors. The aim of this presentation is to examine young settled unaccompanied residents' experiences of health-related support and problem solving, with special attention to the role of the GP.

**Method:** In-depth interviews with nineteen young unaccompanied residents (18-25 years) from Afghanistan, Eritrea, and Syria. The interviews were analyzed using interpretive phenomenology. We applied a salutogenic approach to health combined with Honneth's philosophy of recognition as our theoretical framework.

**Results:** After arrival in Norway, the young unaccompanied residents appear to establish a new understanding of health and a holistic approach to health-related issues. Concrete physical problems like fractures and eczema were experienced as well treated. However, seeking help for symptoms such as headache and stomachache they felt ignored, and typically not physically touched and examined. Rather, the GP focused on their verbalized symptoms and seemed pressed for time. Consequently, they felt that the GPs lacked interest in them as persons, including their everyday-life-situation. They felt a lack of recognition. Several of the young residents told they were encouraged to "drink water" as the main treatment to headache or stomachache.

**Conclusion:** Our study documents a mismatch between young unaccompanied residents' expectations regarding health support from the GP and the actual content of the clinical encounters. With a limited social network and lack of physically present trusted superiors, the young residents report how they wish to be recognized as whole human beings, especially when consulting their GP for health issues that are not immediately diagnosable and treatable.

## How to develop sustainable interventions in general practice: Applying the UK Medical Research Council Framework for Complex Interventions

**MSc Public Health, PhD Anna Mygind<sup>1</sup>**, MSc Pharm, PhD Line Due Christensen<sup>1</sup>, MD, PhD Mette Kjærgaard Nielsen<sup>1,2</sup>, MD, PhD Kirsten Høj<sup>1,3,4</sup>, MD, PhD Torgeir G Lid<sup>5</sup>, MSc Public Health Amanda Sandbæk<sup>1</sup>, MD Ina Grønkjær Laugesen<sup>1</sup>, MD Anne Søjbjerg<sup>1</sup>

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### Background

Does it matter that a quality intervention in general practice is effective, if it is not sustained? Traditional intervention research has focused on clinical effects delivered under controlled conditions. Yet, if interventions are to be implementable in clinical practice, we need to consider sustainability in the development process. For this, the updated 2021 UK Medical Research Council (MRC) Framework for Complex Interventions provides guidance.

### Aim and learning objectives

The workshop aims to discuss how to develop interventions that are sustainable in general practice, and to form the basis for an international network for research within the field. The participants will gain insights into the MRC framework and be able to reflect upon how to develop sustainable interventions in a general practice setting. Further, they will be able to connect with peers involved in quality development and intervention research.

### Methods

Discussions will be based on findings from six development and feasibility studies in Denmark and Norway, undertaken in 2019-2022. The studies focus on interventions in general practice, including patient preparation, anticoagulation treatment, talk therapy, and alcohol behaviour. The workshop will discuss the following core elements from the MRC framework:

- Consider context
- Develop, refine, and (re)test programme theory
- Engage stakeholders
- Identify key uncertainties
- Refine intervention
- Economic considerations

Based on presentations, group discussions and panel debates, the workshop will identify challenges and lessons learned for developing sustainable interventions. It provides ample opportunity for the participants to discuss methodological issues specific for general practice and to transfer experiences across research projects.

### Conclusions

The workshop will provide insights into the development of sustainable interventions in general practice based on the MRC framework. Further, the workshop will be a forum for discussing approaches to developing general practice-based interventions that are implementable also after project termination.

## Fifty shades of grey and clinical uncertainty; Focus group study among general practitioners using point-of-care ultrasound (POCUS) as a part of clinical decision making

Researcher/general Practitioner Hans-Christian Myklestul<sup>1</sup>, Researcher Holgeir Skjeie, Professor Mette Brekke, Researcher Trygve Thorn Skonnord

<sup>1</sup>*University Of Oslo/lillestrøm Legesenter, , Norway*

### Background

Since the 1950s, ultrasound has been a part of medical diagnostics. Initially used by radiologist, later a broader field of clinical specialists have taken advantage of the possibilities point-of-care ultrasound (POCUS) offers. The devices are now cheaper and more user-friendly.

Norwegian primary health care has a list system, in which patients can have a given general practitioner (GP). This system is available in all municipalities across the country. Since 2008, GPs can claim reimbursements for POCUS.

POCUS is considered a user-dependent clinical skill. Training in POCUS has been a part of the curriculum at Norwegian universities for less than the last decade. There have been elective courses available as a part of the post-graduate training for GPs. A previous study has shown that three out of four general practitioners in Norway claim the use of POCUS less than ten times annually.

In general practice, a wide array of possible symptoms, diseases and trauma may benefit from a scan. With limited experience in the use of POCUS, we assume most GPs will occasionally experience findings where anamnesis, physical examination and sonography do not cohere. As the patient is present, the GP must report the result to the patient. How do GPs cope with these situations?

### Method

We have carried out four focus-group interviews with four to six participants. An interview-guide was made and piloted prior to the interviews. The interviews were transcribed verbatim. The dataset was analyzed using systematic text condensation. There is a theme-theoretical framework for the analysis.

### Results

The results of the study will be presented at the conference.

## GPs' and OOH doctors role in prehospital care for serious trauma patients

**Mr Kristian Rikstad Myklevoll**, Professor Erik Zakariassen, Research professor Tone Morken, Researcher Valborg Baste, Researcher Jesper Blinkenberg, Professor Gunnar Tschudi Bondevik

<sup>1</sup>Section for general practice, Department of Global Public Health and Primary Care, University of Bergen, Bergen, Norway, <sup>2</sup>National Centre for Emergency Primary Health Care, NORCE Norwegian Research Centre, Bergen, Norway

### Abstract

#### Background

An injury that has the potential to cause prolonged disability or death is classified as a major trauma. Major trauma patients need immediate pre-hospital interventions and transfer to a specialized trauma hospital for investigations and care. In Norway, GPs and OOH doctors are integrated parts of the prehospital trauma care – chain described in the national trauma plan. It is believed that GPs and OOH doctors perform valuable triage and early care of trauma patients, and treat the less severely injured.

The aim was to study how GPs and OOH doctors respond to acute alarms due to severe trauma. We investigated factors associated with their participation in prehospital care for serious trauma patients.

#### Methods

The project included a register-based study on trauma patients admitted to hospital in the period 2012 - 2018. Data obtained from the Norwegian Patient Register, the primary care physicians' claim database (KUHR) and Statistics Norway. By linking the registers, we studied the action by the GPs and OOH doctors, whether they called out to these major trauma incidents or not. We investigated whether factors related to the doctors (age, gender, specialization), patients (age, seriousness of trauma), time of incident and geography (centrality, health region, distance to hospital) were associated with a call-out, in separate regression models.

#### Results

In univariate regression models, the proportions of GP and OOH doctor call-outs to severe trauma incidents were significantly associated with various factors. Lower age of the doctor, being a GP specialist, lower age of the patient, increased length of hospital admission, incidents in summer months, non-centralized geography and specific health regions were associated with increased frequency of call-outs

#### Conclusions

In addition to the length of hospital admissions and geography, both doctor and patient factors were associated with the GPs' and OOH doctors' decision to call-out, or not.

## Guideline on screening for gestational diabetes-General practitioners' perspectives

Kathy Ainul Møen<sup>1</sup>, Postdoctoral fellow Ingeborg Forthun<sup>1</sup>, Associate Professor Khadra Yasien Ahmed<sup>1</sup>, Associate Professor Stefan Hjørleifsson<sup>1</sup>

<sup>1</sup>*University Of Bergen, Bergen, Norway*

### Background

In 2017, the Norwegian Directorate of Health published a new guideline for screening for gestational diabetes increasing the proportion of pregnant women to be screened from 25% to 70%. There is little knowledge about how the new guideline has affected general practice. This study's aim was to explore GPs' experiences and reflections on the consequences of the new guideline for their own work and for pregnant women in Norway.

### Method

Qualitative study with five focus group interviews among GPs in Norway, three groups conducted face-to-face and two groups conducted digitally. We analyzed the interviews thematically.

### Results

The GPs stated that the new guideline resulted in more work and logistical challenges. Some of the GPs felt that the new guideline helped them identify more women with gestational diabetes and many of them felt that it enabled conversations about lifestyle, but at the expense of medicalizing many pregnancies and causing nausea and worries among many women. The GPs described a discrepancy between their loyalty to follow the guideline and their own professional judgement, and expressed doubts about the evidence base of the guideline.

### Conclusion

While the new guideline helped GPs detect more women with gestational diabetes and initiate conversations on lifestyle with some patients, the GPs expressed broad concerns about the widespread screening mandated by the guideline, indicating that the guideline may be at odds with core principles of general practice and cause more harms than benefits.

## Effect of a multilevel intervention on prescribing of potentially addictive medications in general practice.

**Doctor Muhunthan Navaratnam**<sup>1</sup>, MD, PhD Håvard Skjellegrind<sup>2</sup>, MD, PhD Bjarne Austad<sup>2</sup>, MD, PhD Gunnhild Åberge Vie<sup>2</sup>, MD, PhD, Professor Linn Okkenhaug Getz<sup>2</sup>, MSc Thea Brevik<sup>3</sup>, MD Cato Innerdal<sup>4</sup>

<sup>1</sup>Molde Brygge Legekontor, Molde, Norway, <sup>2</sup>Department of Public Health and Nursing, Faculty of Medicine and Health Sciences, Norwegian University of Science and Technology, NTNU, Trondheim, Norway, <sup>3</sup>Molde University College, Molde, Norway, <sup>4</sup>Molde Kommune, Molde, Norway

### Background:

Optimal use of potentially addictive medications (PAMs) provides major benefits both for the individual patient and for public health. In many instances, this will involve reduced prescribing. However, medical assessments related to PAMs can be difficult and fraught with dilemmas. In 2017 the chief medical officer and GPs in Molde municipality initiated a multilevel public health intervention, aiming to jointly increase professional and public awareness related to therapeutic use of PAMs, and to reduce potentially inappropriate prescribing. All GPs received feed-back on their prescription practice and the public was addressed through the local press.

### Objectives:

Evaluation of the long-term results of the multilevel public health intervention.

### Methods:

A retrospective study, using anonymized data from the Norwegian prescription registry for most GPs in Molde in 2017-2020 (n=25). Written consent was obtained from each GP. Medications were grouped in opioids, benzodiazepines (incl. benzodiazepine derivatives) and z-hypnotics using ATC-codes. Prescribed amounts were counted in Defined Daily Doses (DDD) as defined by WHO. We only included months where the physicians were practicing as a GP and calculated average prescription per patient for each GP. We estimated the difference between years using linear multilevel models.

### Results:

The average total amount of PAMs prescribed by each GP per patient was reduced from 15.6 DDD in 2017 to 11.7, 11.3 and 11.7 DDD for 2018, 2019 and 2020 respectively. Compared to 2017, prescriptions in 2020 were 0.5 DDD (95% CI -0.2-1.1) lower for opioids, 0.67 DDD (95% CI 0.3-1.0) lower for benzodiazepines and 2.2 DDD (95% CI 1.5-2.9) lower for z-hypnotics.

### Conclusions:

By combining individual prescription feedback to GPs and information to the public through mass media, prescription rate of PAMs were reduced for at least three years with anticipated positive impact on public health. We hope this will inspire further initiatives on PAM prescription rate.

## Narrative medicine: about reading the patient - and yourself

MD PHD John Nessa

<sup>1</sup>*University of Bergen, Bergen, Norway*

Narrative medicine: about reading the patient - and yourself

Oral presentation: education

Presenting author: John Nessa, in cooperation with Kari Thori Kogstad (who submit her own abstract)

Background

Narrative medicine is all about listening to, and honouring the patient's stories. From the very beginning the patient presents herself/himself as telling a story, narrative accounts of her sufferings and challenges. This narrative, constitutive of general practice and subject to continuous revision, implies the doctor, and follow both patient and doctor until the last consultation is performed.

Method

I will introduce and explain relational concepts like narrative dialogue, personal identity and mentalization to describe and verify what happens to both patient and doctor during the consultation(s). I will also interpret the patient doctor relationship using psychodynamic terminology

Results

How the patient and doctor talk together, how they understand and interpret each other, and the personal closeness and knowledge of each other has significant value for the outcome of the consultation

Hjelmeland 14.01.22,

John Nessa



Vidensbanken.dsam.dk - a platform for minor projects  
 - aiming at general practice and clusters concerned with quality projects

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**Chefkonsulent Anette Sonne Nielsen<sup>1</sup>**

<sup>1</sup>Secretariat of DSAM, København Ø, Denmark, <sup>2</sup>Young doctors and FYAM-members, ,

#### Background:

Simultaneously with the introduction of the cluster organization of general practice in Denmark the need for a platform for quality projects became clear. Where to look for inspiration and experiences from former quality projects?

Along with general practitioners and clusters young doctors also do small quality projects on residency training in general practice. The intention with the platform is to gather experiences on local innovative ideas in clinical practice which typically is not publicized.

A group of three young doctors developed the new platform "Vidensbanken" in close cooperation with doctors from the DSAM quality committee.

#### Methods:

The platform has a search function and several categories on diseases, themes etc. which is helpful for an overview. Furthermore, it is easy to use, anyone can upload a project using the formular. The project owner can upload papers, plans, articles etc. When the reader is interested in learning more about a project, he/she can contact the owner of the project.

The platform is administered by one of the young doctors and the project leader is also a young doctor connected to the quality committee in DSAM.

#### Results:

In May 2021 the platform was introduced on several communication channels. Criteria for the projects are so far not implemented.

Among others the regional quality organizations in Denmark have disseminated the platform. 55 quality projects are uploaded (January 2022), and the projects are ranging from minor quality projects to research projects.

#### Conclusions:

The platform is still in a phase of promotion. An evaluation is planned on content, functionality, and possibilities for improvement and development. The success depends on our ability to promote the platform and the willingness to use and share knowledge and experience via <https://www.vidensbanken.dsam.dk/>.

## How to avoid the 'triple whammy' in a Danish general practice? A quality project

**Dr, Phd Mette Kjærgaard Nielsen<sup>1,2</sup>**, GP Thyge Traulsen<sup>2</sup>, GP Louise Schmeltz<sup>2</sup>, GP Dorte Bojer<sup>2</sup>

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### Background

The 'triple whammy' is the treatment with non-steroidal anti-inflammatory drugs (NSAIDs) combined with diuretics and ACE inhibitors (ACE-I) or angiotensin II receptor blockers (ARBs) that increases the risk of acute kidney injury.

In a general practice (GP) (approx. 3400 patients), we conducted a 'triple whammy' project aiming to 1) review risk factors and medicine indications, 2) implement preventive strategies.

### Methods

Based on international literature and recommendations from Danish health authorities, we developed a guideline for GP and a patient information sheet. We included patients registered in the electronic GP system with NSAIDs (ATC M01), diuretics (ATC C03) and ACE-I/ARBs (ATC C09) from August 2020 to July 2021.

We reviewed medicine and risk factors, and we contacted patients for oral (phone or face-to-face) and written (hand-out or e-mail) information regarding:

- Risk of 'triple whammy'
- Use of other analgesics (paracetamol, topical NSAID) or contact to GP
- Blood testing of kidney function every half year (daily/regular NSAID) or before (within 2 months) and after a week (short NSAID treatment)
- Pause antihypertensives during dehydration (diarrhea, vomiting, fever).

### Results

Of the 76 identified patients, 24 was excluded (no longer at risk (n=14), no self-administration of medicine (n=5) and miscellaneous (n=5). Among the 52 included, age>65 years was the most common risk factor (n=29), whereas 17 had diabetes mellitus, chronic kidney disease and/or heart failure. Of the 12 patients using daily NSAIDs, three were stopped and five adjusted to rescue medication. Phone consultation was preferred by patient and was sufficient for patients without cognitive impairment. Most patients reacted positively to the proactive information of the 'triple whammy' and some were already informed. The information sheet was a useful supplement.

### Conclusion

A strategy to prevent the 'triple whammy' by systematically revision of medicine and information to patients was implementable in GP.

## How to bridge the gap - Potentials and challenges of collaboration between researchers, policy-makers, practitioners and laypeople to make evidence relevant and valuable to all

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### Background:

In general practice, there is high demand for interventions that are evidence-informed, relevant, cost-effective and implementable. However, such interventions take time to develop, refine, evaluate, implement and disseminate to a wide audience. Another key ingredient for relevant and valuable interventions for general practice is collaboration with stakeholders. Still, it is difficult to balance which stakeholders to include and when to include them. Another concern is that stakeholders often have different, and sometimes conflicting, interest in the problems that the intervention seeks to solve or improve. A common challenge is time: reality does not wait for the time-consuming research process.

### Aim and learning objectives:

Using experiences from two complex intervention studies in general practice (The Model project and the SOFIA study), we will present how “reality caught up” with these research projects and how we have tried to bridge the gap between stakeholders to prevent this from happening. This will lead to a discussion on how we can move forward from here starting from these questions:

- What should be considered when collaborating with stakeholders across phases of intervention research, i.e., development, pilot testing, evaluation, implementation and dissemination of results?
- Are there ways to speed up the research process and still maintain research integrity?
- How can we align the interest in implementing research at a fast pace with the interest of safeguarding research integrity and trustworthiness?

### Methods:

-Short presentations, small working groups and plenary discussion

### Timetable:

5 min: Introduction  
 25 min: 3 presentations  
 25 min: Small group discussions  
 30 min: Plenary discussion  
 5 min: Closing remarks

### Conclusion:

Deliberate and synthesize key challenges and potential solutions to better align the gap between research and reality in general practice

Disclosure of Interest: None

Key words:

Complex interventions, primary care, evidence based practice, bridging the gap, stakeholder involvement

## Bereaved relatives in general practice: grief trajectories and health care use in a population-based study with six years of follow-up

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### Background

Several bereaved relatives use more GP services and mental health care shortly after the patient's death. However, the long-term consequences for bereaved relatives with high levels of grief symptoms remain largely unexplored.

We aimed to investigate the association between grief symptom trajectories and health-related long-term outcomes, i.e. contacts to general practice during daytime and out-of-hours and the use of prescription medicine at three years after bereavement, and the use of mental health services from three to six years after bereavement.

### Method

We previously assessed grief symptoms in 1,735 bereaved relatives at three different time points (prior to bereavement, six months after bereavement, and three years after bereavement) and identified five main grief trajectories.

This study began follow-up three years after bereavement. We investigated associations between grief trajectories and contacts to general practitioner (GP), contacts to out-of-hours GP and use of psychotropic medications (anxiolytics, sedatives, antidepressants) within six months, whereas associations with use of mental health services (GP talk therapy, contacts to psychologist or psychiatric services) were investigated within three years of follow-up.

### Results

Relatives in the high-grief trajectory (HGT) group had more contacts to GP during daytime, higher use of psychotropic medications, and higher use of mental health services compared to the low-grief trajectory (LGT) group. However, the HGT was not associated with more contacts out-of-hours.

### Conclusion

Even at long-term after the patient's death, bereavement negatively affects the use of GP services and mental health care for those who had a high grief symptom level. However, the use of GPs out-of-hours in the HGT was at similar to the LGT meaning that the acute need for support may be covered. Still, the high persistent need for support indicated that future studies should explore whether the existing health care services sufficiently meet the need for support in this group.

# Trends in remote health care consumption in Sweden. A comparison before and during the first wave of the Covid-19 pandemic

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## Background

Remote assessment of respiratory tract infections (RTIs) has been a controversial topic during the fast development of private telemedicine providers in Swedish primary health care. The covid-19 pandemic has contributed to a changed management of patient care to decrease viral spread, with an expected shift in contact types from in-person to remote ones.

The main aim of the present study was to compare health care consumption and type of contacts (in-person or remote) for RTIs before and during the covid-19 pandemic. The second aim was to study whether the number of follow-up contacts after an index contact for RTIs changed during the study period, and whether the number of follow-up contacts differed if the index contact was in-person or remote.

## Methods

The study design was an observational retrospective analysis with a description of all index contacts and follow-up contacts with physicians in primary care and emergency rooms in a Swedish region (Skåne) for RTIs in patients of all ages and comparison for the same periods in 2018, 2019, and 2020.

## Results

Compared to 2018 and 2019, there were fewer index contacts for RTIs per 1000 inhabitants in 2020. By contrast, the number of follow-up contacts, both per 1000 inhabitants and per index contact, was higher in 2020. The composition of both index and follow-up contacts changed as the share of remote contacts, in particular for traditional care providers, increased.

## Conclusion

During the covid-19 pandemic in 2020, fewer index contacts for RTIs but more follow-up contacts were conducted, compared to 2018-2019. The share of both index and follow-up contacts that were conducted remotely increased. Further studies are needed to study the reasons behind the increase in remote contacts, and if it will last after the pandemic, and more clinical guidelines for remote assessments of RTI are warranted.

## Are low quality referral letters a hindrance for timely access to specialised mental health care?

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**Background:** Studies of triage decisions based on referral letters to specialised mental health care have indicated low reliability. Inconsistently performed triage decisions can have serious consequences for the affected patients. The quality of referral letter information has been assumed to be an important factor for reliable patient triage. However, it is yet unknown how referral letter quality affects triage.

**Aims:** To investigate the association between quality of referral letters and the reliability of patient triage for patients referred to specialised mental health care.

**Methods:** Data consisted of information about the quality of referral letters and triage decisions for 264 consecutively included patients referred to specialised mental health care in a region in Norway. Quality of referral letter content was measured using Quality of Referral information- Mental Health checklist. Triage reliability was measured by comparing the maximum acceptable waiting time as evaluated based on referral letter information with maximum acceptable waiting time set after the first patient consultation.

**Results:** Patient triage based on referral letter information differs from triage based on a patient consultation in about half of the cases. Referral letter quality did not explain the differences in triage decisions. However, the patients having their urgency of need for care underestimated upon triage (one fourth of the patient sample) had slightly more often a lower than average referral letter quality score. Patients' sex and hospital specialists' experience with triage decisions were found to be significantly associated with the reliability of triage.

**Conclusion:** Using referral information as the main source for triage decisions constitutes a risk of both under- and overestimation of the urgency of need for care. Improving referral letters may only partly solve these challenges. Rather, efforts to progress the shared understanding between health care professionals in primary and specialised health care during referrals may increase triage reliability.

## Gestational and postpartum anemia and iron deficiency; a multiethnic population-based study of healthy pregnant women in Oslo

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**Background:** There is no consensus in Europe as to whether iron status should be examined in early pregnancy, which iron indicator best reflects iron status, or whether iron supplements should be routinely recommended.

**Objective:** We aimed to determine the prevalence of anemia and ID in early pregnancy and in postpartum women using three iron indicators and associations with ethnicity, maternal factors during pregnancy and birth complications.

**Methods:** Data are from the multiethnic population-based STORK-Groruddalen cohort. Pregnant women were enrolled in mean gestational week (GW) 15.1 ( $\pm 3.4$ ) with follow-up visits in mean GW 28.3 ( $\pm 1.3$ ) and in mean postpartum week 13.9 ( $\pm 2.4$ ). Trimesterspecific gestational anemia was defined as hemoglobin (Hb)  $<10.5$ / $<11.0$  g/dL, and postpartum as Hb  $<12.0$  g/dL. ID was defined as serum ferritin (SF)  $<15$  mcg/L, soluble transferrinreceptor (sTfR)  $>4.4$  mg/L, or calculated total body iron (TBI)  $<0$  mg/kg.

**Results:** 572 women had no missing data of SF, sTfR, TBI, and Hb data from any visits. 59% were of non-Western origin, 1 in 5 used iron supplement at enrollment, 2 in 5 at GW 28 and 1 in 5 at postpartum visit. The prevalence of gestational anemia was 6%, and of ID 7-33% by different iron indicator. At the postpartum visit, 25% were anemic and 19–39% iron deficient by different iron indicator. Non-Western ethnicity was independently associated with anemia and ID in early pregnancy. Insufficient iron intake during pregnancy, low gestational iron status, primiparity and postpartum hemorrhage were associated with postpartum anemia and ID.

**Conclusion:** The prevalence of ID differed considerably depending on the iron indicator used. While minority women were found to be at the highest risk of gestational anemia and ID, other maternal and birth related factors were found more strongly associated with postpartum anemia and ID.



## Embodied regionality and healthcare use in rural Denmark

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In the small welfare state of Denmark, regional differences in access to healthcare create a growing geographical inequality in health. Despite a welfare system that supports all citizens with free access to healthcare, rural areas experience physician shortage and longer distances to healthcare services. However, distances to healthcare in Denmark are still small compared to most other countries. In this context, what does geographical inequality in health consist of? What is at stake when people in rural areas decide whether or not to seek healthcare with health-related worries and problems? And how, then, should we understand a sense of 'distance' in relation to health, welfare and citizenship?

These questions guide my exploration of how regionality – as affect and attunement, as representation and materiality, and as sensorial experience – is embodied in symptom interpretations and enacted in healthcare seeking practices when people worry about symptoms and potential illness. The exploration is based on one year of ethnographic fieldwork among citizens in their everyday lives in a village in a region of Denmark considered rural and 'remote'. Here, primary care physicians retire with no one to take over their clinic, and the local hospital offers still fewer services. Methodologically, the study consisted of participant observations in local activities, in everyday life, and in GP clinics, along with semi-structured interviews with key interlocutors among the local citizens and healthcare providers. Analytically, I engage with perspectives of sensorial anthropology and theories of affect to discuss how regionality interacts with politics of healthcare provision, and a contemporary focus on timely healthcare seeking with potential symptoms of serious illness.

Through slow paced ethnography I aim to illuminate subtleties of regionality as part of the geographical differences in health and healthcare seeking practices that are perhaps revealed in a geographically small welfare state.

## How is GP dealing with low B12 values

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Background: There is no National Recommendations for dealing with B12 deficiency for general practice. Best practice is described in Lægehåndbogen.

In a pilot study we have observed a great variation when general practice is dealing with low B12 values. From the laboratory departments we also know there is a great difference in the requests of B12 and MMA analysis and in the number of patients treated with B12 medicine between the 5 regions in Denmark.

Methods: In a pilot study 5 clinics in the region of Northern Jutland answered a registration formula (APO method) each with 10 patients with abnormal B12- values.

Results :

- 53% of patients without well defined B12 lack has started treatment with B12 medicine.
- Only 11% of the treated patients with clinical symptoms is offered a clinical control.
- In 29% of patients with well defined B12 lack (B12 less than 125 nmol/L) the clinic measured MMA, even this is not recommended.

When the patient is treated and has reached normal levels of B12 it is not necessary with further laboratory controls. Despite this:

- 53% continued laboratory controls
- In 56% of patients with B12 values between 125 and 250 (the grey zone) the MMA is not measured, despite the recommendation.

Conclusions: The pilot study has confirmed a great variation in handling B 12 deficiency. The best practice from "Lægehåndbogen" is not followed.

Therefore we have started a larger study with more patients and clinics. We have chosen 25 clinics with 5 clinics in each region to shed light on the mentioned variations between the regions and the results will be presented on the congress.

If our ongoing study (finished May 2022) confirms these variations, we will suggest a preparing of a national guideline in general practice on this subject.

## C-reactive protein cut-offs used for acute respiratory infections in Danish general practice

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**Background:** GPs can use the C-reactive protein (CRP) point-of-care test (POCT) to assist when deciding whether to prescribe antibiotics for patients with acute respiratory tract infections (RTIs).

**Aim:** To estimate the CRP cut-off levels that Danish GPs use to guide antibiotic prescribing for patients presenting with different signs and symptoms of RTIs.

**Design & setting:** A cross-sectional study conducted in general practice in Denmark.

**Method:** During the winters of 2017 and 2018, 143 GPs and their staff registered consecutive patients with symptoms of an RTI according to the Audit Project Odense (APO) method. CRP cut-offs were estimated as the lowest level at which half of the patients were prescribed an antibiotic.

**Results:** In total, 7813 patients were diagnosed with an RTI, of whom 4617 (59%) had a CRP test performed. At least 25% of the patients were prescribed an antibiotic when the CRP level was >20 mg/L, at least 50% when CRP was >40 mg/L, and at least 75% when CRP was >50 mg/L. Lower thresholds were identified for patients aged ≥65 years and those presenting with a fever, poor general appearance, dyspnoea, abnormal lung auscultation, or ear/facial pain, and if the duration of symptoms was either short (≤1 day) or long (>14 days).

**Conclusion:** More than half of patients presenting to Danish general practice with symptoms of an RTI have a CRP test performed. At CRP levels >40 mg/L, the majority of patients have an antibiotic prescribed.

**Keywords:** Antibiotics; C-reactive protein; Diagnostics; General practice; Respiratory tract infections.

## 10 minutes as the centre of attention

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### Background:

Danish general practice (GP) trainees have at least five employments in hospitals during specialisation. Unfortunately, 7% of the trainees either quit or have long-term illness during specialisation. Studies have shown that GP trainees feel rootless and lack of continuity in their hospital part of the specialisation. Hence, learning outcomes of the education may be affected. Therefore, we aimed to investigate if a 10-minute virtual supervision session with the hospital supervisor and the GP supervisor after each employment, can improve job satisfaction and the learning outcomes in the specialisation.

### Method:

We designed a clinical intervention study collecting data from GP trainees in Central Region, Denmark. We divided the Region into three parts; the western-, middle-, and eastern part. The western and eastern parts constitute the intervention and the middle part the control group.

During the specialisation, all GP trainees have a 30-minutes evaluation in every hospital employment with their supervisor from the hospital. The intervention group will invite their GP supervisor to participate virtually in the last 10 minutes of the meeting. Here they will discuss 1) what the GP trainee did well, 2) how the GP trainee could improve, and 3) what the GP trainee should focus on in the following hospital employment. In the end, all three participants fill out a short questionnaire on job satisfaction and learning outcomes. In the control group, only trainees receive the questionnaire.

### Results:

We started inclusion on the 1. of January 2022. We intend to have preliminary questionnaire data on 50 participants to be presented on NCGP 2022.

### Conclusion:

We expect that the inclusion of a consistent supervisor from GP will improve job satisfaction and learning outcomes among GP trainees. Finally, we hope the study will help to prevent undesirable educational pathways.

## Maternal Mental Dealth During COVID-19: studies from a General Practice Based Cohort

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<sup>1</sup>*Centre for General Practice, University Of Copenhagen, Copenhagen, Denmark*

**Background:** Pregnancy and early motherhood are sensitive times in which threat of disease can affect mental health negatively. Knowledge about how the COVID-19 pandemic affected the mental well-being of pregnant women and new mothers is limited and points in different directions. From November 2019 to June 2020 a general practice based cohort of pregnant women in Denmark was formed.

**Objective:** To investigate pregnant women's symptoms of depression and anxiety during stages of the pandemic and antenatal contacts with their (general practitioner) GP during first period of lockdown.

**Materials/methods:** Data from two cohorts (2019 and 2016) of pregnant women recruited from Danish general practices were compared. A COVID-19 lockdown cohort completed questionnaires during first lockdown in 2020. Responses were compared to those from a control cohort of women from 2016. Major Depression Inventory (MDI) and the Anxiety Symptom Scale (ASS) were used. Questionnaires about antenatal contacts with GPs were also sent to the COVID-10 lockdown cohort. Data about mental health of the woman were obtained in the first trimester, at 8 weeks and 5 months postpartum, and were analyzed cross-sectionally according to pandemic phase.

**Results:** Few women had missed a scheduled preventive consultation with their GP during lockdown. Across six different time-periods of the pandemic no differences in reported levels of depressive symptoms between the six examined time periods of the pandemic were observed among the GP-based cohort of pregnant women. No major changes in anxiety symptoms were observed in relation to increased infection pressure or lockdowns, but a small increase was observed during the second lockdown in women at eight weeks postpartum.

**Conclusion:** Antenatal care in general practice was intact during lockdown and no clear change in mood among pregnant women was observed.

**Points for discussion:** How can general practice protect maternal mental health during a pandemic?

## General practitioners' continuity of care for patients with chronic disease: a registry-based observational study from Norway

**MD, PhD Candidate Sahar Pahlavanyali<sup>1</sup>**, MD, Professor Øystein Hetlevik<sup>1</sup>, MD, Professor Steinar Hunskaar<sup>1,2</sup>

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**Objective:** This study aims to investigate regular general practitioners' (RGPs) continuity of care (CoC) for patients with chronic disease both in primary healthcare and the overall healthcare system.

**Methods:** We conducted a registry-based observational study by using consultation data from Norwegian general practices, out-of-hours services, hospital outpatient care and private specialists with public contracts (PSPC). Patients with diabetes mellitus (type I or II), asthma, chronic obstructive pulmonary disease (COPD) or heart failure in 2012, who had  $\geq 4$  consultations with these specific diagnoses during 2013-2016 were included. CoC with the patient's RGP was measured by using the usual provider of care index (UPC) calculated as the proportion of visits to RGP in primary healthcare (UPCprim) and the overall healthcare system (UPCtotal). UPC has a value between zero and one.

**Results:** Among the four study populations, diabetes mellitus contained the largest number of patients (N=121,937) and heart failure the smallest (N=8,343). Mean UPCprim was higher for all the four study populations compared with the UPCtotal. Patients with diabetes mellitus had the highest UPCprim =0.85 and UPCtotal=0.58 and asthma had the lowest UPCprim =0.75 and UPCtotal=0.46. Both UPCprim and UPCtotal were measured higher for patients  $\geq 65$  with asthma, diabetes mellitus and heart failure. Both indices are measured with higher values in urban areas compared to rural ones.

**Conclusions:** The rather high CoC with RGP in primary care shows that Norwegian patients mainly consult their RGP for these chronic diseases. However, marked lower RGP continuity estimated in the overall healthcare system shows that specialist healthcare services have a large share of diagnosis specific contacts, emphasizing the importance of shared care between primary and specialist care to manage such chronic conditions. The higher CoC associated with older age indicates a larger GP involvement by increasing age.

## Doing research in Swedish primary care is challenging: the experience of two General Practitioners

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### Background

A major part of health care in the Nordic countries takes place in the primary care setting, which is one of the main sources of data for chronic diseases and their treatment. Comparatively little research is, however, performed by primary care physicians. Here we discuss some challenges we have faced as researchers in primary care.

### Methods

Inventory of personal experiences and literature findings regarding challenges of conducting primary care research.

### Results

1. Insufficient time to do research, which has low priority compared to clinical work.
2. Negative feed-back from co-workers and superiors due to absence for research.
3. Poor availability of research networks, resulting in difficulties finding other primary care researchers to collaborate with, as well as finding mentors for doctoral studies.
4. Difficulties obtaining funding, leading to research being carried out on vacations or after work hours.

### Conclusions

In spite of many challenges, primary care research is a rewarding activity that is suitable for combining with clinical work. It is also vital for the development of primary care in the long term. To attract more physicians, the culture surrounding primary care research in Sweden must be strengthened and researchers must get better support.

## Clinically significant drug interaction alerts in older primary care patients, and related medically justified actions

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### Background

Patients in primary care are treated with an increasing number of drugs and this entails a risk of drug-drug interactions. Physicians often have access to a decision support system integrated with the electronic medical record. It is, however, not known to what extent such alerts are relevant for the specific patient.

### Methods

We studied interaction alerts (provided by Janusmed, a Swedish interaction database integrated in the medical records) presented at physician consultations for 274 consecutive patients  $\geq 65$  years, with  $\geq 2$  drugs, at two primary care centres in Sweden. We analysed print-outs of the medical records for 2½ years preceding the consultation. Alerts classified as clinically significant were assessed by two family physicians, first independently and then in consensus, as to whether they justified any medical action not taken by the prescribing physician.

### Results

Patients were treated with a median of seven drugs (range 1-20). A total of 206 drug interaction alerts were triggered in 103 (37%) patients. Some action in response to the alert was deemed medically justified for 35 (17%) alerts in 26 (25%) of these patients. The most commonly suggested actions were switching to a less interacting drug in the same drug class ( $n=10$ ), separating drug intake ( $n=9$ ), and ordering a laboratory test ( $n=8$ ). Out of 398 recommendations from the alert system, 38 (9%) were applicable to the specific patient. In most cases, the suggestions had already been satisfactorily addressed, e.g. by monitoring laboratory parameters.

### Conclusions

One in three older patients in primary care with two or more drugs receives drug treatment that triggers drug interaction alerts. Five in six alerts were already being addressed or were not relevant in the clinical setting. This may indicate that the alert systems have had the intended effect of affecting physician behaviour, but also illustrate the risk of information overload.



## Variation in the use of psychometric tests in Danish general practice

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**Background:** The majority of patients with mental disorders are diagnosed and treated in general practice. Psychometric tests can aid the general practitioners (GPs) in the diagnostic process and treatment regimen. Some psychometric tests have diagnostic purposes, others screen for the most prevalent disease types, and yet others measure disease severity. The Danish clinical guidelines recommend the use of psychometric tests for a wide range of diseases, e.g. dementia, depression and anxiety. The GPs are remunerated for undertaking common types of psychometric testing, but little is known about the frequency and variation in the use of psychometric tests in Danish general practice. Therefore, we aim to investigate the use and variation in use of psychometric tests in Danish general practice.

**Methods and Results:** Using the National Health Insurance Service Register, we will identify all contacts to Danish GPs and psychometric tests performed by Danish GPs in 2007-2019. The proportion of contacts involving psychometric tests will be the main outcome of the study. The GP's propensity to use psychometric tests will be assessed with multilevel models and presented in graphical form. We will investigate whether variations can be explained by differences in patient populations (sociodemographic characteristics, socioeconomic status and comorbidity) or by GP characteristics (number of patients and region). Further, we will investigate whether the differences remain stable across calendar year and if the variation holds for propensity to use talk therapy consultations. Finally, we will investigate differences in patient characteristics on the use of psychometric tests.

**Conclusion:** This study will provide an overview of the variation in the use of psychometric tests in Danish general practice. Additionally, the study will elucidate which patient characteristics are the most predictive of being assigned psychometric tests in general practice.

## Making shoulder pain simple in general practice: implementing an evidence-based guideline for shoulder pain. Protocol for a hybrid design stepped-wedge cluster randomised study (EASIER study)

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**Background:** Shoulder pain is a common reason for seeking the general practitioner (GP). Previous research indicates that general practitioners consider it difficult to diagnose shoulder pain and this may be one of the reasons current care for shoulder pain is not in line with the best available evidence. A simple and evidence-based routine for diagnosis and management of shoulder pain may be of great help to the GP. This project aims to assess the effectiveness, cost-effectiveness and the implementation of an evidence-based guideline for shoulder pain in general practice in Norway.

**Methods and analysis:** A stepped-wedge, cluster randomised design with hybrid design will be used. We will recruit at least 36 GPs in GP surgeries and randomise the crossover from usual care to care after intervention. The intervention will be held at the point for crossover and includes an educational outreach visit to the GPs and a computerised decision tool for GPs including a self-management application for patients. We will measure outcomes at patient and GP levels using self-report questionnaires, focus group interviews and registerbased data. The primary outcome measure is the patient-reported Shoulder Pain and Disability Index measured at 12 weeks. Secondary outcomes include the EuroQol Quality of Life Measure (EQ5D-5L), direct and indirect costs, patient's global perceived effect and implementation process assessment tool (IPAT). We will use mixed effect regression models to analyse primary and secondary outcomes.

**Discussion:** The results of this study will provide knowledge about the effectiveness of implementing an evidence-based guideline that endorse a simple routine for the diagnosis and treatment of shoulder pain in general practice.

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## Burnout and sleep deprivation

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**Background:** Physician burnout is increasing and cross-sectional studies of workers of all types have documented associations between burnout and sleep deprivation. This study aimed to examine whether sleep deprivation reported in 2016 was associated with burnout in 2019 among general practitioners (GPs).

**Methods:** All GPs in Denmark were invited to participate in a questionnaire survey in 2016 and 2019. Data were linked by Statistics Denmark. The Maslach Burnout Inventory (MBI) was completed in 2016 and 2019 and the Insomnia Severity Index (ISI) was completed in 2016. Quartiles divided each of the three MBI subscale score into four groups and quartile 1 was assigned 1 point, quartile 2 was assigned 2 points etc. The quartile points were added up. The composite score was categorised into two groups: 3-8 points (low/middle composite burnout score) and 9-12 points (high composite burnout score). Data were analysed with Chi-square tests.

**Results:** 1059 GPs completed both surveys. Combining the composite burnout scores from 2016 and 2019 produced four groups: 593 GPs (56.0%) with low composite burnout score in both 2016 and 2019 ("resilient"), 102 GPs (9.6%) with low score in 2016 and high score in 2019 ("vulnerable"), 114 GPs (10.8%) with high score in 2016 and low score in 2019 ("recovered") and 250 GPs (23.6%) with high score in both 2016 and 2019 ("chronic burnout"). Significant differences in shares of GPs in the groups reporting difficulties falling asleep, staying asleep and waking up too early were found (Chi2 = 37.17 to 62.39;  $p < 0.0001$ ). For instance, 16.69% of resilient GPs reported problems with waking up too early, 23.53% of vulnerable, 29.82% of recovered and 35.20% of chronic.

**Conclusions:** This study documents an association between sleep deprivation and burnout status three years later. Although the study is prospective, the direction of causality is difficult to determine.

## Intrinsic motivation and effectiveness of accreditation in general practice

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**Background:** Healthcare providers' intrinsic motivation is assumed to impact both the quality of care and the effectiveness of external interventions. This study investigates the relationship between intrinsic motivation and treatment behaviour, but also whether intrinsic motivation affects the effectiveness of an external intervention in the form of accreditation.

**Methods:** Accreditation was implemented in Danish general practice as a nationwide mandatory cluster randomised intervention. Practices were randomised to accreditation at municipality level in 2016, 2017, or 2018. We link information on practices' accreditation year with register data on their treatment behaviour and survey data using their average intrinsic motivation in 2017. Using weighted mixed logit models clustered at municipality level, we compare the treatment behaviour of accredited practices (2016) with non-accredited practices (2018) taking their intrinsic motivation into account.

**Results:** Preliminary results suggest that practices with higher levels of intrinsic motivation have a statistically significantly lower proportion of enlisted polypharmacy patients and conduct more spirometry tests on their COPD and asthma patients than other practices. Meanwhile, intrinsically motivated practices respond statistically significantly less to accreditation than other practices. More specifically, intrinsically motivated practices do not change their treatment behaviour due to accreditation, whereas practices who are not intrinsically motivated respond to accreditation by reducing the number of drugs prescribed to patients above the age of 65, their proportions of enlisted polypharmacy patients, patients taking NSAIDs without a concurrent prescription for proton pump inhibitor, and patients taking sleep medication.

**Conclusion:** Practices with higher levels of intrinsic motivation provide higher quality of care on some indicators, but they do not change their care as a response to accreditation. This may in some cases be due to an already high performance, but it could also be due to intrinsically motivated practices being more autonomous and therefore less susceptible to external interventions.

## Community pharmacy employees' knowledge and experience of substandard and falsified medical products. A cross-sectional descriptive survey.

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### Background

Substandard and falsified (SF) medical products are, according to the WHO, a global threat to public health. To evaluate if community pharmacy employees can guide the public to safer medication purchases, we wanted to examine what knowledge and experience they possess about SF medical products.

### Methods

We distributed a validated digital questionnaire with the possibility of reaching 97% of the community pharmacies in Sweden (1391/1433). Employees aged 18 years or older with customer contact were invited to participate.

### Results

The questionnaire was available for 74% of all community pharmacies (1067/1433) and 228 individuals participated. Of the respondents, 89% were pharmacists (203/228), 84% were women (191/228) and 43% were 35-49 years (98/228). The respondents worked in pharmacies, which corresponds to the national community pharmacies. The definition of SF medical products was known by 182 of the 228 respondents (80%) and the main source of knowledge was media (61%, 111/228). Three quarters did not recognize the common European logo for online pharmacies (74%, 169/228).

### Conclusions

For pharmacy employees to guide the public to safer medication purchases, knowledge about SF medical products per se and especially about legal international e-commerce needs to be enhanced.

## Guidelines for the prevention of cardiovascular disease: A critical appraisal

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**Background:** Guidelines for prevention of cardiovascular disease have shown a continuing trend of lowering treatment goals and thresholds for initiation of treatment. As a result a larger proportion of the population has been defined as eligible for treatment. However, in most cases no cost-benefit analysis or analysis of the opportunity costs and treatment burden for patients has been performed before new guidelines are issued. The societal and healthcare system sustainability of expanding preventive care is thus ignored, and each new guideline expands the obligations of GPs that may diminish their ability to provide care for other patient groups.

**Aim and learning objectives:** To discuss challenges related to implementation of guidelines for prevention of cardiovascular disease. The workshop will give an opportunity to discuss how the guideline recommendations are translated into clinical practice and to reflect on the feasibility and sustainability of current recommendations.

**Methods and timetable:** The workshop will combine short presentations, digital interaction and collegial discussion. Current guideline recommendations and relevant evidence will be presented with a focus on blood pressure as an example. Challenges will be discussed, including healthcare sustainability, burden of treatment, and multimorbidity.

30 min: Overview of current guidelines and the evidence for and against.

10 min: Digital feedback from workshop participants.

20 min: Discussion based on participants' own expertise and experiences.

20 min: Interactive session with input regarding healthcare sustainability, burden of treatment, multimorbidity and the production of guidelines.

10 min: Summary and take-home messages.

**Conclusions:** This workshop will provide participants with important perspectives to deal with guidelines in GP consultations. The evidence will be shared, and feasibility will be discussed among colleagues. After this workshop colleagues will be empowered in how they can take a holistic and sustainable approach to preventive care for their patients.

## HEAD-MIP - HEAlth Dialogue for patients with Mental Illness in Primary care

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### Background

Patients with mental illness have an increased risk of cardiovascular morbidity and mortality. Targeted health conversations can identify individuals at risk and then offer help reducing the risk of disease and complications. The Swedish-developed Health Dialogue is a health conversation including a pedagogical tool to visualize the parts of the patient's lifestyle that might benefit most from improvements. Its use in primary health care has shown improvement of lifestyle habits as well as reduced mortality. Despite a higher expected benefit for patients with mental illness, the Health Dialogue is not aimed specifically or tested for this patient group.

### Methods

Patients > 18 years old seeking primary care for mental illness (depression, anxiety, sleep disorders, or stress-related problems) were included. A trained nurse performed a Health Dialogue with the patients, including both questionnaires of lifestyle habits, stress, mental illness, and measurements of body mass index, blood pressure, blood glucose, and cholesterol. Individually tailored advice based on the risk profile was provided.

### Results

All participants had at least one lifestyle area with an increased risk level. There were over 20% of the patients who had abnormal fasting glucose values, elevated blood pressure, or cholesterol levels. Three-quarters were overweight or obese. More than 40% had the highest risk level for Waist-Hip-Ratio and high-risk levels in the physical inactivity lifestyle area. Compared to an ongoing population screening of 40-year-olds, we found higher proportions of overweight or obesity, physical inactivity, and elevated blood pressure or glucose values.

### Conclusion

Our results with a large proportion of unhealthy lifestyle habits in patients with mental illness in primary care show the importance of interventions in this patient group with potentially positive effects on improved mental wellbeing and decreased metabolic and cardiovascular risk. Studying a larger cohort with long-term follow-up is highly motivated.

## Antibiotic treatment of community-acquired pneumonia: a questionnaire survey in Danish general practice

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### Background

Discrepancies exist in Danish guidelines for the treatment of bacterial community-acquired pneumonia (CAP). This study aimed to investigate how general practitioners (GPs) treat adults with CAP and explore associations between GP characteristics and treatment duration.

### Methods

In autumn 2020, GPs in the North Denmark Region were asked to complete an electronic questionnaire on antibiotic prescribing for CAP. Information about GP gender, age, experience and type of practice was obtained. Multivariable logistic regression was used to analyse the association between GP characteristics and treatment duration.

### Results

A total of 298 GPs were invited to participate, of whom 108 completed the survey.

Penicillin V was used as first line treatment for CAP by all participants. Treatment duration varied from five (54.6%) to ten days (8.3%).

A 5-day course of penicillin was less likely to be prescribed by male GPs (odds ratio (OR) 0.35, 95% confidence interval (CI) 0.13 to 0.94) and more likely to be prescribed by GPs with 5-9 years of experience in general practice (OR 5.03, 95%CI 1.09 to 23.21) compared to those with 10-19 years of experience.

### Conclusion

Variation in antibiotic treatment of CAP emphasises the importance of generating solid evidence about the optimal duration regarding both effectiveness and safety.



## Prognosis of adolescents with musculoskeletal pain complaints consulting their general practitioner – a cohort study from Danish general practice.

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### Background

One third of adolescents experience weekly musculoskeletal pain. Research from secondary care and open populations suggests that almost one in two adolescents will continue to have pain 1-4 years after onset. No studies have explored the prognosis of adolescents with musculoskeletal pain consulting general practice. This hampers evidence-based information when children, adolescents or parents ask “When will I/my child be pain free”? The aim of this study is to investigate the prognosis of 8-19-year-old care-seeking adolescents with musculoskeletal pain.

### Methods

This prospective cohort study included children and adolescents consulting their general practitioner with musculoskeletal pain. The primary outcome was: “Have you had activity limiting musculoskeletal pain in the past two weeks?” (yes/no) and was collected at 3, 6, and 12 months follow up.

### Results

We included 100 adolescents with a mean age of 13 years, (55% female). The most common activity limiting pain sites were the knee and back. At 6-months follow-up, 36% still reported activity limiting pain and 42% multisite pain. After 12 months, 26% still reported pain. Baseline characteristics associated with non-recovery at 6 months follow up were: pain outside school, pain episode duration > 7 days, using pain medication, feeling nervous, and having difficulties falling asleep, carrying a schoolbag, and bending to put on socks.

### Conclusion

This study presents the 12-month course of MSK pain in children and adolescents aged 8-19 years consulting their general practitioner and identifies factors associated with non-recovery at 6 months follow up. A substantial proportion continue to experience pain a year after initial consultation, highlighting a need for focus and follow-up of these patients. This knowledge of characteristics associated with a poor outcome can guide general practitioners to improved intervention and at an early time of a potential long duration of pain and several consultations to reduce possible long term pain.

## Chronic care services and variation between Danish general practices

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### Background

Little is known about variations in the provision of chronic care services in primary care.

### Aim

To describe the frequency of chronic care services provided by GPs and analyse the extent of non-random variation in service provision.

### Design and setting

Nationwide cohort study in Denmark in 2016.

### Method

Information on chronic care services was obtained from national health registers, including annual chronic care consultations, chronic care procedures, outreach home visits, and talk therapy. The associations between provided services, patient morbidity, and socioeconomic factors were estimated. Service variations were analysed, and excess variation related to practice-specific factors was estimated while accounting for random variation.

### Results

Chronic care provision was associated with increasing patient age, increasing number of long-term conditions, and indicators of low socioeconomic status. Variation across practices ranged from 1.4 to 128 times more than expected after adjusting for differences in patient population and random variation. Variation related to practice-specific factors was present for all investigated chronic care services. Older patients with lower socioeconomic status and multimorbidity were clustered in practices with low propensity to provide certain chronic care services.

### Conclusion

Chronic care was provided to patients typically in need of healthcare, i.e. the old, those with multimorbidity, and those with low socioeconomic status, but service provision varied more than expected across practices. GPs provided slightly fewer chronic care services than expected in practices where many patients with multimorbidity and low socioeconomic status were clustered, suggesting inverse care law mechanisms.

## Transfer from ongoing education to everyday practice in The North Denmark Region

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### Background:

According to course evaluations in 2019 from training courses targeted for practice staff, 95% of participants in training courses stated that the course was relevant to their everyday practice to a high or a very high degree. Hence, a study was carried out about participant experiences of transfer of knowledge from courses to everyday practice.

### Methods:

24 semi-structured telephone interviews were conducted with participants from nine courses for practice personnel held in 2020. The interviews were coded and analysed thematically.

### Results:

Following staff course participation Follow-ups are often held supporting knowledge sharing and implementation in practice. This is typically formalized either in staff meetings or meetings dedicated to implementation.

The participants' perspective on what and how new knowledge can be implemented seems to influence transfer. Previously we assumed that learning from specific courses was not systematically implementable, which the participants disproved by applying new knowledge as it seemed relevant to their view of their practice.

Lack of doctoral assessment of implementation proposals is a barrier. In several cases the participants improvement proposals were not implemented due to the lack of doctoral approval of new suggestions to improve practice related to time resource issues.

Transfer falls under the following themes:

- Procedure, structure, and workflow: Several participants mentioned systematic transfer of new knowledge, in workflows and systems in practice and consultations.
- Tools, mental images and recurring phrases introduced in the courses.
- Digital tools introduced in the courses such as guiding websites.
- The patients - communication and relationship: Several of the participants focused on relationship and trust between patients and practice staff.
- Medicine

### Conclusions:

Participant narratives suggest commitment and motivation to transfer knowledge to everyday practice. Resource allocation to doctoral assessment and approval of improvement suggestions can support a higher level of implementation of new knowledge.



## Pandemic preparedness and management - A descriptive study among European Out-of-hours Services

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### Background:

Primary care is at the very frontline of the COVID-19 pandemic and plays a significant role in clinical responses and information to the public. The project CONOPRI - COVID-19 outbreak in Norway – Epidemiology, health care utilization and primary care management investigate the effect of organization strategies and handling of risk factors for the outcome of patients in primary care during the COVID-19 outbreak. Little is known about how European out-of-hours services were prepared and organized to handle a pandemic. The aim of this study was to identify patient management strategies in primary care out-of-hours (OOH) services during the COVID-19 outbreak and describe the variations in patient management strategies between different European countries.

### Method:

A cross-sectional web-based questionnaire among key informants from EU countries, including all 28 EU countries, Norway, United Kingdom, and Switzerland in August 2020.

### Results:

38 respondents from 20 different European countries responded. Pandemic preparedness: 7 respondents had plans before, 20 had no plans and 11 did not know. Only 3 had trained before and only 2 had stockpiles of personal protection equipment. Extension of telephone-lines for triage and establishment of local infection-control teams and clinics were main strategies. Alternative strategies for patient-contacts were used extensively, as video-consultations (13), e-consultations (21), to use patients' car as waiting-room (19), tent outside for testing (24), “drive-through” (26), separate apartment (14) and home-visits (1). New guidelines for admission to hospital (19), establishment of other hospital-beds and no free entrance to hospital were also introduced in this period.

### Conclusion:

Few OOH-services were prepared but all expanded and reorganized rapidly and adopted new strategies for patient contact and handling large patient volumes. The findings are useful for evaluation and for future planning of organization of primary emergency healthcare services.

## The experiences of Norwegian general practitioners during the Covid-19 pandemic - a focus group study

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### Preliminary results

#### Background

The Covid-19 pandemic caused a major reorganization of Norwegian general practices. Norwegian general practitioners are employed by the municipalities, but the majority run private practices and are usually independent from the local administration. We wanted to explore how the general practitioners experienced the challenges of the Covid-19 pandemic, their relationship with the municipality during a crisis, and their reflections on the prerequisites for successful reorganization.

#### Method

The study is based on focus group interviews conducted at four general practices in the county Innlandet in Norway. A total of 19 doctors participated in the study. The practices are spread geographically, in one small municipality (<5000 inhabitants), two medium sized (5000 – 20000 inh) and one large municipality (>20000 inh). The interviews were conducted in the period from June 2020 to September 2021. The interviews were analyzed through the qualitative method Systematic text condensation.

#### Results

The general practitioners described great uncertainty facing the Covid-19 pandemic. They met the new demands through changes in the office layout, strict management of the patient flow and a rapid introduction of digital consultations. They expressed a great sense of responsibility for their patients. The sense of responsibility was extended to the general population during the crisis, and they saw themselves as an integral part of the emergency response of the municipality, even though their role was unclear in previously existing plans and strategies.

The general practitioners valued their autonomy and emphasized autonomy as the most important factor for a successful reorganization. The municipalities enabled the reorganization by supplying the necessary resources and relieving the workload connected to infection control and information to the general public.

#### Conclusion

Norwegian general practitioners feel a great responsibility for their patients, and experienced that autonomy combined with practical support from the municipality enabled the reorganization.

## Restructuring of a GP practice during the Covid-19 pandemic - a focus group study

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A major early outbreak of COVID-19 put considerable pressure on the GP practice in Otta. The support staff managed the necessary restructuring through professional skills, local knowledge and a sense of responsibility .

**BACKGROUND** Outside the cities, the medical services in the municipality are often centred around one GP practice. The local medical service is key to the municipality's healthcare preparedness. We wished to investigate how the healthcare personnel perceived the restructuring at their GP practice during the COVID-19 outbreak in March 2020, and the factors that facilitated and impeded the process.

**MATERIAL AND METHOD** The article is based on a focus group interview conducted with eight nurses and medical secretaries at Otta GP practice in June 2020. The interview was transcribed and analysed using systematic text condensation.

**RESULTS** The informants described a chaotic and demanding situation, in which they had to deal with their own as well as the patients' fears. They found crisis management to be difficult in a situation where the leadership in the municipality were unaware of the challenges of the GP practice. Lack of guidelines from the authorities at the start of the outbreak gave rise to considerable uncertainty. Through collaboration and flexibility, the practice arrived at new ways of working in order to safeguard its running. This gave a strong feeling of coping and fellowship, and a greater awareness of the informants' own importance in the front line of crisis management.

**INTERPRETATION** The study elucidates the role of support staff in the face of a crisis for the GP practice. Competent employees with the latitude and tools to tackle the challenges quickly guided the practice from chaos to a new type of working day. The municipality could have supported the process by ensuring the necessary resources and general guidelines for prioritisation of tasks.





## A study regarding quality of follow up visits for diabetes type 2 in a cluster of general practitioners at the south western part of Copenhagen.

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**Conclusion:** Using the organization of DM2 in general practice as a model for the quality of treatment and care of patients with chronic disease using the PDSA method in a quality work, will increase the quality of chronic care in a cluster of GP's. By discussing organizational culture of chronic care and implementing the experiences deducted by this in the clinical work, the clinician is able to collect knowledge about quality in chronic care. And it is possible to focus more on the care of vulnerable patients with multimorbidity.

**Aim:** To study the organization of follow up visits for chronic disease in general practice we made a simple quality study using the PDSA-method. We used diabetes type 2 as model disease for our study.

We are a quality cluster of 39 GP's (19 clinics) in the southwest part of Copenhagen. The group of GP's were not familiar with quality projects.

The two quality indicators were 1) number of DM2 patients seen to follow up visits in 15 months 2) Number of DM2 patients seen in hospital/GP clinic.

The intervention was to discuss methods of organization of diabetes control in general practice on the background of the results of the first collection of data.

In 2018 1617 patients from the 19 clinics were included in the study. At the beginning of the study 83% of the patients had been seen in the clinics to follow up controls in. After implementation of the methods found by the experiences from clinics with high follow up percent the results after 8 months was that 95% of the patients has been seen to a follow up visit.

In the beginning of the study 81% of the patients were followed in general practice at the end of the study (2020) 83% were followed in general practice.

## Patient segmentation with the Navigator, and description of self-acting patients' group

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### Background

The aim of patient segmentation is to recognize groups of patients with similar needs in health care, to tailor and target appropriate services for each group, to reduce health care costs, and to promote equity and patient centeredness. The Navigator is a digital, non-profit patient segmentation service developed in Finland. The service segregates patients into four groups, that have separate care pathways. Self-acting patients' are presumed to manage in everyday life, and patients' health state and care to be simple. Their care pathway contains digital services e.g., in contacting health care or as remote appointments. However, we do not know how the Navigator segregates patients into different groups, and what kinds of patients inhabit the self-acting patients group. The aim of this study is to describe the characters of self-acting patients.

### Methods

Diabetic patients (n=304) and nurses used the Navigator at nurses' appointments at health center. We used self-generated questionnaire to study patients' chronic conditions and medication, and questionnaires of self-reported health, generic health status measure EQ-5D, general well-being questionnaire WBQ-12, and disability assessment schedule WHODAS 2.0. We analyzed responses to Navigator's question 'Do you know how to use electronic services?'. Additionally, we collected patients' diabetes-care values (HbA1c, albumin-creatinine, low-density lipoprotein, blood pressure, BMI, and smoking status).

### Results

Navigator segregated patients into four groups as follows: 259 (85,2%) into the self-acting group, 34 (11,2 %) into the co-operating group, 6 (2 %) into the community group and 5 (1,6 %) into the network group. The self-acting group's patients' descriptive analysis is ongoing, and the results will be presented in the congress

### Conclusions

In this study, the Navigator segregates most patients into the self-acting group. The further results of these patients' quality and their digital skills generates knowledge of self-acting patients' group and may help in care pathway planning.

## Patients' expectations of treatment of sequela after cancer in primary care: an interview study

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### BACKGROUND

The treatment of most cancer types has improved, which has led to an increased prevalence of cancer survivors in all age-groups. In Denmark, approximately 40,000 patients are diagnosed with cancer per year. 60% of these are expected to be alive after five years. Consequently, patients are living longer after a cancer diagnosis. More than 300,000 patients live with cancer in Denmark and about 50% experience sequela caused by either the disease or the treatment of cancer. Therefore, physiotherapists in primary care meet an increasing number of these patients referred by the general practitioner. Currently, patients' expectations with their treatment of sequela are limited. The aim is to explore expectations when referred general practice to physiotherapeutic treatment of sequela after cancer.

### Methods

Participants were recruited through The Danish Cancer Society and a private physiotherapy clinic. Individual semi-structured interviews were carried out using Microsoft Teams based on an interview guide that was piloted before the interviews. Interviews were audio recorded and transcribed verbatim. The data was analyzed using Malterud's principles of systematic text condensation and coded in NVivo 12.

### Results

We conducted 10 interviews with a duration between 40-60 Minutes. Four main themes emerged: (1) Importance of the physiotherapist's approach, (2) The benefits of meeting patients with similar symptoms, (3) Importance of receiving knowledge, and (4) Patients seek to maintain their current state more often than aiming for improving their condition.

### Conclusions

Patients seek information about sequela after cancer by all health professionals in primary care. They expect support to maintain their current condition and prefer to meet others with similar symptoms.

## Clinical staff involvement in the management of low back pain in Danish general practice: interview study

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<sup>5</sup>*Department of Clinical Medicine, Aalborg University, Aalborg, Denmark*

### BACKGROUND

Involving clinical staff members in providing information and education to patients with low back pain (LBP) may improve care in general practice, particularly where patients are expected to be encouraged to stay active and limit sick leave. To help reduce the general practice workload with LBP, policy makers are requesting a shift in the allocation of tasks within the wider clinical team. However, patients' acceptance of this shift is unknown. The aim is to explore patients' experiences and perceptions of including wider clinical staff members in the management of their LBP in general practice.

### METHODS

This is a semi-structured interview study in Danish general practice. Patients participating in a pilot study of task-delegation to clinical staff (other than General practitioners) will be recruited for in-depth interviews. We will use a phenomenological approach to guide the data collection and analysis to gain insight into the subjective experiences and perceptions of the patients treated via a new clinical model of care. The sample size will be guided by saturation.

### RESULTS

Five physiotherapists have been trained as general practice consultants and have conducted four out of five planned outreach visits to educate clinical staff members in the 'best-practice' management of LBP. The new model of care has been delivered to 10 out of 50 patients. Interviewing of 8 – 12 patients is planned from January 2021. We plan to present preliminary themes from the interviews at the congress.

### CONCLUSIONS

Knowledge of patients' experiences and perceptions of clinical staff involved in new LBP treatment roles is important to inform the future management of LBP in general practice, particularly in the context where clinical roles for wider general practice team are expanding.

## The organisational framework of GP practices: impact on depression care

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### Background

General practitioners (GPs) play a key role in treating patients with depression. However, knowledge is scarce on how the organisational framework of GP practices affects the care provided by GPs. We aimed to investigate associations between organisational factors and GP depression care.

### Methods

A nationwide registry-based cohort study comprising all residents aged >18 years with a new depression episode in general practice, 2009-2015. Exposures: GP practice location, GP practice list length, and duration of GP-patient relationship. Outcomes: talking therapy, antidepressant medication and sick leave provided by the GP during 12 months from diagnosis date. Associations between exposure and outcome were estimated using generalized linear models, adjusted for patient age, gender, education, and immigrant status.

### Results

The study population comprised 285 113 patients, mean age 43.5 years, 61.6% women. 52.5% of the patients received talking therapy, 34.1% medication and 54.4% were sick listed. Rural GP practice location was associated with fewer patients receiving talking therapy (relative risk (RR) = 0.68; 95% confidence interval (CI) = 0.64-0.73) and more patients being prescribed antidepressants (RR = 1.09; 95 % CI = 1.04-1.14) compared to urban practice location. Small GP practice list size was associated with more medication (RR = 1.08; 95% CI = 1.05-1.12) than large practice list size. Short-term GP-patient relationship was associated with talking therapy (RR = 1.20; 95% CI = 1.17-1.23) and medication (RR = 1.08; 95% CI = 1.04-1.12) being provided to more patients, and sick leave certification (RR = 0.88; 95% CI = 0.87-0.89) to fewer patients compared to long-term GP-patient relationship.

### Conclusion

Provision of GP depression care varied with organisational framework conditions. This may indicate unwarranted variation, and its reasons and clinical consequences need further investigation.

### Key words:

Depression, health care services research, antidepressant medication, talking therapy, general practice.

## Persistent Physical Symptoms in Primary Care – Understanding and Coping

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### BACKGROUND

Patients with multiple and persisting physical symptoms (PPS) represent a major task for general practitioners (GPs), and GPs play a key role in the assessment, follow-up, and management of these conditions. Internationally, terms such as medically unexplained symptoms (MUS), bodily distress syndrome (BDS), and PPS are often used synonymously. Cross-sectional surveys in Danish general practice and of the general population estimate the prevalence of BDS among adults to be 17% and 15%, respectively. Patients with PPS have a high use of health care services, and consultations concerning PPS can be challenging for both patients and GPs.

The etiology of PPS is widely discussed and so are the treatment options. Overall, there is an urgent need for better understanding of PPS and for enhanced treatment to improve quality of life for the patients and reduce economic burden for the health care system and the society in general. Therefore, coping with symptoms seems to be an important factor for both patients and GPs. Furthermore, the GP's exploration of their patients' symptom explanations or beliefs is known to be important. However, there is very little research on how the patients' own explanations are made visible in the primary care consultations and how we can help GPs communicate helpful strategies.

### AIM

We will present new Nordic research on patients' coping strategies in relation to PPS, how GPs and patients discuss the patients' own explanations of their symptoms, and finally provide insight into the iterative development of a new internet-based treatment programme including current explanations.

### PROGRAMME

1. Isabella Raasthøj: What characterizes individuals with BDS with regard to coping strategies?
2. Ingjerd Jøssang: How are patients' own explanations for their medically unexplained symptoms thematized in GP consultations? A video analysis.
3. Marianne Rosendal: "My Symptoms" – assisting patients and GPs when symptoms persist.

## Ovarian cancer patients in Denmark - Use of primary healthcare and investigations before diagnosis

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### Background

Women with ovarian cancer (OC) in Denmark have a poor prognosis due to advanced disease at the time of diagnosis. Six in ten OC-patients present vague and unspecific symptoms, which along with low incidence complicates the general practitioner's (GP's) symptom interpretation. When symptoms mirror benign disease and referral in a Cancer Patient Pathway is not considered, the diagnostic interval is prolonged. We aim to establish knowledge of the diagnostic pathway for women with OC in Denmark and thereby strive to identify factors that prolongs the time to diagnosis. Specifically, we aim to compare consultation rates in primary care and rates of visits at hospitals including investigations among women with OC compared to non-cancerous women in Denmark.

### Methods

This study is an observational cohort study based on data from Danish nationwide registries linked at the individual level. The study population are all women with a first-time OC or borderline ovarian tumour diagnosis registered in the Danish Cancer Registry or the Danish Gynecological Cancer Database from 2012-2018 aged  $\geq 40$  years ( $n \approx 4,000$ ). Using density sampling, 10 age-matched non-cancerous women will be identified in the Civil Registration System ( $n \approx 40,000$ ). Incidence rate ratios comparing healthcare use of women with and without OC a year prior to diagnosis, and odds ratios of having more consultations than the average for women with OC, will be calculated.

### Results

Data is in process and we expect to have the analyses ready for spring 2022. Results will be presented at the conference.

### Conclusion

This study will contribute to a better understanding of the diagnostic pathway for OC-patients in Denmark. We may find a window of opportunity for more timely diagnosis and thus reveal key elements to change.

## Usefulness of rapid antigen detection test for group A streptococcus in patients recently treated for pharyngotonsillitis

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### Background

Confirming the presence of group A streptococci (GAS) before antibiotic treatment can reduce antibiotic prescription for pharyngotonsillitis. It has been proposed that rapid antigen detection test (RADT) for group A streptococci after recent penicillin V treatment may be falsely positive due to persisting antigen from non-viable bacteria. The aim of this study was to compare rapid antigen detection test (RADT) and throat culture for group A streptococci (GAS) among patients recently treated with penicillin V for GAS pharyngotonsillitis.

### Methods

The study was a secondary analysis within a randomized controlled trial comparing 5 versus 10 days of penicillin V for pharyngotonsillitis with confirmed presence of GAS. We included 316 patients  $\geq 6$  years of age at 17 primary health care centres in Sweden. The included patients had 3-4 Centor criteria, a positive RADT and a positive throat culture for GAS at the inclusion and also having a RADT and a throat culture for GAS taken at a follow-up visit within 21 days.

### Results

Negative RADT with positive throat culture for GAS was rare at follow-up. We found 27/316 patients with positive RADT and negative culture for GAS. Log rank test did not reveal any difference in the decline over time of positive tests between RADT and throat culture ( $p=0.24$ ). Agreement between RADT and throat culture for GAS at the follow-up visit was not associated with treatment duration, number of days from inclusion, throat symptoms at follow-up, gender or age.

### Conclusion

There was no significant difference between the results of RADT and conventional throat culture for GAS at follow-up within 21 days from start of penicillin V treatment for GAS pharyngotonsillitis. RADT for GAS means a low risk for missing presence of GAS and is useful for assessment of sore throat also after recent penicillin V treatment.



## Effects of Penicillin V on the faecal microbiota in patients with pharyngotonsillitis – an observational study

**GP, PhD student Karin Rystedt<sup>1,2,3</sup>**, Microbiologist Petra Edquist<sup>4</sup>, Physician Christian G. Giske<sup>5</sup>, GP Katarina Hedin<sup>6</sup>, GP Mia Tyrstrup<sup>6</sup>, Pharmacist Gunilla Skoog Ståhlgren<sup>7</sup>, Microbiologist Charlotta Edlund<sup>7</sup>, GP Ronny Gunnarsson<sup>1</sup>, GP Pär-Daniel Sundvall<sup>1</sup>

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### Background

Increasing antimicrobial resistance is a growing threat to human health and a consequence of the widespread use of antimicrobial agents. The commensal intestinal microbiota may function as a reservoir of antibiotic resistance genes. The earlier studies on penicillin V treatment have not explored alterations in antimicrobial resistance within the microbiota. The objective of this study was to evaluate penicillin V effects on the faecal microbiota with focus on beta-lactam resistance.

### Methods

We included 29 primary care patients treated for group A streptococcal pharyngotonsillitis with penicillin V for either 5 days (800 mg x 4) or 10 days (1000 mg x 3). The patients contributed with 3 faecal swab samples each. The samples were collected at the start of penicillin V treatment, after the last dose and at follow-up 7-9 days after completed treatment. All samples were inoculated semi-quantitatively on selective screening chromogenic agar plates, to study beta-lactam resistance, species shifts among Enterobacterales and enterococci, colonisation with *Candida* spp. and *Clostridoides difficile*. Representative colonies were identified using MALDI-TOF. Results were analysed by non-parametric statistical methods.

### Results

An increase in the number of patients colonised with ampicillin-resistant Enterobacterales ( $p=0.007$ ) and Enterobacterales with decreased susceptibility to third generation cephalosporins ( $p = 0.034$ ) was seen between the first and second samples. At follow-up, the increase from baseline was no longer significant. New colonisation with non-Enterobacterales species was observed and persisted at follow-up. No differences were identified between the two treatment groups.

### Conclusions

Decreased susceptibility to ampicillin and third generation cephalosporins, and prolonged colonisation with Gram-negative potential pathogens challenges the perception of penicillin V as an ecologically safe agent. Although penicillin V is still a preferable antibiotic in many situations, these results indicate that the use should be restricted.

## General practitioners' perceptions of the medical relevance of patients' adverse life stories

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Technology (NTNU) , Trondheim, Norway

**Background:** It is well documented that adverse life experiences increase the risk of health problems. Little is known, however, about General Practitioners' (GP's) reflections related to eliciting, including, or excluding their patients' stories of painful and adverse life experiences.

**Objective:** To explore GPs' perceptions of the medical relevance of patients' stories of painful and adverse life experiences.

**Method:** Qualitative study; 18 GPs participated in three focus group interviews. Reflexive thematic analysis was applied.

**Results:** Our analysis revealed two main stances regarding the medical relevance of patients' stories of painful and adverse experiences. The first position was characterized by explicit acknowledgement of the medical relevance of such stories. We term this the 'confident-accepting stance'. GPs taking this stance were few but present in all three focus groups, and typically had long clinical experience. The majority of the participating GPs, both novel and experienced, took the second position which we called an ambivalent and conditional stance to addressing patients' stories of painful and adverse experiences. These GPs expressed concerns related to questions regarding the medical relevance of such stories, as well as to whether GPs should address them at all. Concerns related to causal relevance were implicit in many of the arguments in the ambivalent group.

**Conclusions:** We posit that the GPs' differing stances in relation to stories of adversity are associated with indefinite and competing understandings of causality within medicine. Contemporary medicine is characterized by tension between differing understandings of evidence and causality. Evidence-Based Medicine and Person-Centred Healthcare represent two different perspectives on reality, i.e. diverging ontologies. The EBM is founded on empiricism and abstractions, favouring observable, group-based data, predictability, and a regularity theory of causation. In contrast, Person-Centred Healthcare emphasises complex and context-dependent, individual pathways – like patients' stories- based on a theory of causal dispositionalism.

## Covid-19 in Scandinavian primary care

Professor Guri Rørtveit<sup>1</sup>, Postdoc Guro H. Fossum<sup>3</sup>, Researcher Jonas Dale<sup>2</sup>, Researcher Tone Morken<sup>2</sup>, Researcher Valborg Baste<sup>2</sup>, Researcher Knut Erik Emberland<sup>1</sup>, Silje Rebekka Heltveit-Olsen<sup>3</sup>

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### Background

General practitioners (GPs), leaders of out-of-hours (OOH) services, and municipal chief medical officers are essential contributors to infection prevention and control. In this symposium we will explore health service organization, risk factors for severe disease and experiences of health personnel from a primary care perspective, and we will compare experiences from Norway and Sweden.

### Methods

We present studies with different methodologic approaches to discuss the different aspects of the Covid-19 pandemic in Scandinavian primary care. The COVIDNOR study includes an online survey recruiting patients with Covid-19 in the community as well as people in quarantine. Also, a longitudinal qualitative interview study was conducted, including GPs, leaders of OOH services, municipal chief medical officers and other municipal health care leaders in Norway and Sweden. The CONOPRI study includes questionnaire data about management strategies from OOH services in Norway and other European countries, as well as data from several Norwegian registries in the period 2018-2021.

### Results

The symposium will comprise four short presentations, with subsequent discussion:

1. Symptoms and worries among covid-19 affected patients in primary health care - results of a nationwide online survey in Norway.
2. Patient trajectories in the primary care setting for patients with Covid-19 in Norway the first months after diagnosis
3. Risk of severe Covid-19 among individuals with preexisting thrombogenic disposition in the general population of Norway
4. The experience and views on local and national response to the covid-19 pandemic among municipal health care leaders in Norway and Sweden.

### Conclusions

Studies from primary care is essential to analyze the broad spectrum of symptoms and risk factors for severe outcomes of Covid-19. Comparison between Norway and Sweden is pertinent due to the different public health approaches in these two, otherwise similar, countries.

## General Practitioners and General Practice Staff as Agents for Health Equity

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### Background

Despite increasing awareness among decision-makers and researchers, health inequalities are rising in the Nordic countries. Much attention has been paid to individual-level characteristics, lifestyle and life trajectories in identifying and explaining disparities, and interventions are most often individual-oriented; e.g. focused on improving health behaviours, health literacy or individual competencies. However, individual factors are seldom the root cause for health inequalities, and acknowledging the importance of diversified care and the role of healthcare systems and providers seems pivotal if interventions and research are to improve and promote equitable health care.

### Aim

The four research units of general practice in Denmark has formed a national research network on health inequity. With this workshop, we seek to broaden the network to include our international research colleagues and general practitioners from all the Nordic Countries. Thus we hope to learn from each other and share experiences of working to promote equity in health in the context of Nordic welfare states.

### Methods

The workshop will consist of brief presentations introducing structural and relational lenses on how general practitioners may act as agents for improving health equity, and we will discuss the role of interventional research in facilitating equitable treatment in general practice. Presentations are followed by plenum discussions.

### Timetable

Introduction (5 min) Patient-provider interaction (10 min), Patient perspectives (10 min), GPs perspective (10 min) Plenum discussion (30min) Interventions in general practice and the potential for promoting equitable health care (10 min) Plenum discussion: next step? (25 min)

### Conclusions

The workshop will form the base for a Nordic network on research and interventions on reducing health inequities. Also, it will work towards a shared understanding of health equity challenges from a general practice perspective, and thus point to how future research and development of clinical practices may engage with structural issues that influence social inequity.

## Disparities in prevalence of heart failure according to age, multimorbidity level and socioeconomic status in Southern Sweden: a cross-sectional study

Medical Doctor Mia Scholten<sup>1</sup>

<sup>1</sup>Lund University, , Sweden

### Background

Heart failure is a chronic condition, with is difficult to cure. About 26 million suffer from heart failure, which constitutes the fastest growing cardiovascular disease globally. An early diagnosis is important to start the treatment, improve their quality of life and prognosis.

### Methods

The study population was the population living in southern Sweden in 2015 with around 1 million inhabitants. Heart failure was diagnosed according to the ESC guidelines (European society of cardiology). We define multimorbidity as two chronic diseases or more in the same individual. We used the term CNI (Care Need Index), to share the study population into 10 different groups of socioeconomic affiliation. We analysed the prevalence of heart failure in relation to age, gender and multimorbidity in all CNI groups with logistic regression.

### Results

The prevalence of heart failure was around 2% in the study population, but much higher among elderly over 60 years. The most socioeconomic deprived group had approximately twice the prevalence of heart failure between 40-80 years compared to the most socioeconomic affluent group. Only 1/3 of the most socioeconomic deprived group was over 50 years, which was lowest compared the more affluent groups. About 38% of the study population had multimorbidity, included 5% with heart failure. 99% of the patients with heart failure had multimorbidity. Men had higher prevalence of heart failure in all age groups compared to women. The difference in prevalence of heart failure was more obvious in women than men between the most socioeconomic affluent and deprived groups.

### Conclusion

The prevalence of heart failure is strongly associated with multimorbidity. Socioeconomic deprivation is an independent risk factor for heart failure, especially in women. Patients with heart failure is a small group of the multimorbid population, which probably impair the prognosis of the affecte



## Weak opioid and benzo/Z-drug use associated with all-cause mortality

**Professor Em Jóhann Agust Sigurðsson<sup>1,2</sup>**, Pharmacist Heidrun Sjöfn Thorsteinsdóttir<sup>3</sup>, Research pharmacist Kristjan Linnet<sup>3</sup>, Professor Emil Larus Sigurdsson<sup>1,4</sup>, Associate professor Larus Steinthor Guðmundsson<sup>3</sup>  
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**Introduction:** The risk of mortality associated with the co-prescribing of benzodiazepines and opioids has been explored in a number of papers mainly focusing on strong opioids. The mortality risk associated with the use of weak opioids has not been dealt with to a similar extent.

**Objective:** To assess the mortality risk in primary care patients with consistent three-year co-prescribing of benzodiazepines/Z-drugs (benzodiazepine receptor modulators) and mainly weak opioids.

**Methods:** Of 221,804 patients contacting the primary healthcare centres, 124,436 were selected for further analysis, 88,832 participants fulfilled the inclusion criteria, aged 10-69 years, divided into 4 groups with neither any use of benzodiazepines/Z-drugs nor opioids as Group 1, three years' use of opioids and no/minimal benzodiazepines/Z-drugs as Group 2, with benzodiazepines/Z-drugs and no/minimal opioids as Group 3, and finally, both benzodiazepines/Z-drugs and opioids as Group 4.

**Results:** Hazards ratios were calculated with the no-drug group as a reference, using Cox proportional hazards regression model adjusted for age, sex, number of chronic conditions and cancer patients excluded (n=87,314). Hazard ratios for mortality increased with increased dose and higher number of chronic conditions. In Group 3 it was 2.66 (95% CI 2.25-3.09) and in Group 4 it was 5.12 (95% CI 4.25-6.17).

**Conclusion:** Mortality increased in a dose-dependent manner in patients co-prescribed benzodiazepines/Z-drugs and either codeine or tramadol or both. An association between the number of chronic conditions and a rise in mortality was found. Long-term use of these drugs should preferably be avoided. Non-pharmacological therapy should be seriously considered instead of long-term use of benzodiazepines/Z-drugs, and deprescribing implemented for chronic users of these drugs. Benefit of codeine-paracetamol combinations should be critically weighed against paracetamol alone for long-term pain management.

## Core Values and Principles of Nordic General Practice/Family Medicine

Professor Em Jóhann Agust Sigurðsson<sup>1</sup>, professor Juha Auvinen<sup>1</sup>, GP Magnus Isacson<sup>1</sup>, GP Bolette Friderichsen<sup>1</sup>, GP Marte Kvittum Tangen<sup>1</sup>, Associate professor Margret Olafia Tomasdottir<sup>1</sup>, Director NFGP Louise Hørslev<sup>1</sup>, Secretary Sanne Bernard<sup>1</sup>

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WHO considers primary health care to be a cornerstone of sustainable health care systems. General Practice/Family Medicine is the key provider of primary health care.

WONCA Europe has defined General Practice/Family Medicine as both a clinical specialty and a discipline in its own right, with its own distinct curriculum and research base.

As an academic discipline, General Practice/Family Medicine is based on knowledge and methodology drawn from the Natural Sciences as well as the Humanities.

As committed leaders in the ongoing process of defining and implementing core values and principles, General Practitioners aim to:

- promote and protect the health and well-being of each individual patient while keeping in mind the needs of the general population;
- provide a frame of reference for our professional identity;
- provide a basis for continuing professional development, with curricula and training adapted to every educational level – undergraduate, post-graduate, and beyond;
- communicate our mandate and the principles of our work to patients, fellow healthcare workers, and the communities we serve.

1. We promote continuity of doctor-patient relationships as a central organising principle.
2. We provide timely diagnosis and avoid unnecessary tests and overtreatment. Disease prevention and health promotion are integrated into our daily activities.
3. We prioritise those whose needs for healthcare are greatest.
4. We practice person-centred medicine, emphasizing dialogue, context, and the best evidence available.
5. We remain committed to education, research, and quality development.
6. We recognise that social strain, deprivation, and traumatic experiences increase people's susceptibility to disease, and we speak out on relevant issues.
7. We collaborate across professions and disciplines while also taking care not to blur the lines of responsibility.

(Short version - from the Nordic Federation of General Practice. Scand J Prim Health Care 2020;38 (4):367-8).



## IBS after cryptosporidiosis – validation using in-depth questionnaires

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**Background.** In 2010, Östersund in mid-Sweden was hit by a water-borne outbreak of *Cryptosporidium hominis*. 27,000 inhabitants (45% of the population) reported symptom of cryptosporidiosis. With shorter questionnaires, to improve response rate, we have shown increased prevalence of IBS-like symptoms in cases persisting up to five years after the outbreak. At the 2-years survey we aimed at confirming our findings with an IBS-specific validated questionnaire.

**Methods.** In 2011 two months after the outbreak, a questionnaire was distributed to a random sample of 1524 inhabitants in Östersund. Respondents with new episodes lasting >3 days with >3 loose stools/day and/or watery diarrhoea were defined as cases. In a follow-up questionnaire 2013 (response rate 67%) respondents were asked if they were willing to also answer a detailed questionnaire using an adapted version of the Gastrointestinal Symptom Rating Scale (GSRS), an IBS-specific symptom questionnaire.

**Results.** Fifty cases and sixty non-cases completed the GSRS questionnaire. Outbreak cases reported a median GSRS score of 16.5 (IQR 0-19) vs. 3 (IQR 0-12,5) for non-cases ( $p > 0.001$ ). They also experienced more symptoms of gastrointestinal discomfort, such as abdominal pain ( $p < 0.001$ ), bloating ( $p < 0.001$ ), diarrhoea ( $p < 0.01$ ), and dyspepsia ( $p < 0.05$ ) than non-cases. Outbreak cases also reported higher rates of fatigue symptoms ( $p < 0.05$ ) and higher levels of anxiety, although female sex was found to be a confounding factor.

**Conclusions.** The findings using the adapted GSRS questionnaire fully support the results of the shorter questionnaire used in the post-outbreak surveys. It also supports the potential linkage between cryptosporidiosis and persisting IBS-like symptoms.

## Outbreak of *Cryptosporidium hominis* in northern Sweden: persisting symptoms in a five-year follow-up

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### Background

In 2010-2011, a waterborne outbreak of the parasite, *Cryptosporidium hominis*, affected the city of Östersund, Sweden. Approximately 27,000 (45%) inhabitants reported infectious symptoms at the time of the outbreak. Previous findings had suggested that post-infectious symptoms, such as gastrointestinal symptoms and joint pain, can persist for up to two years after the initial infection. Here, we investigated whether the parasite could cause sequelae in infected individuals for up to five years after the outbreak.

### Methods

This is a prospective cohort study. In the winter of 2011, we sent a postal questionnaire to a randomly selected cohort of individuals residing in Östersund at the time of the outbreak. In 2016, we sent a follow-up questionnaire to the responders of the first questionnaire, with items on whether they experienced a list of symptoms. Our main outcome was whether outbreak cases were more likely than non-cases to report post-infectious symptoms five years later. Respondents that in the outbreak questionnaire reported a prior diagnosis of inflammatory bowel disease, irritable bowel syndrome or other long-term bowel issues were excluded. Data was analysed using logistic regression and we calculated odds ratios with 95% confidence intervals.

### Results

The study included 626 individuals. Of these, 262 (41.9%) individuals were defined as cases and 364 (58.1%) as non-cases. Five years after the outbreak, 56.5% of cases and 41.2% of non-cases reported symptoms during the follow-up period. Compared to non-cases, cases were more likely to report watery diarrhoea, diarrhoea, swollen joints, abdominal pain, bloating, joint discomfort, acid indigestion, alternating bowel habits, joint pain, ocular pain, nausea, and fatigue at the follow-up, after adjusting for age and sex.

### Conclusion

Post-infectious symptoms after cryptosporidiosis can persist for up to 5 years after the infection.

## Learning conditions and practices for adults learning professional Swedish – Course development of supplementary education for doctors with a foreign degree

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The last decade many doctors migrated to OECD countries. In Sweden doctors with degrees from countries outside EU/EES and Switzerland can apply for a doctor's ID in two ways; with approved complete "Knowledge test" or after a supplementary education for doctors with a foreign degree (KUL) completed by a position as house-officer. KUL was initiated in 2009, on behalf of the Ministry of Education and the Ministry of Health and Social Affairs.

Being professional presupposes good language tools for patient communication and interaction, such as taking a distinct anamnesis in person/on the phone/through a weblink as well as reading skills. The linguistic requirements are part of the professional practice. KUL, as other academic studies, requires passed courses in Swedish at upper secondary level. However, the curricula targets youth and not adults.

To find out how professional learning of Swedish was experienced, eight focus groups were performed, transcribed and verbatim. They focused on personal narratives, framing of the practices, barriers, and enablers in relation to their professional medical skills. Thematic analysis was applied from the notions of community of practice, and legitimate peripheral participation in learning practices across time and space.

The results indicate that the roadmap for learning is diversified with difficult barriers. There was success on progress but also frustration about how they, as academics, experienced shortcomings in their diverse instructed language learning practices.

The results will be applied in a revised KUL-course, prolonged with a professional language term including medical care practice in continued collaboration with the department of Swedish. This contributes to development of methodology for medical education professionals.

The aim of this presentation is to present some of the main results and to initiate comparison on practices for learning professional languages in the other Nordic countries for doctors born abroad just as the KUL-students.

## Supporting Primary Care Professionals to Stay in Work During the COVID-19 Pandemic: Viewing Personal Risk and Access to Testing During the First Wave in Europe.

**MD And Phd Ingmarie Skoglund<sup>1,2</sup>**, Marta Wanat<sup>3</sup>, Melanie Hoste<sup>4,5</sup>, Nina Gobat<sup>3</sup>, Marilena Anastasaki<sup>6</sup>, Femke Böhmer<sup>7</sup>, Slawomir Chlabicz<sup>8</sup>, Annelies Colliers<sup>4</sup>, Karen Farrell<sup>9</sup>, Maria-Nefeli Karkana<sup>6</sup>, John Kinsman<sup>10</sup>, Christos Lionis<sup>6</sup>, Ludmila Marcinowicz<sup>11</sup>, Katrin Reinhardt<sup>7</sup>, Pär-Daniel Sundvall<sup>1,2</sup>, Akke Vellinga<sup>9,12</sup>, Herman Goosens<sup>5,13</sup>, Christopher C Butler<sup>3,14</sup>, Alike van der Velden<sup>15</sup>, Sibyl Antierens<sup>4</sup>, Sara Tonkin-Crine<sup>3,14</sup>

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**Background:** Minimising primary care professionals' (PCPs) risk of SARS-CoV-2 infection is crucial to ensure their safety as well as functioning health care system. PCPs' perspectives on the support they needed in the early stages of a public health crisis can inform future preparedness. **Aim:** To understand PCPs' experiences of providing care during the COVID-19 pandemic, with focus on personal risk from COVID-19 and testing.

**Design and Setting:** Qualitative study using semi-structured interviews with PCPs in England, Belgium, the Netherlands, Ireland, Germany, Poland, Greece and Sweden, between April and July 2020. **Method:**

Interviews were analysed using a combination of inductive and deductive thematic analysis techniques.

**Results:** Eighty interviews were conducted, showing that PCPs tried to make sense of their risk of both contracting and severity of COVID-19 by assessing individual risk factors and perceived effectiveness of Personal Protective Equipment (PPE). They had limited access to PPE yet continued providing care as their "duty." Some PCPs felt that they were put in high-risk situations when patients or colleagues were not flagging symptoms of COVID-19. Not having access to testing in the initial stages of the pandemic was somewhat accepted but when available, was valued. **Conclusion:** Access to adequate PPE and testing, as well as training for staff and education for patients about the importance of ensuring staff safety is crucial. Given PCPs' varied response in how they appraised personal risk and their tolerance for working, PCPs may benefit from the autonomy in deciding how they want to work during health emergencies.

**Keywords:** healthcare profession; patient-centred care; primary care/general practice; qualitative analysis; remote; setting of care

## Patient experiences from the COVID-19 pandemic regarding health care seeking, self-care, concern for disease, and delayed diagnosis and treatment; a cross-sectional study in general practice

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### Background:

The COVID-19 pandemic and the government's handling led to several important changes in general practitioners (GP) organization of the clinical activities from March 2020.

Many GPs have had fewer physical consultations and of shorter duration. The consultations have been partially replaced by electronic consultations, telephone consultations and video consultations. A large proportion of patients with fever and respiratory symptoms have been referred to special respiratory clinics.

Different infection control rules and degree of closure in different municipalities may have led to changed health care seeking. Many GPs have noticed fewer patients during periods of closure and more patients again when the society reopened.

In this study, we wanted to investigate how patients seeking Norwegian GP offices have experienced changes in doctor-seeking behaviour for themselves or their children and any changes in the type and degree of self-care. Furthermore, we wanted to investigate the extent to which patients have experienced a delayed diagnosis or treatment because of the pandemic. In addition, we examine the experiences patients have had with digital consultation types.

### Methods:

A cross-sectional study where medical students distributed questionnaires in the waiting room at GP offices the autumn of 2021. Participants responded anonymously either on the paper form or on a web form. The study was approved by the data protection officer and the Norwegian centre for research Data (NSD).

### Results:

56 students reported that 1012 invitations were distributed. We have received over 600 responses in total. Preliminary results indicate that the GPs' availability was experienced almost as before the pandemic. Many people had not tried digital consultations, but those who had, was positive or thought it could be used as an alternative from time to time. Further results from the study will be presented at the conference.

## Antibiotic treatment of adult patients with respiratory tract infections in Norwegian general practice: A nationwide registry-based study

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**Background:** Excessive consumption of antibiotics is a main driver of antimicrobial resistance. Respiratory tract infections (RTI) account for around 50 % of antibiotic prescriptions in Norwegian general practice. To better understand and improve antibiotic use in Norway, this study aimed to analyse the number of RTI episodes treated by Norwegian general practitioners and the corresponding antibiotic prescribing during the period 2012-2019.

**Methods:** Observational study linking data from the nationwide health registers of Norwegian prescriptions dataset (NorPD) and the Norwegian Control and Payment for Health Reimbursement (KUHR). All patients aged 18 years or older with an RTI diagnosis recorded in general practice were included. We calculated yearly rates of diagnosis-specific RTI episodes and corresponding antibiotic prescription rates, and assessed antibiotic classes prescribed for the different RTI conditions.

**Results:** During 2012-2019, 2,931,421 patients (58% female, mean age 45.5 years; SD 19.5) encountered a GP once or more for RTIs, resulting in 9,181,118 RTI episodes. RTI episodes per 1,000 adult inhabitants decreased from 311.1 (95% CI 310.6-311.6) in 2012 to 276.5 (95% CI 276.1-276.9) in 2019. Antibiotic prescription rates decreased from 36.8% (95% CI 36.7-36.9%) in 2012 to 23.3% (95% CI 23.2-23.3%) in 2019. The reduction in prescribing was largest for acute bronchitis, sinusitis and upper RTI. Prescriptions with phenoxymethylpenicillin decreased from 178,730 in 2012 to 143,087 in 2019, but increased as a proportion of total antibiotic prescriptions from 40.3% (95% CI 40.1-40.4%) in 2012 to 52.8% (95% CI 52.6-53.0%) in 2019.

**Conclusions:** We demonstrate a decrease in RTI episode rates and antibiotic prescription rates for adult patients in Norwegian general practice in the period 2012-2019. We also observed a shift towards greater use of phenoxymethylpenicillin relative to broad-spectrum antibiotics. Although there is still potential for improvement, the observed changes are in line with the aim of the national strategies for antibiotic stewardship.

## Our Core Values and Principles – Actions to be taken

**Associate Professor Anna Stavdal<sup>2</sup>**, Professor Em Jóhann Agust Sigurðsson<sup>1</sup>, professor Juha Auvinen<sup>1</sup>, GP Magnus Isacson<sup>1</sup>, GP Bolette Friderichsen<sup>1</sup>, GP Marte Kvittum Tangen<sup>1</sup>, Associate professor Margrét Olafía Tomasdóttir<sup>1</sup>, Director Louise Hørslev<sup>1</sup>, Secretary Sanne Bernard<sup>1</sup>

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### Introduction:

Are you a GP, clinical or academic teacher, chair, chief physician or stakeholder within the health care system? If so, continue reading:

In 2020 The Nordic colleges of general practice launched their agreement on the main core values and principles of Nordic general practice /Family Medicine ([https://www.nfgp.org/flx/nfgp/core\\_values/](https://www.nfgp.org/flx/nfgp/core_values/)). Our next steps are to continue with the awareness process, analyse and improve the evidence behind our values, with the aim to increase the quality of our clinical work. Family doctors work in different settings. In addition to the clinical setting many GPs also carry administrative, academic and teaching responsibilities. They may be involved in teams locally, regionally, nationally and sometimes globally. GPs have many opportunities to influence the development of healthcare in general and primary care in particular. This implies a professional responsibility for GPs to take the lead, putting values first.

### Aims:

To discuss which actions will be needed for each value in general and in their own country in particular.

### Methods:

After a short introduction, we will show a new video on seven Core Values and Principles of Nordic general practice with comments to each of them by representatives from the Nordic national colleges of general practice and WONCA World.

### Questions and topics to be discussed:

- Do we implement the charter on our core values in our medical schools and in our postgraduate teaching and professional development?
- How can we improve our clinical work according to the core value charter?
- Methods to improve advocacy.

### Conclusions and take-home message:

Plenary lectures and other professional contributions at this congress in Stavanger, directly and indirectly refer to our core values, stimulating us to “Jumping of and flying high”. Sharing a common set of core values and principles can mobilize us as advocates for both our discipline and our patients.

## Adolescent back pain in general practice – less favourable than expect: a cohort study with 1-year follow-up

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### Background

Adolescents as young as 8 years of age consult their general practitioner (GP) due to low back pain. These adolescents are characterized by pain complaints and worries about their back pain. The prognosis of adolescent patients with low back pain (LBP) is unknown. Our aim was to investigate changes in pain symptom during a full year among care-seeking adolescents.

### Methods

Adolescent patients between 8-19 years of age who consulted their GP for LBP were invited to answer a questionnaire on a tablet prior to their consultation. At the 1-year follow-up, participants answered a short questionnaire via e-mail. The primary outcome was worst pain during last week measured on a 100-millimeter visual analogue scale (VAS: 0 mm – no pain; 100 mm worst possible pain). Symptom worries was investigated with a single question “Are you worried about your back pain?” which were answered on a 0-10 scale (0 – not worried at all; 10 – very worried). Data from electronic patient journals will be collected to supplement the questionnaire data. Trial registration: [NCT04148144].

### Results

Sixty-nine GPs and GP trainees from 19 clinics aided during recruitment. COVID-19 hampered recruitment. From October 18th, 2019, to August 20th 2021, 13 adolescents (median age 14 and range 8-17) answered the baseline questionnaire (46% females). Currently, 1-year follow-up data is available for 9 adolescents and full analysis will be presented at the conference. Median VAS scores at baseline were 68mm (IQR 56-75) and improve to a median 25mm (IQR 22-50). Further, median levels of symptom worries at baseline and follow-up were 8 (IQR 6-8) and 4 (IQR 3-4) respectively.

### Conclusion

Adolescents consulting their GP with LBP have moderate to high levels of pain and symptom worries. Although diminished after one year, adolescents continue to experience low to moderate levels of pain and symptom worries.



## General practice - Does continuity save lives?

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### Introduction

Continuity in the physician-patient relationship is a core value in general practice(1). Various factors may cause decline in continuity(2). Studies have shown that continuity is associated with greater patient satisfaction(3), increased adherence to medication(4), increased use of preventive services(5), fewer hospital admissions and emergency room visits(6). We will investigate whether increased continuity in the doctor-patient relationship leads to reduced mortality among patients in general practice.

### Method

Systematic PubMed search included two systematic reviews from the years 2018 and 2020. For inclusion of subsequently published primary studies, supplemented with a broad search from July 2020, which included one study from the year 2021.

### Results

The two systematic reviews(7,8) analyze a total of 16 cohort and cross-sectional studies on general practice in 8 different countries with an overlap of 10/16 of the studies. 12/16 examines specific patient groups, 4/16 in general populations. 13/16 studies find significant association between increased continuity and lower mortality. In sick and/or elderly groups 10/11 finds significant association.

The large Norwegian study(9) finds that OR to die gradually decreases from 0.92(95% CI 0.86-0.98) after 2-3 years of continuity to 0.75(95% CI = 0.70-0.80) after >15 years

### Discussion

81% of the studies find statistically significant association, 91% among the elderly and sick, while none find the opposite effect. The evidence is strengthened by dose-response-relationship in a new cohort study. The studies are all observational and generally of high quality, however, this does not eliminate the risk of especially reverse-causality and publication bias. Due to differences between the studies, it was not possible to undertake meta-analysis. Future research should focus on which patient groups benefit from continuity. To strengthen the evidence for causal relationships clinical trials are desired(10). Evidence concurs that continuity of the physician-patient relationship in general practice can reduce mortality. Measures should be taken to increase continuity.

## Possibilities of remote consultations in general practice: the results of a survey among general practitioners in Estonia

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### Background

The provision of health care services at a distance has increased exponentially during the Covid-19 pandemic. How to evaluate a patient's condition during a remote appointment may pose a challenge to the physician. One way to perform this task is to use patient questionnaires.

The aim of this study was to analyze the experience of general practitioners (GP) with remote consultations in general practice.

### Methods

A web-based anonymous questionnaire was sent to the mailing list, which involved GPs (n=851). We asked physicians for their experience with remote consultations during the last six month period.

### Results

Altogether 130 GPs answered to the questionnaire. In their opinion, 35.6% of consultations in primary care could be conducted remotely. In most cases, the telephone and e-mail are used to contact patients at a distance, with the rates of use being 97.7% and 93.8%, respectively; while 20% of the respondents indicated that they had used video-consultations. Of the GPs 53.1% had encountered technical problems (e.g. poor Internet connection), which influenced remote appointments. Physicians with less than five years of experience reported statistically significantly more technical problems than their colleagues with more than five years of experience ( $p=0.004$ ). The GPs reported that they need about 11 minutes to collect information about complaints from each patient in order to understand their health problem. 67% of respondents stated that the use of a web-based patient questionnaire (e.g. symptom checker or digital anamnesis form) before the consultation could decrease their workload. 34.6% of the GPs mentioned that they prefer face-to-face consultations to remote ones.

### Conclusions

About one third of consultations in primary care could be solved at a distance. GPs expect the development of new digital solutions and up-to-date – as well as technically reliable – possibilities for remote consultations, which would facilitate clinical work.

## Interdisciplinary communication in general practice. Workshop on how to facilitate patient centered clinical meetings

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### Interdisciplinary patient centered communication in general practice

Information about patients is shared every day between GPs and other actors in the support system for patients. The communication is dominated by written exchanges, which tends to exclude patients and limit the ability to communicate the complexity of most clinical situations.

Direct dialogue between GPs and other actors that also include the patients, better enables communication. How do we ensure that interdisciplinary meetings becomes patient centered?

### Methodology

In this workshop, we will perform both live and virtual interaction-scenarios, with focus on how to perform an efficient, empathetic, and high-quality meeting between a patient, the GP and other relevant actors : health- workers, welfare consultant, employer, etc. We will discuss the set-up, the respective roles of different actors, and the communication skills needed to optimize the dynamics of such cooperation. A wide therapeutic potential is built when patients experience common validation and the shared collaboration of her family physician and other health care providers - the welfare state at its best. Conversely, if patients experience ignorance and rejection, the result can be «toxic» - the welfare state gotten lost.

Our present digital “revolution” is a possible game- changer. The possibilities for clinical cooperation are enhanced.

### Objective:

The aim of this workshop is to gain new insights and concrete skills to facilitate health-promoting interdisciplinary meetings, both in-person and virtual. We will present our thinking on the topic and invite the participants to try out strategies together, through simulated settings. We will conduct the workshop co-creative and dialogue based.

### Conclusion:

Interdisciplinary meetings are important arenas for clinical communication. So far, we seem to lack an established quality-assured analysis of how to conduct meetings in an optimal way for the patients. We need to develop strategies to enable that such meetings become and remain patient-centered.

## Diagnosing Alzheimer's disease in primary care with plasma biomarkers: Effect of sample storage time and temperature on assay results. A Pilot Study.

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### Background

Novel plasma tests have high sensitivity and specificity at identifying Alzheimer's disease, making them a potential useful diagnostic tool in general practice (GP). With the awaited shift to disease-modifying treatment the early diagnostics of Alzheimer's disease is expected to become more important. Plasma samples need to be stored and transported from GP to a laboratory. We will assess whether plasma storage temperature and duration affect the result of the assays. This is a prerequisite for a pragmatic use of these tests in GP.

### Methods

Controlled experimental design. Patients showing signs of possible dementia will be recruited from GP. Primary Outcome: Changes in the measured level of plasma phosphorylated tau 181, phosphorylated tau 217, phosphorylated tau 231, glial fibrillary acidic protein,  $\beta$ -amyloid 42 to  $\beta$ -amyloid 40 ratio and neurofilament light as compared between baseline (frozen to  $-80^{\circ}\text{C}$  within two hours of plasma separation) and later freezing (4 hours, 6 hours, 8 hours, 10 hours and 24 hours after plasma separation) and compared between sample storage at  $+4^{\circ}\text{C}$  and room temperature prior to freezing.

### Results

Preliminary results are not yet available, but will be collected and analyzed starting february 2022, and presented at the NCGP 2022.

### Conclusions

Our study will allow us to conclude if these plasma biomarker tests have suitable preanalytical qualities for use in GP offices, or if centralized sampling is needed. In a main study we will then assess the positive and negative predictive value of these tests in a general practice patient population. This might lead to a paradigm shift in the diagnosis of Alzheimer's dementia, allowing the detection of Alzheimer pathologies in the brain at a possibly early stage in a general practice setting.

## Trajectories of Sickness Absence among Late-career Employees – Contribution of health behaviour and work arrangements

MD Johanna Suur-Uski<sup>1</sup>, PhD Olli Pietiläinen<sup>1</sup>, MD, PhD Aino Salonsalmi<sup>1</sup>, MD, PhD Johanna Pekkala<sup>1</sup>, MD Pi Fagerlund<sup>1</sup>, Prof, PhD Ossi Rahkonen<sup>1</sup>, Prof, PhD Tea Lallukka<sup>1</sup>

<sup>1</sup>*University Of Helsinki, Helsinki, Finland*

### Background:

There is a global need to prolong work careers. Employees in their later careers are less employed than their younger colleagues, however, the participation rate is rising. The increased employment rate of late-career employees might affect sickness absence rates. Thus, our aim was to identify the developmental trajectories of sickness absence among late-career employees and find possible factors maintaining good work ability.

### Methods:

We investigated the developmental trajectories of sickness absence among municipal late-career employees (50–60 years old, N=4959) of the City of Helsinki, Finland, using group-based trajectory modelling. The mean follow-up time was 8.9 years. The associations of age, gender, occupational class, marital status, health behaviour, work arrangements and work-family conflicts with trajectory membership were examined. Health behaviour included self-reported smoking, alcohol consumption, BMI, sleep, and physical activity. Odds ratios and their 95% confidence intervals were estimated.

### Results:

A three-trajectory model was selected. ‘No absences’-trajectory (5%) had annual sickness absence rate of 0 days. ‘High and increasing absences’-trajectory (28%) had a frequency of absence days around 30 days per year, and the trend was increasing during the study period. ‘Stable low absences’-trajectory (67%) had stable sickness absence frequency around 7 days per year. Multiple factors were associated with trajectory membership. Women and routine non-manual workers had a smaller likelihood, and those reporting no work-family conflicts higher likelihood of belonging to ‘No absences’-trajectory compared to ‘Stable low absences’. Women, smokers and overweight or obese participants had a higher likelihood of belonging to ‘High and increasing absences’-trajectory compared to ‘Stable low absences’. Semi-professionals, managers and professionals and those reporting no work-family conflicts smaller likelihood of belonging to ‘High and increasing absences’-trajectory.

### Discussion

Trajectories of sickness absence in late-career differ by occupational class and gender but also by health behaviour. Those with less sickness absence report less work-family conflicts.

## Can Exercise Referral Schemes and Self-management Strategies Reduce the Use of Analgesics and Health Care Services Among Older Adults? – A PhD Protocol

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### Background

Older adults with low physical activity levels have increased risk of lifestyle diseases such as type 2 diabetes and coronary heart disease leading to shorter life expectancy. Moreover, chronic pain conditions have been estimated to afflict over 60% of people aged 75+. Popular primary care-based interventions aiming to increase individual-level physical activity are exercise referral schemes (ERS) and self-management strategies (SMS), but their potential to reduce use of analgesics and health care services are not well known. This study aims to explore the effect of ERS and SMS on use of analgesics, health care services, and related costs to society in Denmark.

### Methods

Using data from two successfully completed randomised controlled trials, this project will include 698 older adults (The Welfare Innovation in Primary Prevention (WIPP), n=360 and the SITLESS-project: Exercise Referral Schemes Enhanced by Self-Management Strategies to Battle Sedentary Behaviour, n=338). Data from WIPP and SITLESS will be merged with data from the Danish registries.

### Results

We aim to estimate 1): potential differences in use of analgesics and 2): health care services among respondents randomised to either ERS or SMS. Health care services covers contacts to GP, admission days in hospital of all-causes, emergency department visits and home nursing help. 3): The ratio between the costs associated with the projects and the subsequent use of health care services, and the benefits assessed as quality-adjusted life years (QALYs).

### Conclusion

If Danish societal preferences favour maintaining the current level of service provision, it is important to estimate the additional costs due to the increased number of individuals with chronic conditions. In the context of evaluating interventions for increasing physical activity and function in older adults, it is important to consider the impact these will have on health care utilisation. This project will provide a comprehensive overview of such impacts.

## Religiosity and Health Behaviour - Is Social Network a Mediating Factor?

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**Background:** Several studies have argued that the positive association between religiosity and health (in particular health behaviour) may be mediated by the social factors that often are associated with religiosity. This study investigates if social network strength (in terms of size and social support) mediates the association between individual religiosity and health behaviour.

**Methods:** Data from the population-based Early Detection and Prevention (TOF-2) pilot study was used. TOF-2 was implemented in two Danish municipalities (Middelfart and Haderslev) and 29- to 60-year-old patients affiliated with 15 participating GPs were invited (n=6347). The participants filled in questionnaires concerning social network, religiosity, and health behaviours. Social network was treated as a continuous and binary variable (strong versus weak social network). Health behaviour was operationalised as diet and physical activity and dichotomised (sedentary versus active lifestyle and healthy versus unhealthy diet). Religiosity was categorised as: Low religious (0POC – no prayer, no church), Medium religious1 (0P1C – no prayer, yes church), Medium religious2 (1POC – yes prayer, no church), and High religious (1P1C – yes prayer, yes church).

**Results:** 1413 responses were included in the analyses. Women were more likely to be categorised as high religious opposite to men who were more likely to be categorised as low religious. In total 446 respondents were categorised as high religious. Across all levels of religiosity, most respondents reported being physically active and having a healthy diet. The study found positive associations between religiosity and health behaviour. No mediating effect of social network in the association between religiosity and health behaviour was detected.

**Conclusion:** To our knowledge, this study is the first to investigate whether social network mediates the association between individualised religiosity and health behaviour. While there were positive associations between religiosity and health behaviour, our analyses detected no mediating effect of social network.

## Recruitment and retention of doctors in rural Northern-Norway- a pilot study

Dr Anders Svensson<sup>1</sup>

<sup>1</sup>*Norwegian Centre For Rural Medicine, Tromsø, Norway*

### Recruitment and retention of doctors in rural Northern-Norway- a pilot study

#### Background:

Vesterålen is a rural region with five municipalities and a rural hospital. Despite several measures over many years, recruiting and retaining doctors remain challenging. In Norway the responsibility for specialized care lies with the state-owned regional health trusts, while the municipalities are responsible for primary care, including doctors in general practice. Vesterålen is now developing a joint strategy based on an evidence-based tool for implementing target interventions at a local level: Framework for Remote Rural Workforce Stability. The initial phase of the strategy is describing the current situation.

#### Methods:

In this descriptive study we collected data from a range of different sources to give an adequate overview of the medical services in the region, including national statistical databanks, scientific papers and reports, plans from the health trust and municipalities, surveys, workshops and focused individual interviews. Local data were compared with available national and regional data.

#### Results:

Preliminary results indicate that municipalities and the local hospital lack specialists and have few applicants to such positions. Compared to national and regional data the doctors are younger, most are in the beginning of their specialist education. Doctors in internship have been an important source of recruitment for both the hospital and municipalities. Unlike the hospital, the municipalities have recruited doctors with connection to the region. There are important local differences between the hospital departments and between the municipalities.

#### Conclusions:

This study confirms that local insight is important when planning and implementing measures for recruitment and retention and that national and regional data do not give sufficient information. This knowledge has implication for how the organizations could approach the challenge. Nevertheless, hospital and the municipalities share the same challenge and joint effort and collaboration can be fruitful.



## Disease awareness campaigns by the pharmaceutical industry: consequences for health care and society - the example of obesity marketing

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### Background

Obesity is a prevalent problem in most societies, a health hazard in its own right, a risk factor for many diseases and a common complicating factor for many patients in primary care. The worldwide prevalence of obesity has tripled since the 1970s, coinciding with cultural and societal changes leading to an obesogenic environment, notably the wide availability of “hyperpalatable” foods and to sedentary lifestyles.

Anti-obesity drugs have historically been marred by side-effects and limited weight loss. Recently, two drugs in the GLP-1 agonist class – liraglutide (Saxenda) and semaglutide (Wegovy) – have been approved for obesity. Their approval comes with a marketing campaign by Novo Nordisk (patent holder of Saxenda & Wegovy) directed at the public and health workers. This employs methods familiar from previous disease awareness campaigns and attempts to reshape society’s perception of obesity, arguably with the aim of achieving reimbursement status for S & W. The campaign’s wider implications for patients, health care and society are unknown.

### Aim and learning objectives

The workshop aims to describe and discuss disease awareness marketing in general, using the ongoing obesity campaign as an example. What are the key rhetorical statements in Novo Nordisk’s campaign, and how do these relate to the clinical evidence about obesity? What are the ethical dilemmas and potential consequences of the campaign’s messages? How shall Nordic GPs respond to this marketing?

### Methods and timetable

30 minutes presentation, inventory of participants’ experiences. 30 minutes discussion in break-out groups, authors as moderators. 30 minutes plenary, ways forward.

### Conclusions

The launch of these two drugs for obesity, and the accompanying marketing campaign aimed at reshaping the public and professional perception of obesity, have potentially widespread ramifications for society. Nordic GPs need to have a clear view of the situation and formulate a proactive stance.

## Heavy recreational use of nitrous oxide (N<sub>2</sub>O, laughing gas) in a young man led to myelopathy -- a case report

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### Background

The recreational use of nitrous oxide (N<sub>2</sub>O, laughing gas) is increasing among Swedish youth. While comparatively safe in small quantities, N<sub>2</sub>O has potentially deleterious neurological and haematological effects when used in large amounts, or in those predisposed to vitamin B12 deficiency. The neurological effects are sometimes irreversible. The main toxic effect of N<sub>2</sub>O is secondary to inactivation of B12.

### Methods

We describe a case of a young male who presented to his GP with bilateral numbness and stiffness of hands and lower limbs, as well as muscle weakness and poor balance. The patient was hospitalised and underwent a series of plasmapheresis treatments due to an initial suspicion of inflammatory myelitis. Further investigation gave evidence of cervical myelopathy deemed secondary to extensive use of N<sub>2</sub>O. Substitution therapy with B12 was initiated and the patient gradually recovered, but was later found to have relapsed into N<sub>2</sub>O use, as evidenced by pronounced hyperhomocysteinaemia.

### Results

The adverse effects of recreational N<sub>2</sub>O use are discussed, as well as potential pitfalls in diagnosis, such as the difficulty of eliciting the extent of N<sub>2</sub>O use from young patients and the falsely reassuring finding of a B12 within normal limits. The pros and cons of maintaining N<sub>2</sub>O's status as a legal drug (which is the case in Sweden) are discussed.

### Conclusions

N<sub>2</sub>O toxicity is an important differential diagnosis in unexplained neurological symptoms among young patients, particularly when presenting with sensory deficit and poor balance. In the reported case, the diagnosis was delayed in spite of the patient's early communication of a suspicion that he suffered side effects of N<sub>2</sub>O use. GPs need to be aware of the dangers of recreational N<sub>2</sub>O use and communicate this to their patients.

## Associations between smoking status, symptom interpretation and healthcare-seeking behavior among individuals with lung cancer symptoms - a population-based study

**MD, PhD Student Lisa Marie Sele Sætre<sup>1</sup>**, Associate Professor, PhD, MD Kirubakaran Balasubramaniam<sup>1</sup>, Associate professor, PhD, MD Sanne Rasmussen<sup>1</sup>, Professor, PhD, General Practitioner Jens Søndergaard<sup>1</sup>, Professor, PhD, General Practitioner Dorte Ejg Jarbøl<sup>1</sup>

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### Introduction:

To improve timely diagnosis of lung cancer, individuals with potential lung cancer symptoms must seek healthcare. Most individuals only contact their general practitioner (GP) when they experience their symptoms as considerable. Studies have shown that current smokers report more lung cancer symptoms but seek less healthcare than never smokers. This might be caused by variation in symptom interpretation due to e.g., neglect or normalization.

### Aim:

This population-based study aims to analyse the associations between smoking status, symptom interpretation and healthcare-seeking among individuals with lung cancer symptom. Symptom interpretation is represented by 1) the symptoms influence on daily activity and 2) symptom concern.

### Methods:

A population-based study comprising 100,000 adults randomly selected in the general population and invited to participate in a web-based survey. Items regarding lung cancer symptoms, influence on daily activity, symptom concern, healthcare-seeking and smoking status were included in the questionnaire.

### Results:

In total 49,706 individuals completed the questionnaire. In total 7870 (16%) reported at least one lung cancer symptom. Among current smokers 24% reported at least one lung cancer symptom and 31% had contacted their GP. Data is currently being analysed and results will be presented at the conference. The hypothesis is that the influence on daily activity is less among current smokers and that current smokers might be less concerned about the symptoms due to normalization, while former smokers might be more concerned due to high awareness of their risk of smoking related diseases such as lung cancer.

### Conclusion:

Knowledge about how current smokers interpret their lung cancer symptoms can be valuable to the GPs when communicating with patients about symptom awareness. This might enhance chances of smokers seeking healthcare with symptoms and improve the chances of timely diagnosis of lung cancer.

## 'Episodic relatedness' in socioeconomically disadvantaged families: Who to involve when advocating for an increased involvement of patients' relatives and network?

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**Background:** There is a strong association between social relationships and health. However, important gaps remain in our understanding of the mechanisms behind the associations as well as knowledge about how it is played out in everyday life. In the present study, we investigate this link by exploring social relationships within socioeconomically vulnerable young families with a multimorbid parent, and their extended networks.

**Methods:** Data were collected during a two-phased anthropological fieldwork study among six selected case families and their extended networks. Data were generated through repeated semi-structured and open-ended interviews, and participant observation.

**Results:** The study found that, for much of their lives, participants experienced life as a series of events that were out of their control. This way of being-in-the-world was linked to a consistent pattern of discontinued relationships, meaning that the participants' networks were unstable and of momentary importance.

**Conclusions:** There is a growing trend in health care systems worldwide to involve relatives and extended networks in a patient's care and treatment process. Our findings indicate challenges to an uncritical implementation of this approach and recommend health professionals to be curious toward a patient's network and relationships and to be aware that a patient's important relationships can change dramatically, and repeatedly, over short periods of time.

## Pregnant women's use of a GP-signposted online psychoeducational intervention.

Student Emil Rønn Sørensen<sup>1</sup>, Professor Philip Michael John Wilson<sup>2</sup>, Postdoc Gritt Overbeck<sup>1,2</sup>, Ph.d. Ida Scheel Rasmussen<sup>2</sup>

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### Background:

General practitioners in Denmark are responsible for several scheduled visits during pregnancy and the child's first five years, where they handle parental concerns and assess child development. Web-based interventions have become increasingly available in the health system and e-interventions that target specific mental conditions have shown good results. However, little is known of the effects of GP-signposted e-interventions that do not target specific mental conditions but aim to promote general mental well-being.

### Objective:

To describe participants' and general practice characteristics associated with the use of the e-health intervention, robustbarn.dk, and patterns of website usage over time.

### Materials/methods:

Clinicians in 35 general practices were introduced to robustbarn.dk in a one-day training course and trained to introduce the program during women's first antenatal assessment. Use of robustbarn.dk will be examined by conducting bivariate analyses of the association between measured variables and website usage followed by regression modelling. Multilevel modelling will examine the contribution of practices. Temporal patterns of website usage will be assessed at individual and practice level.

### Results:

At the time of abstract submission statistical analysis is in process, however, more comprehensive data will be ready for presentation in June. Currently, 381 women are included in the intervention group. Usage patterns have been characterized for about 90% of these women and the majority have accessed the website at least once.

### Conclusion:

This has been a rare opportunity to report pregnant women's/mothers' usage of a psychoeducational website signposted by general practitioners. This study will be able to draw conclusions about which patients are likely to access and benefit from similar resources in the future.

### Points for discussion:

What is the significance of general practitioners signposting patients to web-based resources? Are these resources applicable to the broader population?

## The role of general practice in care for young adults with depression who fall out of education and employment.

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**Introduction:** About seven per cent of young adults under the age of 30 in Norway are neither employed, nor in education nor in training; and such social problems among young persons overlap strongly with mental health challenges. GPs are expected to provide healthcare for common mental health problems, and to adapt their services to mitigate health disparities resulting from social inequalities. However little is known about how well Norwegian GPs are able to provide care for young adults where depression co-occurs with social challenges that involve fallout from school and education.

**Aim:** To explore how general practitioners provide care and coordinate services for young patients who are depressed and fall out of education and work.

**Material and methods:** The service provision for four young adults receiving multidisciplinary support for problems that included depression, fallout from school and work, was studied in-depth through qualitative interviews with each patient, the patient's GP, and either a social services representative or psychologist. The interviews were conducted face to face and structured around the topics of care coordination, collaboration and support. The interviews were audio-recorded, transcribed verbatim and anonymized.

**Results:** The GPs were strongly involved in care for the four patients in this study. There was a lack of communication and coordination between the GP, other health care providers and the social services. Contextual factors varied strongly, but in each case the GP knew little about other helpers' contributions and continuity of care was sometimes lacking. As a consequence, the help provided was sometimes poorly adapted to the patient's needs arising from their social situation.

**Conclusion:** For young adults with depression and fallout from school and work, their social and health trajectories are fundamentally interlinked. GP care needs to be integrated with other services and take the social situation of the patient into account.

## Multimorbidity and Depression in Midlife – Findings from Northern Finland Birth cohort 1966

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### Background

Multimorbidity is a major public health concern, and, therefore, an important issue from the point of view of primary health care. The definition of multimorbidity varies a lot in the earlier literature. In previous studies, multimorbidity seems be associated with increased levels of depression/depressive symptoms. However, the corresponding epidemiological studies are scarce including certain shortcomings. The aim of the present study was to evaluate the association between depressive symptoms and multimorbidity at the population level by defining multimorbidity in a more profound manner than in the corresponding earlier studies.

### Methods

Study population consists of Northern Finland Birth Cohort 1966 (n=5961). At the age of 46 years, the subjects answered Beck Depression Inventory-II (BDI-II). The cut-off point of  $\geq 14$  was used to define the presence of depressive symptoms. Number of chronic diseases was count using both self-reported doctor-diagnosed and register-based chronic diseases (hospital discharge and medication registers). Altogether 32 most common chronic diseases (shown in the presentation) were included.

### Results

In our study population (n=5961) 50.2%, 30.9%, 12.9%, 4.1%, 1.9% had none (healthy), one, two, three,  $\geq$ four chronic diseases, respectively. In whole study population, the proportion of those having depressive symptoms was 5.8% in healthy, and 8.5%, 12.9%, 19.2%, and 31.4% in subjects with one, two, three, and  $\geq$ four chronic diseases, respectively. Prevalence of depressive symptoms increased with increasing number of chronic diseases ( $p < 0.001$ ). When omitting psychosis, depression, and anxiety from the definition of chronic diseases, the corresponding figures were 9.7%, 13.8%, 21.5%, and 22.4% in subjects with one, two, three, and four or more chronic diseases, respectively.

### Conclusions

Prevalence of depressive symptoms was over 31% in those with four or more chronic diseases the definition including psychiatric disorders. Notably, the corresponding prevalence was over 21% in those with three or more chronic symptoms the definition excluding psychosis, depression, and anxiety.

## Does exposure to gestational diabetes cause obesity in pre-pubertal children?

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### Background

The development of overweight and obesity may start already before conception, and some ethnic minorities are more at risk.

In children aged 4-5 years from the Stork-Groruddalen cohort, we have previously reported striking ethnic differences in overweight. Maternal overweight more than doubled the children's risk of overweight. At birth and age 4-5 years, Body Mass Index (BMI) of children exposed to gestational diabetes was similar to those not exposed. However, they had slower BMI growth during first 6 months, and faster BMI growth from six months to 4-5 years. There is a knowledge gap concerning the effects of gestational diabetes on childhood growth into pre-pubertal age. Previous studies show diverging results.

Our aim is to explore the causal links between pre-pubertal childhood obesity and gestational diabetes, as well as other adverse and protecting factors in the early life environment, and ethnicity.

### Methods

In the population-based Stork Groruddalen cohort study, we have since 2008-2010 followed 823 women (59% with ethnic minority background) and their children from early pregnancy. We have a rich data set from pregnancy, postpartum-, and preschool periods. We are currently collecting new growth data from children's routine school health follow-ups in first and third grade. We will use descriptive- and logistic regression analyses to explore the prevalence of overweight and obesity. Through linear mixed effects models we will explore differences in BMI growth trajectories across age 0-9 years from longitudinal data.

### Results

By June 2022, we will present preliminary results on the prevalence of overweight/obesity at 6 and 9 years by ethnic groups. We will also describe how the previously observed effects of intrauterine adverse exposures on children's preschool BMI trajectories will develop further, and if new factors emerge that reduce or increase the risk of overweight/obesity in pre-pubertal age.

Conclusions will be presented at the congress



## Guidelines for sustainable general practice

Ms. Salli Rose Tophøj<sup>1</sup>, Physician Karolina Lewandowska<sup>1</sup>

<sup>1</sup>*Grøn Praksis (Green Practice Denmark), Copenhagen, Denmark*

### Poster: Guidelines for sustainable general practice

#### Background

Climate change poses a big threat to public health and action is needed – also from general practitioners (GPs) in Denmark. That's why a few GPs and GP trainees established the group 'Green Practice Denmark' (GPD) 1,5 year ago, with the aim to create awareness and action around climate and health.

The guidelines we are about to present stem from two infographics developed by an Irish group of GPs working on planetary health under the Irish College of General Practitioners (ICGP), who we have collaborated with.

#### Methods

With acceptance from the Irish group we wanted to convert the infographics into Danish. We arranged two workshops with voluntary Danish GPs. The first workshop was held with a group of 5 GPs who had already implemented sustainable interventions in their practice. With their input, we recreated the infographics according to a more Danish context and ran it through a workshop with the second group of another 5 GPs who didn't have any experience in the field.

#### Results

GPD has developed two guidelines for Danish GPs wishing to adopt a more sustainable daily practice. One infographic focuses on actions within the clinic and one focuses on doctor-patient relationships. They have been launched at the danish GP's annual meeting the 1st of October 2021.

The poster contains the two guidelines in English.

#### Conclusions

This is the first step towards promoting a sustainable general practice. Commencing GPD we reached out to other more experienced groups working towards a more sustainable general practice and the Irish group was one of them. Converting their infographics was a great opportunity for GPD to develop tools for Danish GPs.

## Climate and Health in General Practice

**Ms. Salli Rose Tophøj<sup>1</sup>**, GP Karolina Lewandowska<sup>1</sup>, GP Ulrika Nyhammar<sup>2</sup>, Physician Ida Amanda Persson<sup>3</sup>  
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### Background

Climate change threatens human health. At the same time humans can reduce their climate footprint by living healthier lives. It's time to take a look at how we as GP's can reduce this health threat while contributing to health promotion and prevention. We can contribute to the reduction of carbon emission by working more sustainably.

In this workshop we will introduce three Scandinavian projects which all work towards making general practice more sustainable:

- 1) Grøn Praksis (Denmark) will present their guidelines made for GP's including tools and ideas on how to work more sustainably.
- 2) Läkare för miljön Skåne (Sweden) will present their educational initiatives towards general practitioners, environmental representatives and leaders within primary healthcare in Sweden.
- 3) Projekt Hållbar Vårdcentral in Region Värmland (Sweden) will present sustainable initiatives from two selected pilot practices and the intention to implement these in other clinics in the region.

### Aim and learning objectives

To inspire other Nordic GP's to create similar projects in their home countries or regions

To inspire GPs to work sustainably

To co-work nationally and internationally, promoting a more sustainable general practice

### Methods and timetable

The workshop will include a presentation of above mentioned projects with the intention of an ongoing interaction with the audience, including a quiz and group discussion.

#### Timetable:

Welcome and Introduction (5 minutes)

Quiz (10 minutes)

Presentation of the projects (45 minutes)

Group discussion (2 x 10 minutes)

Summing up and questions (10 minutes)

### Conclusion

Even though climate change has been on many's lips for decades it has not reached many GP's and influenced their daily practices. We need more initiatives like these and we need more research on the carbon footprint in general practice. This workshop intends to be a springboard to future projects working towards a more sustainable general practice.

## Prevalence of sleep problems and hypnotic use in patients visiting their general practitioner

Stud.med Sunniva Torsvik<sup>1</sup>, MD PhD Bjørn Bjorvatn<sup>1,2</sup>, M.Econ PhD Ingeborg Forthun<sup>1</sup>

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**Background:** Sleep problems are common in the general population, but there are few studies on the prevalence of sleep problems and hypnotic use among patients in general practice. Because sleep problems frequently co-occur with other somatic and psychological conditions, the prevalence is likely higher among patients visiting their GPs compared to the general population. Our objective was to estimate the prevalence of insomnia (based on the Diagnostic and Statistical Manual for Mental disorders (DSM)-version-5), self-reported sleep problems and hypnotic use among patients in general practice, and explore whether the prevalence depended on patient characteristics.

**Methods:** The study is based on questionnaire data, collected by 114 last-year medical students while deployed in different general practices during spring and fall of 2020. A total of 1848 consecutive and unselected patients (response rate 85.2%) visiting their GPs completed a one-page questionnaire while waiting for their consultation. The questionnaire included the validated Bergen Insomnia Scale (BIS), questions on how long they have had a sleep problem, hypnotic use, and background characteristics. Associations were estimated using a modified Poisson regression model.

**Results:** The prevalence of chronic insomnia was 48.3% according to BIS, 46.9% reported chronic sleep problems (sleep problems of  $\geq 3$  months) and 17.8% reported hypnotic use. Females, patients with low education compared to higher education, and patients who slept shorter or longer than the reference group of 7-8 hours, had a higher risk of chronic insomnia, chronic self-reported sleep problems and hypnotic use. Even though the oldest age group ( $\geq 65$ ) had lower risk of chronic insomnia compared to the youngest (18-34 years old), the probability of hypnotic use was doubled in the older group.

**Conclusions:** Chronic insomnia, chronic self-reported sleep problems and hypnotic use were prevalent among patients visiting their GP. Insomnia can be effectively treated and deserves more attention among GPs.

## OVERVIEW - a new concept for patients with multimorbidity in general practice

MD, PhD Astrid Drivsholm Sloth<sup>1</sup>, GP Janne Unkerskov<sup>1</sup>

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### Background:

General practice is challenged with the increased number of patients with multimorbidity. How do we ensure a sufficient treatment for patients with multimorbidity in general practice without GPs burnout in the future? The aim of this pilot study was to evaluate a new concept - OVERVIEW - for the management of patients with multimorbidity in general practice.

### Methods:

OVERVIEW consists of an annual consultation in general practice for patients with multimorbidity. During consultation the GP has an allround approach to the patient across diagnoses and medications. The GP focuses on the patient's present challenges and needs. By using a new IT platform for overview and planning, key informations about chronic diseases, test results, treatment responsibility, treatment goals ect., are gathered in the overview platform during consultation. At the end of the consultation the planning platform is used to make an annual plan for the appointments in general practice including blood samples, examinations ect. Finally, the information is printed to the patient. From January to December 2019, 280 patients with multimorbidity participated in OVERVIEW in our clinic. The inclusion criteria for participation was  $\geq 2$  chronic diseases, where our clinic was responsible for the treatment.

### Results:

OVERVIEW was evaluated with an electronic questionnaire survey. Of all replies (n=107), 70 % of the patients answered, that the annual OVERVIEW was of great value, and 94% would like to participate in OVERVIEW again. In addition, all GPs (n=5) in our clinic found OVERVIEW helpful in their work with patients with multimorbidity and suggested OVERVIEW implemented as a permanent solution for the management of patients with multimorbidity.

### Conclusions:

The new concept - OVERVIEW - for the management of patients with multimorbidity was of great value for patients and GPs in our clinic. Our results call for an evaluation of OVERVIEW in a larger multipractice study.

## Causes of discrepancies between medications listed in the national electronic prescribing system and patients' actual use of medications

**General Practitioner and Medical Consultant Janne Unkerskov<sup>1,5</sup>**, Pharmacist Cille Bülow<sup>2</sup>, Pharmacist Josefine Noergaard<sup>3</sup>, Pharmacist Kristine Færch<sup>3</sup>, Pharmacist Caroline Pontoppidan<sup>3</sup>, Medical Doctor Karl Johansson<sup>2</sup>, Medical Doctor Jonathan Kornholt<sup>2</sup>, Medical Doctor Mikkel Christensen<sup>2,4</sup>

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**Background:** Discrepancies between registered prescriptions and patients' actual use of medications are frequent. We aimed to assess the extent of and causes behind discrepancies between medications listed in the Danish national prescription system, the Shared Medication Record (SMR), and patients' actual use of medications.

**Methods:** We prospectively reconciled medication for 260 consecutively admitted polypharmacy patients (>50 years and ≥5 prescriptions) at two hospitals. We classified the types of discrepancies and determined the origin of the discrepancies as primarily caused by either 'the health care system' or 'the patient'.

**Results:** The patients had a median of 12 [IQR 9-15] medications listed in the SMR and there were 3 [IQR 1-5] medication discrepancies per patient. We found that almost 9 out of 10 patients had one or more discrepancies. The rate of discrepancies increased with number of days since the last update of the SMR. Of all discrepancies, 53% were caused by the health care system and of these 65% were caused by lack of appropriate update of the SMR in general practice, 8% were related to outpatient clinics and 8% occurred in connection with discharge from hospital. Importantly, 32% of the discrepancies was primarily caused by the patient, of which 70% were intentional non-adherence and 17% were unintentional non-adherence. 15% had an indeterminable cause.

**Conclusions:** Discrepancies between medications listed in the SMR and actual use of medications were frequent and were most often caused by clinicians not updating the prescription information. This shows that there is room for improvement regarding medication reconciliation in both sectors and a need for regular updates of the SMR. The relatively high degree of intentional non-adherence by the patients may be a sign of a lack of consensus on treatment. Improving communication between patient and physician with focus on shared decision-making could possibly reduce these discrepancies.

## Conservative fracture treatment in primary care - a cost minimization analysis

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<sup>5</sup>Department of Clinical Medicine, University of Bergen, Bergen, Norway

### Background

In Norway, primary healthcare has first-line responsibility for medical emergencies, including traumas and fractures. Normally, patients with suspected fractures are referred to specialist care in hospitals. Bykle municipality has X-ray facilities and handle minor fractures locally.

The aim of the study was to calculate costs for patients and society if the existing medical service in Bykle, X-ray diagnosis and treatment of fractures locally, was removed. The alternative model is referring the patient for further diagnosis and treatment to nearby hospitals.

### Methods

We conducted a cost minimization analysis to compare the expected costs of treating patients with fractures at the two possible sites, in the municipality and at the hospital. A cost minimization analysis is an economic evaluation based on the assumption that the outcomes of the two treatment procedures regimens are equal.

### Results

Cost estimation is still ongoing and not all cost elements are finally determined.

In 2019, 382 patients were primarily assessed and treated at the primary health care centre instead of transport to nearest hospital. Based on prices and tariffs for 2021 the estimated cost saving for treating the patients in primary care versus hospital was approximately NOK 800-900.000. Transport costs to hospital was estimated to NOK 2.5-3 million.

### Conclusions

Per today and based on present status of estimations, it seems that primary fracture treatment in primary care represents a cost-saving alternative to hospital treatment. Technological changes have reduced costs to acquire modern x-ray facilities. Costs associated with training of staff and other running expenses of such facilities have also been reduced over time. Treatment locally also reduces the number of transportations to hospital, and thereby the societal costs, and reduces patient's pain and discomfort by avoiding long travel time.

## Maternal BMI in early pregnancy is associated with overweight and obesity in children up to 16 years of age

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**Aims:** Childhood obesity is an increasing public health problem. The aim of this study was to investigate the correlation between maternal body mass index (BMI) in early pregnancy and BMI in children up to the age of 16 years, and to estimate the prevalence of child overweight and obesity in a rural municipality in Sweden.

**Methods:** The study population comprised 312 pregnant women who attended the antenatal clinics in Lidköping during the year 1999 and their 319 children. Data on BMI from antenatal clinics, child health care (CHC) centres and school health care were used in linear and multinominal logistic regressions.

**Results:** Overweight or obesity were found in 23.0% of 16-year-olds. Correlation between maternal BMI and BMI in child at all studied ages was positive and significant. BMI in 16-year-old boys showed the strongest correlation with maternal BMI ( $r^2=0.29$ ). The adjusted relative-risk ratio for 16-year old children to be classified as obese as compared to normal weight, per 5 unit increase in maternal BMI was 6.66 (95% confidence interval 3.58–12.37). Among adolescents with obesity, 37.6% had been overweight or obese at 4 years of age.

**Conclusions:** This study confirms the association between maternal and child BMI and that obesity can be established early in childhood. Further, we showed a high prevalence of overweight and obesity in children, especially in boys, in a Swedish rural municipality. This suggests a need for early intervention in the preventive work of childhood obesity, preferably starting at the antenatal clinic and in CHC centres.

**Keywords:** Body mass index, mother, child, primary health care



## Trial without catheter immediately or after some days when treating acute urinary retention in males: a systematic review

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**Background:** Acute urinary retention is a common urological emergency and requires catheterization as primary treatment. This systematic review aimed to compare the effectiveness of one-time catheterization with immediate trial without catheter (TWOC) to placing a short-term in-dwelling catheter with TWOC after some days.

**Methods:** We included studies reporting success rates of immediate TWOC or TWOC after some ( $\leq 30$ ) days among males with acute urinary retention. A systematic search was conducted in the following databases: MEDLINE, Embase, Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials, Open Grey and Clinicaltrials.gov. There were no restrictions on language or publication date. Two independent reviewers screened titles and/or abstracts and assessed full text publications for inclusion.

**Results:** The search returned 1711 publications, yielding 88 potentially eligible publications assessed in full text, resulting in the inclusion of 41 studies. One randomized controlled study with 60 participants and four comparative cohort studies with a total of 890 participants found no significant difference between the two approaches. In these studies, weighted mean success rates were 38.2% (range 26.7–75.0) for immediate TWOC and 39.3% (range 20.0–70.0) for TWOC after some days (range 1–10 days). Two cohort studies with a total of 237 participants reported success rates for immediate TWOC, with a weighted mean of 40.1% (range 29.7–43.9). Furthermore, 34 cohort studies with a total of 11,119 participants reported success rates for TWOC after some days (range 1–28 days) with a weighted mean of 54.2% (range 23.3–80.3).

**Conclusion:** There were a limited number of appropriately designed studies addressing the research question directly. The evidence favours neither approach, nor is there firm support of the approaches being equivalent. Further research is needed to settle the question.

## Video consultations in relation to vulnerable patients told through vignettes and personas

Research Assistant Johannes van den Heuvel<sup>1</sup>

<sup>1</sup>Aau, Aalborg Øst, 9220, Denmark

### Background

All through the Covid-19 pandemic, the use of video in Denmark has risen substantially. Therefore, it is prudent to look at how video consultations best can be used as a tool for general practitioner and patients moving forward.

By introducing a new technology, a boundary is also created, and it is therefore of utmost importance that this does not create a new subgroup of patients, whose treatment is significantly reduced/impaired as a result of this new technology. Here treatment is not only understood as medical care, but also as an experience of service.

The aim is to understand how the usage of video consultations affect access or treatment for some group of patients in general practice?

### Methods

The project is currently under preparation and data collection will be initiated shortly. The plan is to interview six general practitioners and four medical secretaries about experiences of vulnerability among their patients in relation to video-consultation use. The interviewees will be chosen based on experiences with video consultations. Those data will be transformed into personas and situation-based vignettes, as a practical way of informing about the pitfalls of video-consultations, with the aim of avoid these pitfalls henceforth.

### Results

The results are expected to give further information on the ethical quandaries of video consultations and define characteristics of vulnerability in a context of medicine and video-use. With useful action cards, it becomes easier to identify understandings of vulnerable patients.

### Conclusions.

It is vital to improve our understanding of how video consultations may work as a viable consultation form for vulnerable patients in general practices.

## New family doctors' readiness and motivation to work in primary health care system: a qualitative study of new family doctors in Estonia

Dr Marta Velgan<sup>1</sup>

<sup>1</sup>*University Of Tartu, , Estonia*

**Background:** Shortage of family doctors is a growing problem in Estonia and worldwide. Although the number of young doctors admitted to family medicine postgraduate training in Estonia has increased, it is still difficult to find replacements for doctors who are leaving family medicine. This shortage means a threat for the services provided by primary care, and by extension for the organization of the entire health care system.

**Aim:** The aim of this study is to describe factors which influence the readiness and motivation of new family doctors in Estonia to continue working as family doctors.

**Methods:** A qualitative study using semi-structured group interviews was conducted in Estonia among last year family medicine trainees and new family doctors within 5 years of completing training. Interviews were conducted using Microsoft Teams until data saturation and recordings transcribed. Thematic analysis using NVivo Software was performed by three researchers.

**Results:** 6 group interviews with 25 participants, 12 family medicine trainees and 13 new family doctors were conducted. Most doctors have started family medicine residency with the aim to take a list of patients in the future, but not all of them want to do it immediately after finishing training. There are many reasons why taking a list of patients and working as an independent family doctor is postponed: the desire to achieve family life goals beforehand, the fear that the work-life balance could be at stake, feeling that residency has not prepared them for the non-clinical roles of family doctors and the wish to find a perfect workplace, preferably in group practice before taking a list of patients. New family doctors also point out that bigger support from government and colleagues is needed.

## General Practitioner's perceived barriers in assessing vulnerability in pregnant women. A cross-sectional questionnaire study.

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### Background

Vulnerability in pregnancy due to low psychosocial resources contributes to inequality in maternal and perinatal health. In a preceding qualitative interview comprising general practitioners (GPs), we identified several barriers for assessing vulnerability in pregnant women, according to behavioral theories of the "Theoretical Domains Framework" (TDF). Based on the results from the interviews, our clinical experience as GPs, and literature we developed a questionnaire to quantify the identified barriers and investigate associations between barriers for assessing vulnerability, antenatal care (ANC) organization and GP and practice characteristics.

### Methods

All Danish GPs were invited to participate in the survey, and 740 (22%) GPs responded. We present descriptive analysis of barriers for assessment related to TDF domains. Ordered logistic regression analyses on selected barriers are used to examine associations with practice organization of ANC (dedicated time to ANC, delegation to staff or GP trainees, continuity) and GP and practice characteristics.

### Results

Preliminary descriptive analyses show that barriers for addressing vulnerability are related to: Insufficient shared attention among GPs and staff, lacking routines, insufficient medical record keeping on indicators of vulnerability, lacking control whether they manage to assess vulnerable pregnant women, and the collective agreement not supporting use of additional time to assess vulnerable patients. Preliminary logistic regression analyses show no statistically significant associations between identified barriers and ANC organization in general practice. Associations with GP characteristics and practice characteristics are pending.

### Conclusions

Our results indicate that there are several barriers in GPs' assessment of vulnerable pregnant women. These seem however, not to be related to the organizational management of ANC in general practice. GPs may enhance record keeping on indicators of vulnerability, and shared attention with practice staff on assessing suspected vulnerability. Commissioners may consider additional reimbursement for managing the care of vulnerable pregnant women.

## Quality and research based best practice among your Nordic colleagues

Postdoc and specialist consultant Line Flytkjær Virgilsen<sup>1</sup>, Postdoc Linda Rasmussen<sup>1</sup>, Transfer consultant Anne Sofie Puggaard<sup>2</sup>

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**Background:** Keeping updated with new research, implementing new knowledge and changing routines in general practice has proven to be challenging. Time restrains and insufficient support to accomplish actual change in clinical everyday life have been identified as factors that amplify these challenges. However, when desired changes do occur; What worked? Why did it work? And when it worked for others, will it work for you?

**Aim:** to exchange experiences and generate new thoughts among Nordic colleagues about best practice of quality development in the clinical everyday life and keeping updated with new knowledge.

**Learning objectives:** Participants will after this workshop have gained further insights into the experiences among Nordic colleagues in relation to:

- 1) working with quality development when time is a scared resource
- 2) using practice staff in working with implementation of new knowledge
- 3) ensuring transfer of knowledge after continuing education training
- 4) using formal structures and networks to implement new knowledge in the clinical everyday life

**Methods:** This workshop will be interactive including group work within and across nationalities. IT facilitators such as WordCloud and Mentimeter will be used as tools to collect and present data throughout the workshop.

**Time table:** Initially, a short introduction, including a presentation of a new network in Denmark, established to build bridges between research units, quality units and general practice in Denmark. The introduction will be followed by one hour of facilitated discussions in groups with colleagues from different nationalities and continuously collection of main points using IT facilitators. The workshop will conclude with a sum-up of the main points from the group work.

**Conclusion:** Sharing of knowledge and best practice in relation to implementation of new knowledge and research between Nordic colleagues may generate new ideas and methods to use in the clinical everyday life to facilitate quality development.

## Disentangling the concept of inappropriate polypharmacy in old age: A scoping review

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**Background and aim:** Polypharmacy is a global concern most common in the older population. At the same time, there exist no coherent definition of the problems of polypharmacy. By elucidating the different meanings and perspectives of inappropriate polypharmacy in the existing literature, this scoping review contributes to the conceptualization of polypharmacy and hence to unravel some of the complexity involved in the daily practices and research on polypharmacy in old age.

**Methods:** The frameworks by Arksey and O'Malley and Levac et al. was guiding the process. The databases Pubmed, Embase, PsycINFO, CINAHL, Cochrane database, Scopus and Web of Science were searched for literature using variations of the terms "appropriate" or "inappropriate" and "polypharmacy". All references in English, Danish, Swedish or Norwegian discussing aspects of inappropriate polypharmacy in elderly people was included. References focused on acute illnesses, conference papers, animal studies, single-disease studies, and with study populations <65 were excluded.

**Findings:** The search strategy revealed 4063 references of which 97 was included in the final review. Few references included explicit definitions of the concept of inappropriate polypharmacy. Based on a qualitative meaning condensation analysis, we suggest a framework describing three dimensions characterizing different approaches to inappropriate polypharmacy: from the meaning of standardized ways of interpreting inappropriate polypharmacy; from the perspective of inappropriate polypharmacy as a (social) practice; and from a broader more ecological perspective of values and concerns. Each dimension should be understood as situated within a series of surrounding factors and positions related to the context of the study and the perspectives of the senders.

**Conclusion:** This review suggests a new framework for understanding and differentiate between different meanings of inappropriate polypharmacy, which can be used in research and practice to clarify perspectives of the problems of polypharmacy in old age.

## Increased access to general practice in response to the COVID-19 outbreak

**Researcher Knut-Arne Wensaas<sup>1</sup>**, Researcher Sverre Litleskare<sup>1</sup>, General practitioner Lina Welle-Nilsen<sup>2</sup>, Researcher Kristian Simonsen<sup>1</sup>

<sup>1</sup>*Research Unit For General Practice, Norce Norwegian Research Centre, Bergen, Norway,* <sup>2</sup>*Loddefjord Legesenter, Bergen, Norway*

### Background

The incidence, symptoms, and disease trajectories of COVID-19 in the community were unknown in the early phase of the pandemic. Consequently, organizing primary health care was challenging. The aim of this study was to investigate whether reorganizing primary health care with increased weekend access to general practice was feasible.

### Methods

Observational study with registration after a simple intervention in general practice services in the second half of March 2020 when the first wave of the COVID-19 pandemic hit Bergen, the second largest city in Norway. All general practices in Bergen were asked to be available by video or e-consultation during weekends, for their patients with respiratory tract infections (RTIs).

### Results

During the first weekend 33 of 73 practices covering 51% of the population participated. The following weekend this increased to 39 practices covering 64% of the population. During the first weekend 26 practices reported a total of 336 consultations for RTI; eight were for confirmed and 113 were for suspected COVID-19. The corresponding numbers reported from 23 practices the second weekend were 158 RTI consultations, four for confirmed and 41 for suspected COVID-19.

### Conclusions

On a short notice about half the general practices in Bergen were accessible during weekends for their patients with RTIs. The number of consultations per practice was small, but in total this was a substantial improvement of emergency services in a situation with large uncertainty.

## Patients with medically unexplained physical symptoms (mups) – from theory to practice

**Professor Erik L. Werner<sup>1</sup>**, Ph.d. candidate Ingunn Leeber<sup>1</sup>, Ph.d. candidate Cathrine Abrahamsen<sup>1</sup>

<sup>1</sup>*University Of Oslo, Dep Of General Practice, Oslo, Norway*

### Background

Patients with MUPS are common in general practice and challenge the physicians in several ways. The lack of clinical findings correlates poorly with the patients' frustration and often loss of function. This may lead to innumerable investigations, medical treatments and sickness absence, which could have been avoided with a better shared understanding between the patient and the physician.

### Aims

Across the last decades the research community has provided a great amount of research on epidemiology and theories of the development of MUPS. We believe it is time to bring this knowledge into practice. One important step forward would be to create a common understanding between the patient and the provider on the management of the condition.

The primary aim of this workshop is to share practical communication tools for an improved management of the MUPS patient in general practice.

We also invite participants to share their experiences on practical management of the patients with MUPS at the workshop.

### Methods and timetable

0 – 20 min: Introduction. Summary of actual knowledge on the phenomenon MUPS

Erik L. Werner (professor in general practice, GP)

20 – 30 min: Plenary discussion

30 – 45 min: Metacognitive treatment as a method for common understanding; sparking salutogenesis throughout psychological empowerment

Ingunn Leeber (ph.d. candidate, GP)

45 – 60 min: Plenary discussion

60 – 75 min: ICIT (Individual Challenge Inventory Tool) - A systematic practical tool for exploring patients' perceptions and potentials

Cathrine Abrahamsen (ph.d. candidate, GP)

75 – 90 min: Plenary discussion

### Conclusion

In this proposal, we will summarize the actual scientific knowledge on theories on MUPS and provide two specific management initiatives on how the physician may meet the patients more structured and aiming to reduce the impact of the symptoms on the patients' lives.



## Almost as good as continuity: establishing a trusting relationship in 10 minutes

Dr. John Wilkinson<sup>1</sup>, Dr. Robert Jacobson<sup>2</sup>

<sup>1</sup>Mayo Clinic, Family Medicine, Rochester, Minnesota, United States, <sup>2</sup>Mayo Clinic, Community Pediatrics, Rochester, Minnesota, United States

### Background:

Mayo Clinic, best known as referral center, also provides primary care to a local population of over 140,000 patients. Patients often seek urgent evaluations for acute flares of chronic conditions (functional abdominal pain, migraine headache, etc.), and are often given appointments with physicians with whom they are barely, if at all, acquainted.

### Aim and Learning Objectives:

At the end of this interactive workshop, participants will have shared challenges and gained skills which will increase their abilities to recognize patients suffering acute flares of chronic conditions, to rapidly establish trusting therapeutic relationships with them, and provide appropriate, evidence-based care.

We have developed a framework for a structured approach to categorizing and evaluating symptoms, which helps establish trusting relationships in the first minutes of a visit. Using irritable bowel syndrome as an example, we will outline the 9 essential steps for patients to begin to understand and accept the biopsychosocial aspects of chronic conditions, to be confident that the evaluation has been adequate to rule out other organic conditions while minimizing unnecessary testing, to accept the limitations of therapy and incremental improvements of symptoms, and to engage in effective self-management.

### Methods and Timetable:

Reflecting our practice model, our team of primary care physicians and specialists who actively work together at Mayo Clinic will lead a structured interactive workshop designed to allow all participants to share challenges, stories, and their own best practices in similar settings. In similar workshops, guided by an experienced moderator who ensures effective time management, we have been able to successfully engage participants through questions and shared experiences, ensuring that all objectives are addressed and that they are able to learn from one another.

### Conclusions:

We have found that participants report generally increased professional satisfaction and more effective management of patients after incorporating these skills.

## Family wellbeing – trial of a web-based intervention to improve psychosocial resilience

**MD, GP, Med.Sc.D. Philip Wilson<sup>1,2</sup>**, Phd, Assistant Professor Gritt Overbeck<sup>1</sup>, MScPH Ida Scheel Rasmussen<sup>1</sup>, MD, GP Anette Hauskov Graungaard<sup>1</sup>, MD, GP Ruth Kirk Ertmann<sup>1</sup>, MD Sarah de Voss<sup>1</sup>, MD, GP, Med.Sc.D. Jakob Kragstrup<sup>1</sup>

<sup>1</sup>University Of Copenhagen, , Denmark, <sup>2</sup>Centre for Rural Health, University of Aberdeen, Aberdeen, Scotland

**Background:** Early childhood social, emotional and behavioural problems are associated with increased risk of many poor outcomes. Some of these early problems are founded in early parent-infant relationships and could potentially be prevented. Primary health care has a central role in preventive care during pregnancy and the early years of the child's life. Scheduled antenatal care and child development assessments in Denmark are carried out in general practice and provide opportunities to identify vulnerability in parents, in their children and in the relationship between parent and child.

**Aim:** In the context of standardised antenatal and child development assessments focused on parental emotional wellbeing and family relationships, we investigate whether a web-based mentalisation resource signposted by GPs will improve parental mental health and child socio-emotional and language development.

**Method:** 70 General practices in two Danish administrative regions were invited. Practices were randomised to intervention or control arms. Each practice recruited up to 30 women consecutively at their first scheduled antenatal assessment. Both groups received one day training in structured consultations with a focus on parental psychosocial well-being, social support and parent-child interaction. Intervention arm clinicians received additional training enabling them to signpost patients towards a web resource ("robustbarn.dk") designed to improve mentalization skills at scheduled preventive consultations.

**Results:** 807 pregnant women were included from Nov 2019 to July 2021. Baseline characteristics and factors associated with retention in the trial will be described.

**Discussion:** The design of this complex intervention trial and challenges in its implementation will be presented and discussed.

## Use of video consultations in contacts with acute healthcare services

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### Background

General practitioners (GPs) in Nordic countries make an important contribution in acute care, in daytime practice and at out-of-hours (OOH) services, in close interaction with the Emergency Medical Services (EMS). The need for these services will intensify due to evolution in demography and treatment, calling for new approaches. The use of video is suggested to improve communication between patient and healthcare providers. Video in GP consultations may increase the availability of GPs. At the EMS and primary care dispatch centres, video is a new tool to support nurses in their decision making about level of care. The main purpose of the session is to stimulate learning, and research across acute care by GP and EMS and across countries.

### Methods

We start with a short introduction, explaining OOH services and EMS and challenges, followed by four presentations.

### Presentations

- 1) Video consultations in OOH services in Denmark.
  - a. Use of video consultation in OOH primary care
  - b. Use of video consultations for specific patient groups
  - c. Effect of video consultations on triage
- 2) Use of video in OOH services in Norway.
  - a. Overall data on use from in Norway.
  - b. Data on which kind of patients video is used.
  - c. Data on changes triage due to video use.
- 3) Use of video in the emergency medical communication centres, in secondary care, Norway.
  - a. Overall data on use from in Norway.
  - b. Data on which kind of patients video is used.
  - c. Data on changes triage due to video use.
- 4) Video consultations in OOH services – a 3 years pilot study, Norway.
  - a. A short presentation of the project.
  - b. What kind of examinations of the patients the nurses performed.
  - c. The GPs opinion of the consultations.

Conclusion. More research is needed to investigate the usefulness of video use.

## The use of diagnostic ultrasound by general practitioners in Switzerland - a prospective observational study

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**Background:** Diagnostic ultrasound has become a bedside tool widely available to many general practitioners (GP) in Europe. Ultrasound performed by GP can lead to faster diagnostic workup and reduce referral to secondary care units. However, adequate training is crucial to guarantee high-quality in diagnostic ultrasounds performed at the point-of-care. To guide the development of ultrasound training programs for GP, this study aims to explore the use of ultrasound in primary care in Switzerland.

**Methods:** This was a prospective observational study. We invited GP from the Swiss practice-based research network "Sentinella" to collect data on the first 5 daily ultrasounds they ordered or performed themselves, excluding cardiac and obstetric ultrasounds. Participating GP collected data for 3 months – randomly divided into 4 groups to account for seasonal differences.

**Results:** Preliminary analysis after 2/3 of the recruitment period included 72 GPs who reported 1149 ultrasounds. 53% of participating GP had access to an ultrasound in their offices. 76% of the reported ultrasounds were done by GP themselves and 24% were referred. The most common indications for ultrasounds (both performed and referred) were full abdominal scans (13%) and screening for hip dysplasia in newborns (7.2%). Among the focused examinations, questions about gallstones (4.5%), muscle/tendon tears (4.5%) and residual urine (3.4%) were the most common, followed by urolithiasis (3.2%), hydronephrosis (3%). In 94.7% of cases, the GP reported that the ultrasound enabled them to include/exclude the suspected diagnosis. 14% of all ultrasound scans revealed an incidental finding and 9% of all scans were followed by another imaging modality.

**Discussion:** Swiss GPs indicated a large variety of comprehensive (e.g. full abdominal) and focused ultrasound scans, of which they performed 76% at the point of care. Training of GP should focus on abdominal and musculoskeletal ultrasound as these are the most common indications in this setting.

## Impact of one moderate COPD exacerbation in GOLD A patients – a cohort study

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**Background:** Risk of future exacerbations in newly diagnosed patients with COPD can be difficult to predict. Our aim was to investigate the impact of a single moderate exacerbation on the odds of subsequent exacerbations and death in GOLD A patients.

**Methods:** A cohort study based on data from the Danish national registers. We included all patients  $\geq 40$  years with an in- and/or outpatient ICD-10 J44 diagnosis (COPD Register, 2008-2014). Index was date of first registered modified Medical Research Council (mMRC) score 0-1; baseline period was 12 months pre-index. At index, patients were grouped as: A0, no exacerbation; and A1, one moderate exacerbation during the previous year, and followed for one year for moderate exacerbations (defined as short-term course of prednisolone/prednisone  $\pm$  antibiotic) and severe exacerbations (emergency visit or hospitalization) and death. Using A0 as reference, a Cox model estimated the hazard ratio for exacerbation accounting for recurrent events. Multinomial logistic regression was used to estimate the odds ratio (OR) for exacerbation and death in GOLD A1.

**Results:** In total, 7,191 patients (mean (SD) age 65.6 (10.2) years, 53.1% male) were included, of whom 3,958 had GOLD A0 and 3,233 GOLD A1. During the 1-year follow-up, 59.6% and 44.9% of GOLD A0 and A1, respectively, had no exacerbations, whereas 40.4 % and 55.1% of A0 and A1, respectively, had a severe path with moderate and/or a severe exacerbations or death. In A1 patients, the OR for 1 moderate,  $\geq 2$  moderate exacerbations,  $\geq 1$  severe exacerbation was 1.50 [CI 1.33-1.68], 2.67 [2.30-3.11], 1.88 [1.51-2.34], respectively compared with A0, whereas the OR for death was 1.55 [1.16-2.10].

**Conclusions:** Even in COPD patients with low symptom burden, one moderate exacerbation increases the odds of subsequent exacerbations and death. The results emphasize the importance of early prevention, treatment and yearly control of GOLD A patients.

## Developing organizational and management skills in general practice - and why it pays off

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A Danish general practitioner recently wrote in an article: “A well-organized medical practice is a bit like an anthill: it is crowded with patients, slipping in and out, but everyone knows where to go, and all activity takes place with a clear purpose and high pace in the flow.” (Tine Hermann, GP in Southern Denmark)

If general practitioners and their staff have to perform in a hectic work-environment, it is important that their practices are well organized and continuously focused on development and management.

In 2022, a new agreement on General Practice came into force in Denmark. The agreement wishes to strengthen organizational development and management in general practice and recommends a stronger cooperation between the five Danish regions to support the general practitioners with similar offers. This effort requires sharing knowledge and developing common solutions across the Danish regions.

The purpose of the workshop is to share the first experiences with the interregional collaboration regarding organization and management in general practice. What have the regions learned from each other and how can they become even stronger in the future? What learning points can the Danish regions and general practitioners recommend colleagues from general practice in the other Scandinavian countries - and what can participants from other the countries recommend to general practice in Denmark?

The workshop will involve short presentations from representatives from general practice and the Danish regions and share concrete experiences from practices that have worked with organizational development and management. Following the presentations are reflections and group discussions among the participants with the intention to learn from each other.

Based on the first experiences with an interregional collaboration regarding organization and management in general practice, it will be concluded what the gain is so far and how it is expected to develop in the futures.