



EUROPEAN GENERAL PRACTICE  
RESEARCH NETWORK



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## **Abstract Book**

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**16 - 17 October 2020  
Virtual Conference**

**[www.egprn.org](http://www.egprn.org)**

# COLOPHON

Abstract Book of the 90th European General Practice Research Network Meeting  
Virtual Conference, 16 - 17 October 2020

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- Mrs. Mine Kaya Bezgin, EGPRN Secretary, e-mail: [office@egprn.org](mailto:office@egprn.org)
- Mr. Burak Usgurlu, EGPRN IT Manager, e-mail: [burak@uskur.com.tr](mailto:burak@uskur.com.tr)

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# Foreward

## Digital medicine and e-health

We invite all researchers and clinicians interested in the primary care implementation of digital medicine and e-health to present or learn from ideas, ongoing or finished research.

Digital medicine and e-health have the property of transcending time, place and human power symmetry issues. It cannot replace wisdom, intuition and bedside clinical judgement but with the growth of technological innovations it increasingly adds to these skills and competencies.

Digital medicine and e-health are overlapping concepts about the use of technologies as tools for measurement and intervention in health care which includes treatment, disease monitoring, disease prevention, and health promotion.

E-health is healthcare practice supported by electronic processes and communication. It can also include health applications and links on mobile phones, referred to as mHealth or m-Health.

# Programme

## Friday, 16 October 2020

10:30 - 12:30	<p><b>Presenters Orientation Meeting</b></p> <p>We welcome all presenters to join this meeting to familiarize themselves with the presentation user interface, ask questions and resolve any technical issues.</p>
13:00 - 13:30	<p><b>Opening &amp; International Keynote Lecture</b></p> <ul style="list-style-type: none"> <li>• Opening of the Meeting by EGPRN Chairperson - Davorina Petek (Chairperson)</li> <li>• From remote sensors to digital health – A SWOT attempt - Eva Hummers (International Keynote Lecturer)</li> </ul>
13:30 - 13:40	<p><b>Break</b></p>
13:40 - 14:30	<p><b>Plenary Session</b></p> <ul style="list-style-type: none"> <li>• Jean Yves Le Reste (Chair)</li> <li>• Primary Care Research Network: Why and how? - Guri Rørtveit (Speaker)</li> <li>• Research on Covid-19 in the context of family medicine - Thomas Frese (Speaker)</li> </ul>
14:30 - 14:40	<p><b>Break</b></p>
14:40 - 15:40	<p><b>Parallel Session A - Theme Papers: Use and adoption on ehealth</b></p> <ul style="list-style-type: none"> <li>• Jean Yves Le Reste (Chair)</li> <li>• Electronic health records across Europe: adoption, digital maturity, and implications for quality and safety of care - Ana Luisa Neves (p. 14)</li> <li>• Predicting primary care physicians' intentions to use e-health - a survey study based on the theory of planned behavior - Veronica Milos Nymberg (p. 15)</li> <li>• Video consultations as an alternative to face to face consultations in primary care - Anthony Heymann (p. 16)</li> </ul>
14:40 - 15:40	<p><b>Parallel Session B - Freestanding Papers: Mental health and addiction</b></p> <ul style="list-style-type: none"> <li>• Pemra C. Unalan (Chair)</li> <li>• European Forum Primary Care Mental Health - Lisa Hill (p. 17)</li> <li>• The primary care patients' willingness to be treated with brief intervention to reduce the alcohol consumption: a cross-sectional study. - Thomas Fankhaenel (p. 18)</li> <li>• What are the barriers to the implementation of advance directives related to the surroundings of the patients with unfixed psychiatric illnesses? A systematic literature review - Patrice Nabbe (p. 19)</li> </ul>
15:40 - 15:50	<p><b>Break</b></p>
15:50 - 16:50	<p><b>Parallel Session C - Theme Papers: Applications of eHealth</b></p> <ul style="list-style-type: none"> <li>• Kathryn Hoffmann (Chair)</li> <li>• Erroneous computer-based ECG interpretations of atrial fibrillation and atrial flutter in a Swedish primary health care setting - Hans Thulesius (p. 20)</li> <li>• Feasibility study on recruitment in general practice for a Health information technology trial - Allan Riis (p. 21)</li> <li>• Maccabi RED - Uberization of Minor Trauma and Semi - Urgent Medical Care in Primary Care Settings - Ilan Yehoshua (p. 22)</li> </ul>
15:50 - 16:50	<p><b>Parallel Session D - Freestanding Papers: Cancer Management</b></p> <ul style="list-style-type: none"> <li>• Claire Collins (Chair)</li> <li>• Comparing uterine cervical cancer screening and papillomavirus vaccination uptakes – an</li> </ul>

- exploratory study of reimbursement databases - Thibaut Raginel (p. 23)
- Factors that Empower GPs for Early Cancer Diagnosis. A Delphi Study Protocol - George Tzanis (p. 24)
- Perceptions and experiences of lung cancer patients regarding collaboration between general practices and hospitals: Results of a qualitative interview study - Jasmin Bossert (p. 25)

16:50 - 17:00

**Break**

17:00 - 17:09

**Summary of the day**

- Thomas Frese (Speaker)

**Saturday, 17 October 2020**

09:40 - 10:15	<b>Chairpersons Report &amp; National Keynote Lecture</b> <ul style="list-style-type: none"> <li>• Hans Thulesius (Chair)</li> <li>• Chairperson's Report by EGPRN Chair - Davorina Petek (Speaker)</li> <li>• Don't get lost in translation of e-health to the real world general practice - Cecilia Björkelund (National Keynote Speaker)</li> </ul>
10:15 - 10:25	<b>Break</b>
10:25 - 11:55	<b>Parallel Session E - Theme Papers: Telemedicine and Remote Care</b> <ul style="list-style-type: none"> <li>• Michael Harris (Chair)</li> <li>• Digital therapeutics: technology innovation to face General Practice's challenges in 2020 - Alberto Malva (p. 26)</li> <li>• Pioneering teledermatology in Lithuanian primary care - Greta Petkeviciute (p. 27)</li> <li>• Referral and hospital admission rates at prisons offering scheduled or unscheduled primary care and psychiatric video consultation - Katharina Schmalstieg-Bahr (p. 28)</li> <li>• Telemedicine in patients with arterial hypertension and diabetes - preliminary results from the pilot project - Marija Petek Ster (p. 29)</li> </ul>
10:25 - 11:55	<b>Parallel Session F - Research Course Presentations</b> <ul style="list-style-type: none"> <li>• Ferdinando Petrazzuoli (Chair)</li> <li>• Shlomo Vinker (Chair)</li> <li>• Can medical students look after themselves? Participatory action research to promote well-being and decrease depression in Riga, Latvia - Cindy Heaster (p. 30)</li> <li>• Communication in Patient-Physician Relationship in Turkey: Opinions of Family Physician Residents - Nazife Alpman (p. 31)</li> <li>• Contagious content: the role of social media in vaccination. - Louise Fitzgerald (p. 32)</li> <li>• Efficacy of healthcare policies implemented in primary healthcare in the countries of South-Eastern Europe during the Covid-19 pandemic - Marija Zafirovska (p. 33)</li> <li>• Efficacy of healthcare policies implemented in primary healthcare in the countries of South-Eastern Europe during the Covid-19 pandemic - Aleksandar Zafirovski (p. 34)</li> <li>• Modelling and effectiveness of an educational intervention for the development of professional skills in residents of Family Medicine and Community Care. PROEMPATHY - Sabela Couso Viana (p. 35)</li> <li>• The Sociodemographic Characteristics and the Thoughts on Primary Healthcare of the Women in the Women's Shelters Affiliated with the Municipalities in Ankara - Hüsna Sarıca Çevik (p. 36)</li> </ul>
11:55 - 12:05	<b>Break</b>
12:05 - 13:25	<b>Parallel Session G - Freestanding Papers: Miscellaneous</b> <ul style="list-style-type: none"> <li>• Athina Tatsioni (Chair)</li> <li>• A prospective observational cross sectional study with Focused cardiac ultrasound (FOCUS) conducted by the family physicians at patients with a high risk of cardiovascular diseases. - Mihai Iacob (p. 37)</li> <li>• Improving end-of-life care in long-term care. Results from a RCT- effects on resident quality of life and symptoms - Pauli Lamppu (p. 38)</li> <li>• Scales to evaluate pain in general practice : only the BPI and the SFMPQ are stable and efficient. - Jean Yves Le Reste (p. 39)</li> <li>• Thoughts of Intern and Resident Doctors Living in Istanbul about Mobbing at Work - Pemra C. Unalan (p. 40)</li> </ul>
12:05 - 13:25	<b>Parallel Session H - One Slide Five Minutes Presentations</b> <ul style="list-style-type: none"> <li>• Ferdinando Petrazzuoli (Chair)</li> <li>• Artificial intelligence algorithms promoting help-seeking behavior among depressed youth - Kim Kristoffer Dysthe (p. 41)</li> <li>• Benzodiazepines prescription in Europe. Toward an international project. - Églantine</li> </ul>

Ferrand Devoue (p. 42)

- Efficiency of the use of augmented reality in teaching anaphylactic shock at the primary health care level - Špela Tevžič (p. 43)
- Home activity control system: artificial intelligence to empower patients with diabetes through daily activity monitoring - Jesus González-Lama (p. 44)
- Parkinson's disease: Threats and opportunities of patient online discussion forums. - Sabine Bayen (p. 45)
- Why do European Primary Care Physicians sometimes not think of, or act on, a possible cancer diagnosis? - Tuomas Koskela (p. 46)

13:25 - 13:35

**Break**

13:35 - 14:42

**Plenary Session I - Freestanding Papers: Miscellaneous & Summary of the day & EGPRN Next Meeting & Closing**

- Tiny Van Merode (Chair)
- arriba – A Decision Aid for General Practice - Johannes Hauswaldt (p. 47)
- How GPs decide to assess cardiovascular risk factors in European countries – a qualitative EGPRN Fellowship study. - Ilze Skuja (p. 48)
- Is there relation between adherence to medications and adherence to preventive medicine? - Michal Shani (p. 49)
- Summary of the day - Cecilia Björkelund (National Keynote Speaker)
- Introduction to the 92nd EGPRN Meeting, Halle-Germany - Thomas Frese (Speaker)
- Closing of the conference - Davorina Petek (Speaker)

15:00 - 15:30

**End of the conference**

## Online Poster Sessions

The posters will be open to visitors at the Virtual Poster Hall during the event.

### Poster Session 1 - Digital health

- E- Health Literacy among Primary Care Patients: A Cross- Sectional Study in Latvia - Anda Stolarova (p. 50)
- Patient responsiveness in chronic non-communicable diseases therapy in General practice according to e-health database - Jelena Danilenko (p. 51)
- Use and relevance of a mobile health tool to answer information needs of chronic respiratory diseases patients: a mixed-method study. - Jason Koman (p. 52)
- User-centered development of a digital communication tool to overcome language barriers in emergency medical services: Lessons learned in the DICTUM rescue project - Frank Müller (p. 53)

### Poster Session 2 - Mental health and behaviour change

- Considering ADHD in adults might be useful in smoking cessation efforts; a study carried out among physicians. - Tevfik Tanju Yilmazer (p. 54)
- Mixed method situational review of primary family violence care in IMOCFAV - Sara Ares Blanco (p. 55)
- Potential correlates of burnout among general practitioners and residents in Hungary: the significant role of gender, age, dependant care and experience - Peter Torzsa (p. 56)
- Supporting Health Behaviour Change in Real World General Practice: An evidence-informed report from Crete, Greece - Christos Lionis (p. 57)
- Supporting primary care for sleep disorders, including insomnia, in an adult population. - Kristien Coteur (p. 58)

### Poster Session 3 - Cancer care

- Health Status and social support in long-term cancer survivors: a cross-sectional study - Magdalena Esteva Cantó (p. 59)
- Illness Perception and Quality of life in Breast Cancer Patients - Goranka Petriček (p. 60)
- The effect of the breast cancer on control of diabetes - Alexandra Verzhbitsky (p. 61)

### Poster Session 4 - Cardiovascular diseases & diabetes

- Empagliflozin versus Canagliflozin for Prevention of Heart Failure in Patients With Type Two Diabetes - Joseph Azuri (p. 62)
- Participation in structured diabetes mellitus self-management education program and association with self-management behavior - results from a population-based study - Solveig Carmienke (p. 63)

### Poster Session 5 - Women's health

- Current situation within a sample of breastfeeding women in Ille et Vilaine concerning the prevalence and modalities of cosleeping - Sidonie Chhor (p. 64)

### Poster Session 6 - Miscellaneous

- Advice and information for patients with low back pain: an interview study of general practitioners - Martin Bach Jensen (p. 65)
- Clinical piloting of "gut feeling" questionnaire in Ukraine. - Pavlo Kolesnyk (p. 66)
- Communication between General Practitioners and Nursing Homes in Germany 2019. - Thomas Frese (p. 67)
- Dermatoscopy in GP practice - challenge in the battle with melanoma - Elina Skuja (p. 68)
- Development and validation of a tool assessing knowledge and attitudes regarding adult vaccination: The Attitude Towards Adult VACCination (ATAVAC) questionnaire. - Philippe-Richard Domeyer (p. 69)
- The Broad Spectrum Project: understanding AMR, from pharmacoepidemiology to knowledge, attitudes and practice in Family Medicine - Peter Konstantin Kurotschka (p. 70)
- What are the factors that have hindered the achievement of the advance directives since the 2016 French law? A thematic analysis based on the grey literature review. - Zambonino Marine (p. 71)

## **International Keynote Lecture**

### **Prof. Dr. Med. Eva Hummers**

Head of Institut für Allgemeinmedizin, Department of General Practice, Universitätsmedizin Göttingen/University Medical Center, Georg-August-Universität, Göttingen, Germany.  
WONCA Europe Honorary Secretary, EGPRN Chair 2010-2013

### **From remote sensors to digital health – A SWOT attempt**

SCREEN –AF is a randomized controlled diagnostic trial that recruited 856 patients from 48 family practices in Canada and Germany. An adhesive skin patch continuously recording an ECG for 2 weeks was used to screen for atrial fibrillation episodes in moderate-to-high risk patients, and compared to usual care. The trial will be presented as an example of remote sensor use, which may be perceived as an entry to E-health in primary care.

Implementation and routine use of various E-health tools or applications vary widely across Europe: While use and access to connected electronic patient records by several care providers across healthcare levels, or patients themselves, is a matter of course in some countries, it may be considered quite revolutionary and threatening in others (for example with regard to data privacy, or liability issues). The same holds true for telemedicine approaches, electronic communication between GPs and patients, the use of mobile devices or software “apps”. Some GPs or other stakeholders may see opportunities for effective organization of care, or better diagnosis and monitoring of health conditions, or more individualized treatments. Others are concerned that introducing more e-technology may eat away at person-centered, biopsychosocial care, or other key features of family medicine.

Many patients like to consult “Dr. Google” before or along with their own family doctor, even if some may be struggle to cope with the information obtained. Health conscious citizens purchase wearable sensor devices, believing that “tracking” health related parameters will maintain or improve their health. Many share their data with the manufacturers of these devices or the appendant software, or social media platforms. Others may face difficulties when required to administrate their health insurance or healthcare provider appointments online.

In parallel, the health and healthcare sector is a huge business opportunity for technology, software or smart service companies, who already invest massively into developing and marketing health related products – and apparently perceive a good return of investments.

From both a family doctor and a researcher perspective, it does not seem wise to ignore the brave new world of digital health. It certainly has weaknesses and threats. However, it also offers strengths and opportunities to family doctors and their patients, and certainly to researchers, who can discover, develop, and evaluate the new features of a digital culture against the background defined by the core characteristics of general practice/family medicine.

## Local Keynote Lecture

### Prof. Cecilia Björkelund

Primary Health Care, School of Public Health and Community Medicine, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden.

## Don't get lost in translation of e-health to the real world general practice!

It is important that the e-health implementation is developed to fit into the primary care and general practice context, and not the other way round. The development should be in cooperation, where general practice and the patients are the stakeholders and show the direction.

The way to take a cooperative responsibility is to assert primary care and the users – our patients - already in the development and implementation phase of eHealth. General practice has a great responsibility to claim that an eHealth treatment programme or a support programme – which most of eHealth apps are – should be implemented in primary care by the way of research activities. This could preferably be made as a method development programme, where the first part is a randomized controlled study performed in the primary care context. Many developers should object to that, arguing that this would take too long and cost too much. However, we really need support for this claim of evidence, which is already an obvious demand for other parts of health care treatment and support methods. In Great Britain, NHS Digital has presented robust standards for the development of safe software, apps and IT systems and for deploying and operating such systems within the health and care environment.

For general practice/primary care the implementation of effective internet based treatment programmes and health apps is of great importance – but the effectiveness must be evaluated in several ways: Effectiveness for the patient, effectiveness for health care, and effectiveness for society. This means that we as general practitioners and health care workers must design studies that make both implementation and evaluation as effective as possible to be able to reach all goals. And in all this strain to reach highest effectiveness we must never underestimate the utmost therapeutic effectiveness of the patient/person centred consultation and continuity of care.

So what we in primary care/general practice can and must do is to claim the importance of standards for the development and treatment of safe software, apps and IT systems and claim that these devices should be developed in the primary care context with primary care and users/patients leading the research and development within primary care. There are several ways to design research studies to evaluate eHealth effectiveness in comparison to effectiveness of the real world GP consultation - and the lecture will give examples of feasible primary care study designs, facilitating adequate implementation in many ways.

## Local Keynote Lecture

### Prof. Guri Rørtveit

Head of Department, Professor MD PhD. Department of Global Public Health and Primary Care University of Bergen, Norway.

Professor Guri Rørtveit is the award winner of The Nordic Research Prize in General Practice, Nordic Federation of General Practice (2019) and Research and Innovation Prize, Bergen Municipality (2017). She is also project leader for PraksisNett – national research infrastructure supported by the Research Council of Norway with NOK 65.000.

### Primary Care Research Network: why and how?

The lack of clinical research in primary care is a problem that has been addressed by clinicians, researchers, health authorities and politicians alike. Clinical research in primary care is hard work, logistically. The researcher has to perform a two-step process; first recruit GPs for the study, and second support the clinician in recruiting patients. This cycle has to be done over and over again for each patient and each study.

For the clinicians, research invitations come unpredictably, and without advice from scientifically as well as clinically competent authorities. Each practice or even each single GP must decide whether the research project has the necessary scientific standard or clinical relevance. Missing competence to assess this may result in decline of participation due to uncertainty. In contrast, many clinicians may be interested in participating in research if a minimum of framework is in place. Such a framework must include support for practical tasks, training, available time from other duties, reasonable funding and relevance for own practice.

The lack of framework in many places represents a waste of time for clinical researchers and a waste of resources for the society. Ultimately, it reduces the patients' opportunity to participate in research in their own interest.

*Primary Care Research Networks* are infrastructures of clinical practices linked together by a research institution with employees who actively recruit clinicians to the network and help them stay "research ready". Furthermore, the network supports researchers in recruitment of patients and obtainment of data, which also reduces the burden on the clinician. Research networks already exist in the United Kingdom, the Netherlands, Ireland and other countries. In addition to supporting the obtaining of high quality data with less effort for the researcher, they also support international collaboration.

In Norway, we are currently establishing a nation-wide network, and I will share experiences from this process. The vision for the Norwegian Primary Care Research Network is to support research of high quality that ultimately improves the health of our patients. Establishment of research networks in primary care is an adequate response to current and future challenges in the health care services.

**Theme Paper / Ongoing study no results yet****Electronic health records across Europe: adoption, digital maturity, and implications for quality and safety of care**

Ana Luisa Neves, Ferdinando Petrazzuoli, Robert D Hoffmann, Heidrun Lingner, Hans Thulesius, Le Reste Jean-Yves

Center for Health Technology and Services Research, University of Porto, 4200-450 Porto, Portugal. E-mail: ana.luisa.neves@gmail.com

**Keywords:** electronic health records; quality and safety of care; patient-centred care

**Background:**

Electronic health records (EHR) are transforming health services by providing new mechanisms for accessing personal medical records, submitting incident reports, and communicating across care settings. However, despite government efforts all over Europe, little is known about current adoption rates and levels of digital maturity in different countries. Furthermore, despite the growing body of evidence on the theorised benefits of EHR on quality and safety of care, there is still a considerable gap between the predicted and demonstrated implications.

**Research questions:**

The aims of this work are to characterise EHR use (adoption and digital maturity) by Primary Care Physicians (PCP) across Europe, and to evaluate their perspectives on the impact on the quality and safety of care.

**Method:**

The study will use an online questionnaire survey of PCPs from several European countries. Recruitment will start in June 2020 and will be completed in June 2021. Each national lead will recruit PCPs through their contact networks directly by email, at a minimum number of 25 participants. Snowballing sampling will be used if required. The survey will include multiple choice questions to characterise the system features and adoption rates. Digital maturity will be evaluated using the "Patient-centered Framework for Evaluating Digital Maturity of Health Services". Free-text questions will be used to assess perspectives on quality and safety of care, using a SWOT analysis approach. Quantitative data will be analysed using SPSS to explore relationships between perceptions and participants/countries characteristics. Qualitative data will be analysed in InVivo using the framework analysis method.

**Results:**

Ongoing study with no results yet.

**Conclusions:**

EHR usage is far from universal, but we need to gather data on the current state of usage across Europe, as well as PCP beliefs regarding safety and quality of care. This data will allow us to inform health management personnel about the situation and needs.

**Points for discussion:**

1. What comments and recommendations do you have for the study researchers?
2. What drawbacks and possible limitations do you see in our proposed methodology?
3. Are you interested in joining and being your country's coordinator?

**Theme Paper / Finished study****Predicting primary care physicians' intentions to use e-health - a survey study based on the theory of planned behavior**

Veronica Milos Nymberg, Miriam Pikkemaat, Hans Thulesius

Clinical Sciences Malmö, 20213 Malmö, Sweden. E-mail: veronica.milos\_nymberg@med.lu.se

**Keywords:** survey, primary health care, e-health, theory of planned behavior

**Background:**

While e-health is remodeling health care worldwide we know little about primary care physicians' attitudes and expectations of e-health. Research about primary care physicians' use of e-health, i.e. digital contacts, digital tools or artificial intelligence (AI) may be useful for planning educational efforts and future implementation of digital technology in health care.

**Research questions:**

The aim of this study was to explore the experiences and behavioral intentions of Swedish primary care physicians towards e-health in primary care with a focus on behavioral predictors derived from the theory of planned behavior.

**Method:**

We designed a web-based survey with focus on attitudes, subjective norms and perceived behavioral control. The survey was sent to 1100 primary care physicians in two Swedish regions, from May to August 2019. Main outcome measures were scores for intentions to use e-health. Multiple regression analyses were made to study the correlation between predictors for using e-health derived from the theory of planned behavior.

**Results:**

Total response rate was 18%, 198 returned surveys of which 134, 154, 161 and 171 respondents reported no use of e-mail (68%), video consultations (78%), chat (81%), or SMS (86%) in their everyday patient work. Yet, most respondents described positive intentions to use e-health in patient care for all three studied domains: digital contacts, chronic disease monitoring and AI. Attitudes and perceived behavioral control were significant predictors ( $p < 0.01$ ) for intentions to use digital contacts ( $R^2 = 0.54$ ), monitoring disease with digital tools ( $R^2 = 0.47$ ) and AI ( $R^2 = 0.54$ ).

**Conclusions:**

Swedish primary care physicians reported high behavioral intentions to utilize e-health. Attitudes, subjective norms and perceived behavioral control were strong predictors for using digital contacts. Social pressure translated into subjective norms was not correlated with intentions to use digital tools for chronic disease monitoring or AI, probably due to their current low use in primary care.

**Points for discussion:**

How do we overcome the challenge with low response rates in web-based surveys?

Do cognitive behavioral theories have a role in describing behavioral intentions and designing interventions in primary care?

**Theme Paper / Ongoing study with preliminary results****Video consultations as an alternative to face to face consultations in primary care**

Anthony Heymann, Inbal Moses, Ori Harel

University Tel Aviv, 5222340 ramat gan, Israel. E-mail: tonyheymann@gmail.com

**Keywords:** Telemedicine, Video, Primary Care , General Practice

**Background:**

Telemedicine is the use of communications networks for delivering health care services from one geographic location to another.

It is a complex task that carries some inherent difficulties and risks compared to regular consultations. For six months patients in the Meuhedet HMO, patients have been able to book video consultations with their GP who conduct the meeting from within the patient's file in the electronic medical record. The GP can send the patients prescription or referrals electronically as required.

**Research questions:**

The aim of the study was to identify the characteristics and satisfaction of the video consultation users and identify the barriers and promoters of the use of the service by the patients and physicians.

**Method:**

This is a mixed methods study including (1) data pertaining to the implementation of the video consultation (2) a patient survey of their video consultation experience (3) a focus group discussion of physicians that participated in the pilot. Data from 26 physicians was collected over a six month period from May 2019

**Results:**

The patients seemed highly satisfied with their video visits (score 4.63/5.0). During this period, 2150 digital visits were scheduled, 40% were completed. There were 20% no-show as opposed to 29% for regular visits. 33% were canceled in advance by patient. The average patient age was 32.8 years compared with 33.8 for regular visits. In 61% of video visits the patients were female compared with 54% for regular visits.

The physicians in the focus group felt that the video service was a positive change, noting improved time management and better access for patients such as for mothers with young children. The medico-legal issue was not regarded as a barrier because physicians felt free to invite the patients for a regular visit if necessary.

**Conclusions:**

Both physicians and patients were satisfied from the technology which enabled effective physician-patient interaction.

**Points for discussion:**

What are the goals of the planned qualitative and quantitative research?

Which aspects of these consultations need further research?

The difficulty of researching an intervention or service that is being rolled out nationally in a medical setting

**Freestanding Paper / Finished study****European Forum Primary Care Mental Health**

Lisa Hill, Jan Delepeleire, Dineke Smit, Ian Walton

Staffordshire University, DY9 0QS HAGLEY, United Kingdom. E-mail: lisa.hill9@btinternet.com

**Background:**

The European Forum for Primary Care Mental Health (EFPCMH) working group collated the experiences and views from a series of co-produced workshops over a period of six years. The workshops produced recurring themes that have been collated.

There was consensus that the current system, where everyone with a mental illness is expected to be treated by a specialist, is not economically feasible or desirable.

**Research questions:**

To determine the main themes influencing primary care mental health across Europe

To identify the shared issues from across Europe.

To identify the solutions based on evidence and best practice

**Method:**

Using a qualitative approach and an iterative process to produce themes, the issues, and solutions to formulate a position paper.

A literature search was undertaken on each theme to identify current thinking and theory.

The results were collated into a position paper for the European Forum Primary Care with input from EUCOMS and PRIMOIRE

**Results:**

The workshop participants shared many beliefs and values, embracing the move to destigmatise mental health, through co-production, to include the patients' and caregivers' voices and skills in the research and development of services. The workshops discovered that there is no universal framework for integration, a patchwork of primary care response, poor data collection, limited investment and little research on outcomes for the service users and their families.

**Conclusions:**

There was a consensus that those in society who are most vulnerable and have the most needs are not getting them met. Themes from across the whole life course were identified as priorities for transformation to enable primary care to be pivotal in a new system of mental health. These themes are not exhaustive, they offer a holistic framework where primary care would enable a psychosocial, spiritual and cultural perspective to work alongside the physical health model to ensure holistic care.

**Points for discussion:**

Themes, sharing of best practice, sharing of evidence, next steps

**Freestanding Paper / Finished study****The primary care patients' willingness to be treated with brief intervention to reduce the alcohol consumption: a cross-sectional study.**

Thomas Fankhaenel, Thomas Frese, Anna Louise Mueller

Martin-Luther-Universität Halle-Wittenberg, 06120 Halle, Germany. E-mail: thomas.fankhaenel@srh.de

**Keywords:** primary care, harmful alcohol consumption, brief intervention, willingness to be treated

**Background:**

Preventive approaches such as brief intervention (BI) have been shown to be effective in reducing alcohol consumption in general practice patients. Despite its proven effect most General Practitioners (GPs) have not implemented BI into their routine care. According to the GPs the lack of adherence and willingness to be treated with BI are crucial barriers against its implementation. In contrast, research investigating the patients' attitudes towards alcohol associated interventions revealed that patients showed a rather high willingness to be treated in case of a too high alcohol consumption. By an experiment we tried to find out the real willingness of patients to be treated with BI.

**Research questions:**

Are general practice patients willing to be treated with BI in case of a too high alcohol consumption? Do GPs estimate the patients' willingness to be treated with BI too negatively?

**Method:**

Using a questionnaire general practice patients were asked for their willingness to be treated with BI under the hypothetical condition of a too high alcohol consumption. Their willingness was assessed firstly under the condition of a consequent implementation style and the use of demands and secondly under the condition of an inconsequent implementation style and the use of recommendations. According to our hypothesis lack of willingness would be shown by preferring the inconsequent style.

**Results:**

Altogether 442 questionnaires were analyzed. Mean age of patients was 44 years. More than half of the patients were women (54.7%). The sample preferred the non-strict implementation style,  $F(1,423) = 5.56$ ,  $p < .05$ .

**Conclusions:**

It was shown that primary care patients prefer the non-consequent implementation of BI suggesting a rather low willingness to be treated. Future research should focus on personal characteristics that are associated with a higher willingness.

**Points for discussion:**

Brief interventions suitable for general practice?

Is it time for new treatment ideas?

**Freestanding Paper / Finished study****What are the barriers to the implementation of advance directives related to the surroundings of the patients with unfixed psychiatric illnesses? A systematic literature review**

Patrice Nabbe, Cyril Hazif-Thomas, Delphine Le Goff, Axel Mouster, Bernard Le Floch, Jean Yves Le Reste

EA 7479 SPURBO, 29260 KERNOUES, France. E-mail: nabbeperso@gmail.com

**Keywords:** behavior, behavior mechanism, advance care planning, psychiatric disorders

**Background:**

Advance care planning (ACP) are documents specifying a person's instructions about care in the event of future loss of deciding capacity. ACP could enhance the communication, the autonomy and the control of patients suffering from mental health problems. Consumers and providers have been proved to be largely supportive for ACP.

**Research questions:**

What are the stakeholder's barriers to the implementation of PADs, during the mental disorder crisis time?

**Method:**

A Systematic Literature Review was performed in Pubmed, on survey published between 2001/01/01 and 2018/12/31. The search query was focused on "Advance Directives" and "Mental Disorders". Abstracts exclusion criteria: No availability (I), language used were not French or English (II), no mention of ACP (III), patient was the only subject of the study (IV), patients didn't suffer psychiatric disease (V), record didn't talk about the patient's surrounding (VI). Inclusion of full-articles' criteria: availability (I), languages used were French or English (II), about the implementation during crisis time (III), patients suffered psychiatric disease (IV), survey talked about stakeholders (V), IMRAD format (VI).

A snowballing was performed on full-articles using same criteria. Articles were submitted to a thematic and a phenomenological analysis, to identify the stakeholders' barriers to implement the ACP during crisis time.

**Results:**

663 records extracted. 6 records duplicate. 657 abstracts analyzed. 589 excluded. 67 full-articles eligible for inclusion, 1 not found, 52 not included, 14 included.

Using the snowballing, 352 records collected. 196 duplicate. 156 abstracts screened, 15 full-articles selected. 10 articles included.

24 articles were included for thematic analysis.

24 axial codes identified, grouped in 5 themes: Legal system, Health system, Completion phase, Integrity issues, Mistrust and lack of knowledge.

**Conclusions:**

The different stakeholders involved in this process have highlighted various obstacles. To reduce and overcome them, more education and training will be needed.

**Points for discussion:**

what are your problems with the application of advance directives in your different countries, concerning patients suffering from psychiatric illnesses?

**Theme Paper / Published****Erroneous computer-based ECG interpretations of atrial fibrillation and atrial flutter in a Swedish primary health care setting**

Hans Thulesius, Thomas Lindow, Erik Ljungström, Josefine Kron, Olle Pahlm

R&D Kronoberg, Clinical Sciences, 35250 Växjö, Sweden. E-mail: hansthulesius@gmail.com

**Keywords:** Atrial fibrillation, electrocardiography, computer-based

**Background:**

Patients with atrial fibrillation and atrial flutter are common in primary care but data regarding the incidence of misdiagnoses in primary care settings are lacking. We aimed to describe the incidence of incorrect computerized ECG interpretations of atrial fibrillation or atrial flutter in a Swedish primary care population, the rate of correction of computer misinterpretations and the consequences of misdiagnosis.

**Research questions:**

What is the incidence of misdiagnosis of atrial fibrillation and atrial flutter in a computer-based ECG assessment system in primary care? And what is the impact of misdiagnosis?

**Method:**

We included all adult patients who had an ECG recorded at most primary health care centers in Region Kronoberg, Sweden, between January 2016 and June 2016 with a computer statement including the words "atrial fibrillation" or "atrial flutter". Retrospective expert re-analysis of ECGs with a computer-suggested diagnosis of atrial fibrillation or atrial flutter was performed.

**Results:**

Of 988 ECGs with a computer diagnosis of atrial fibrillation or atrial flutter 89 (9%) were incorrect, among which 36 were not corrected by the interpreting physician. In 12 cases, misdiagnosed atrial fibrillation/flutter led to inappropriate treatment with anticoagulant therapy. More atrial flutters, 27 out of 80 (34%), than atrial fibrillations, 62 out of 908 (7%), were incorrectly diagnosed by the computer.

**Conclusions:**

In almost thousand consecutive ECGs with a computer-based diagnosis of atrial fibrillation or atrial flutter in a Swedish primary care setting the diagnosis was incorrect in one out of eleven patients and in almost half of these cases the misdiagnosis was not corrected by the interpreting primary care physician. Twelve patients received inappropriate anticoagulant treatment as a result of misdiagnosis.

**Points for discussion:**

Is there a difference in misdiagnosis between different ECG software assessment systems?

What is the procedure for the diagnosis of afib / afl in your jurisdiction?

How could we minimise misdiagnosis and the consequences of misdiagnosis?

**Theme Paper / Published**

## **Feasibility study on recruitment in general practice for a Health information technology trial**

Allan Riis, Michael S Rathleff, Jan Hartvigsen, Janus L Thomsen, Tamana Afzali, Martin Bach Jensen

1.Research Unit for General Practice at Aalborg University 2.Department of Sports Science and Clinical Biomechanics, Center for Muscle and Joint Health, University of Southern Denmark 3.Physiotherapy Department, University College of Northern Denmark, 9220 Aalborg, Denmark. E-mail: ariis@dcm.aau.dk

**Keywords:** Low back pain; feasibility study; general practice; recruitment; retention; medical informatics app; evidence-based-treatment

### **Background:**

We plan to compare satisfaction with a standard website versus satisfaction with a participatory driven web-application in a future randomised controlled trial (RCT). The web-application may facilitate the delivery of evidence-based advice and information to patients with low back pain (LBP) in general practice.

### **Research questions:**

The aim was to conduct the main trial in a miniature setting with the purpose to report on the lessons learned from recruitment and report on reasons for loss to follow-up.

### **Method:**

This is a feasibility study intended to inform the RCT. The GP invited adult patient with non-specific LBP to participate by handing out an envelope with a link to the project homepage. Patients were told that the purpose was to test the setup of the study, including the randomisation module and data collection. Patients were informed that the research team needed their phone number to discuss any challenges with access to the website or with using online information to read about their LBP and finally to fill out online questionnaires.

### **Results:**

We recruited 12 women and 8 men from two general practices with each practice recruiting for three months. Reasons for dropping out: loss of envelope, forgot about the study, had become pain-free and the trial was not relevant to them, and the login procedures was too demanding. Full follow-up data was available in only three patients (15%).

### **Conclusions:**

Based on the high loss to follow-up, we do not consider it feasible to conduct the full-scale RCT as planned.

### **Points for discussion:**

Modifying inclusion criteria to patients expressing an interest in using online health information may improve follow-up rates

Letting patients respond with their immediate satisfaction directly after inclusion in the general practice may ensure follow-up data

The web-application can be included in a larger multi-faceted intervention, making the combined intervention seem more relevant to study participants

## Theme Paper / Ongoing study with preliminary results

# Maccabi RED - Uberization of Minor Trauma and Semi - Urgent Medical Care in Primary Care Settings

Ilan Yehoshua, Limor Boker Faran, Miri Mizrachi Reuveni, Naomi Sigal

Maccabi health services, 7983000 Kfar Harif, Israel. E-mail: yehoshua\_i@mac.org.il

**Keywords:** Semi - Urgent medical care, minor trauma, Primary care setting

### Background:

Avoidable ER visits are a worldwide concern, mainly wasted time for patients and overcrowding in ERs. Community-based physicians are at high risk of burnout because their routines are dominated by administrative tasks with few opportunities to treat minor trauma and semi-urgent procedures.

Maccabi RED – An Innovative Urgent Care Search & Match System

We have created nationwide network of 600 community-based maccabi HMO physicians, able and willing to treat specific minor trauma and provide semi-urgent medical care.

### Research questions:

1. Would the new process succeed in remodeling semi-urgent primary care ?
2. would it show a reduction in ER visits ?
3. What would be the effect on both doctors and patients ?

### Method:

Patient presents with semi-urgent need for immediate medical care, during regular operating hours of the community clinics.

- Patient undergoes clinical triage by nurse/physician.
- Nurse/physician uses Maccabi RED to locate appropriate nearby physician in the RED network.
- RED network physician confirms availability and patient is referred .
- Patients can also use the innovative UBER-like RED app based on a digital clinical decision tree, to locate appropriate nearby RED network physician by themselves

The data is continuously collected and analysed, as well as the qualitative data about doctors and patients satisfaction

### Results:

From December 2017 to July 2019, there were 4,804 cases in which Maccabi RED network was used.

17% - minor surgical treatments, 24% - orthopedic, 17% Ob-Gyn, 14% - ENT and ophthalmology and 24% - other.

- 70% (3,353) – an appropriate physician was available in the patient's vicinity
- Patients were seen by a physician within 1.1 hours on average from referral.

### Conclusions:

The benefits Real-time community-based solution to semi-urgent medical needs.

- Optimal utilization of community-based physicians clinics.
- patients - better, immediate treatment with less hassle.
- Doctors - Higher satisfaction and less burnout

### Points for discussion:

Would the change remain and increase ? Would it work with other HMOs in Israel and worldwide ?

**Freestanding Paper / Finished study****Comparing uterine cervical cancer screening and papillomavirus vaccination uptakes – an exploratory study of reimbursement databases**

Thibaut Raginel, Rémy De Mil, Anne Garnier, Guy Launoy, Lydia Guittet

Department of General Practice, 14000 Caen, France. E-mail: t\_raginel@orange.fr

**Keywords:** Healthcare Administrative Claims; Primary prevention; Early Detection of Cancer; Healthcare Disparities; Uterine Cervical Neoplasms; Cervix Uteri

**Background:**

The socioeconomic deprivation of women is a factor associated with the inequality in uterine cervical cancer (UCC) screening uptake. An UCC organised screening program has proven to be effective in increasing the uptake but may also increase socioeconomic inequality. General practitioners (GPs) are involved in both UCC primary and secondary preventions: papillomavirus (HPV) vaccination and cytological screening.

**Research questions:**

In order to assess the effect of an organisation of UCC screening on inequalities, we aimed to compare a French department with organised screening with a French control department, using HPV vaccination uptake as a control group.

**Method:**

We used reimbursement data from the main French health insurance scheme to compare vaccination rates and screening rates in the municipalities of the two departments over a three-year period. Social inequality was measured at the municipal level using a validated aggregated indicator: the French European Deprivation Index.

**Results:**

Unlike screening reimbursement data, vaccination data revealed a large and unexpected proportion of young girls whose identified place of living did not match the expected department and did not allow compared analyses. However, the organised screening department had higher screening rates but the increase in deprivation was associated with a greater effect on the decrease in UCC screening participation in this department. While GPs were overwhelmingly involved in the prescriptions of reimbursed vaccines, cervical smear reimbursements were mainly consequent to a gynaecologist's prescription.

**Conclusions:**

The vaccination data revealed an unexpected geographic distribution that did not allow the analyses planned in the protocol. Several hypotheses have been made to explain this distribution and will be presented with the results. Screening reimbursement data seemed to confirm previous studies, both on the attention to be paid to the socioeconomic inequality and on the limited involvement of French GPs in UCC screening.

**Points for discussion:**

Have other members carried out or planned similar analyzes in order to improve the quality of the available databases?

How does other members manage the identification of teenagers' reimbursements, whose data are often linked to their parents' identification?

Are some members aware of prospective primary care cohorts to monitor populations vaccinated or not against HPV?

**Freestanding Paper / Ongoing study with preliminary results****Factors that Empower GPs for Early Cancer Diagnosis. A Delphi Study Protocol**

Robert Hoffman, Mette Brekke, George Tzanis, Davorina Petek, Michael Harris, Emmanouil Smyrnakis

Sackler Faculty of Medicine, Family Medicine, 7629117 Rehovot, Israel. E-mail: drrdhoffman@gmail.com

**Keywords:** cancer; empowerment; General Practice; Primary Health Care; Delphi; Diagnosis delay; Decision making

**Background:**

survival rates vary widely in Europe, causing considerable additional mortality in some countries. One possible explanation is the differing levels of empowerment of GPs when faced with patients that could have cancer.

**Research questions:**

What are the factors that affect GPs' empowerment in making a timely diagnosis of cancer in their patients?

**Method:**

We will use a Delphi process, which allows easy access to experts who are geographically distant, giving them the opportunity to have their opinions taken into account. Up to 30 Örenäs Research Group countries will be involved in this multi-centre study. Local study leads will recruit 5 panellists from each country. At least 3 panellists will be working GPs and the others will be GP academics. Representation of both genders, rural and urban practice, and working experience, will also be requested.

The project group produced a list of factors that they believe affect GPs' empowerment in making a timely cancer diagnosis. The list will be used in a 3-round Delphi process, with a 9-point Likert scale for participants to indicate the clinical relevance of each factor in a primary care setting. Factors will be included in the final list if the mean Likert score minus one SD exceeds 5 in Round 3.

**Results:**

In a pilot round, all Örenäs Research Group members were invited to study the initial list of 80 factors, score them and suggest additions. After omitting those with the lowest scores and merging those with similar meaning, the research team produced a final list of 52 factors. This list will be the basis of the Delphi survey.

**Conclusions:**

We expect that the results will identify priorities and specific actions to help increase GPs' empowerment in making a timely diagnosis of cancer in their patients.

**Points for discussion:**

How can we interpret the results of the study for each individual European country?

How can we use the results of the study to reduce inequalities in cancer survival rates in European countries?

**Freestanding Paper / Almost finished study****Perceptions and experiences of lung cancer patients regarding collaboration between general practices and hospitals: Results of a qualitative interview study**

Jasmin Bossert, Katja Krug, Johanna Forstner, Michael Thomas, Matthias Villalobos, Anja Siegle, Corinna Jung, Nicole Deis, Michel Wensing

Department of General Practice and Health Service Research, 69120 Heidelberg, Germany. E-mail: Jasmin.Bossert@med.uni-heidelberg.de

**Keywords:** cross-sectoral collaboration, coordination, electronic platform, lung cancer patients, comorbidity

**Background:**

Lung cancer patients with comorbidity often require treatment and care by different health professionals, in different settings, and at different points in time during the course of the disease. In order to organise and coordinate healthcare efficiently, effective collaboration between general practitioners and hospitals is required.

**Research questions:**

The aim of this study was to assess the views of advanced lung cancer patients with comorbidity regarding coordination of care across healthcare sectors.

**Method:**

This qualitative study used face-to-face guide-based semi-structured interviews with advanced lung cancer patients and their informal caregivers. Data were audio-recorded, pseudonymized and transcribed verbatim. Data analysis was performed using Qualitative Content Analysis to structure data into themes and sub-themes.

**Results:**

In 15 interviews, participants reported that cross-sectoral collaboration functioned well, if treatments were carried out as planned. If treatment gaps did occur, participants assumed the cause to be different levels of information among general practices and hospitals. General practitioners are often not informed about changes in medication and treatment regimens during the hospital stay. As a result, participants felt to take responsibility for the coordination of care. However, they perceive that this role should be assumed by a general practitioner. Potential for optimization of cross-sectoral collaboration was seen in the way of communication by using an electronic platform.

**Conclusions:**

A more intensive exchange via an electronic platform was perceived to support the information level of general practitioners about hospitalization. Despite growing evidence that patient-managed platforms can have positive benefits for healthcare, such concepts are not yet widely adopted in Germany. Therefore, there is growing pressure to address barriers for the implementation of digital information transfer, which could have major implications for coordination of health care in general practice.

**Points for discussion:**

How do general practitioners view the use of an electronic platform for cross-sectoral exchange?

How do general practitioners perceive their role as care coordinator?

**Theme Paper / Finished study****Digital therapeutics: technology innovation to face General Practice's challenges in 2020**

Alberto Malva, Francesco Del Zotti, Giuseppe Recchia

Fondazione Smith Kline, 37135 Verona, Italy. E-mail: albertomalva@outlook.com

**Keywords:** Digital Medicine; Digital Therapeutics; DTx; Digital Health; Digital Pharmacology

**Background:**

Digital therapeutics (DTx) are evidence-based software aimed to prevent, manage, or treat a broad spectrum of physical, mental and behavioural conditions. These interventions are typically subject to regulatory oversight and can be standalone or in combination with traditional drug therapies. DTx form an independent category of evidence-based products within the broader digital health landscape and are distinct from pure-play adherence, diagnostic, telehealth products.

**Research questions:**

Here we provide a review of current evidences and challenges regarding the possible use of DTx in family medicine practice.

**Method:**

Review until June 2019 of the DTx suitable for family medicine approved/under approval by FDA or under development according to the top 10 tech startups listed in order of funding.

**Results:**

reSET® is the first DTx approved by FDA (2017) as cognitive behavioral therapy (CBT) for the treatment of substance use disorder - abstinence rate improvement versus human performed CBT 40.3% vs 17.6%. Respimat® combines software and hardware program to improve asthma and COPD control and optimize healthcare utilization. Dthera Sciences delivers reminiscence therapy to Alzheimer's patients in a scalable and personalized manner. Spleepio™ performs sleep improvement program featuring CBT techniques. KAIA delivers physical exercises and behavioral therapy for chronic back pain patients. Several companies have developed software which engage patients with Type 2 diabetes, hypertension and obesity to improve self-management and outcomes.

**Conclusions:**

DTx have significant potential to affect primary care landscape thanks to the ability to empower patients, healthcare providers and payers through intelligent and accessible tools for addressing a wide range of conditions via data-driven interventions. The role of GPs in the research, development and delivery of DTx is crucial but still to be determined as well as the contribute expected from European GPs to adapt and delivery DTx developed in US concerning regulatory, social and ethical point of view.

**Points for discussion:**

What is the role for GPs in the research, development and delivery of DTx?

What is the contribute expected form European GPs to adapt and delivery DTx developed in US concerning regulatory, social and ethical point of view?

How medical education regarding DTx (adverse effects, dose/response pharmacology, pharmacovigilance etc) should be implemented?

**Theme Paper / Ongoing study with preliminary results****Pioneering teledermatology in Lithuanian primary care**

Greta Petkeviciute, Roberta Lakstinyte, Kristina Ziuteliene, Prof. Ida Liseckiene, Prof. Leonas Valius

Lithuanian University of Health Sciences, Medical Academy, Faculty of Medicine. Lithuanian University of Health Sciences Kaunas Clinics, Department of Family Medicine. Lithuanian College of Family Physicians., LT-50161 Kaunas, Lithuania. E-mail: petkeviciutegret@gmail.com

**Keywords:** Teledermatology, teleservices, dermatoscopy, family medicine physician

**Background:**

Teledermatology - the process of diagnosing dermatological problems, in the case of store-and-forward technology. It is a new method of diagnosing skin conditions in Lithuanian health care. Also it is a cost-effective tool to increase access of services for patients. Cost savings and benefits for the patients are especially pronounced in rural areas with long waiting time to dermatologist. This is the first project using store-and-forward technology to administrate teleservices in Lithuanian health care.

**Research questions:**

Are family medicine physicians (FMP) capable to provide teleservices?

What are the differences between diagnosis in dermatologist and qualified FMP's reports?

**Method:**

A prospective pilot study was performed from November 2018 till January 2020. Subjects were 152 patients of the Family medicine department. They were consulted for skin check-up by qualified in dermatoscopy FMP and an advanced nurse practitioner. Patients' information was managed by the store-and-forward technology. Skin lesions were photo-documented by digital dermatoscope. All data was sent to the dermatologist for consultation.

**Results:**

The included 152 patients were 11–88 years old. During 55 FMP's visits 445 dermatoscopy images. The most common diagnosis was Seborrheic keratosis. 4 malignant skin tumor cases (1 malignant melanoma, 1 squamous cell carcinoma, 2 basal cell carcinoma) were diagnosed and completely treated during this study. FMP's diagnosis compared to dermatologist's reported diagnosis coincidence rate was 92.4%. Only for 7.6% lesions diagnosis between FMP and dermatologist were different. 43 (28.3 %) patients were referred for additional treatment to the dermatologist. The maximum time from registration to seeing a FMP for skin check-up was 4 days vs. dermatologist appointment 14-28 days. Approximate time until dermatologist report completed was 7 days.

**Conclusions:**

Qualified in dermatoscopy FMPs are capable to provide teleservices. Our pilot study confirms the possibility of store-and-forward teledermatology in FMP practice is going to lead to a 71.7% reduction in referrals to a specialist.

**Points for discussion:**

How to improve establishment of teleservices in Lithuanian FMP practice?

How to make this skin examination model more accessible for adopting in primary care at booth rural and main areas of Lithuania?

Limitations: legislation basis for teleconsultation system, FMP qualification in dermatoscopy, no incentive payment to perform teleservices for FMP neither dermatologist. What we could do to resolve these limitations?

**Theme Paper / Finished study****Referral and hospital admission rates at prisons offering scheduled or unscheduled primary care and psychiatric video consultation**

Katharina Schmalstieg-Bahr, Peter Merschitz, Joachim Szecsenyi, Eva Blozik, Martin Scherer

University Hospital Hamburg Eppendorf, 20249 Hamburg, Germany. E-mail: k.schmalstieg-bahr@uke.de

**Keywords:** primary care, health care of prison inmates, video consultation, secondary care referral, hospital admission

**Background:**

In comparison, prison inmates are at a higher risk for drug abuse, psychiatric or infectious diseases. Although intramural health has to be equivalent to extramural services, prison inmates have yet less access to specialized health care services. Often, a transport to the nearest extramural medical facility is resource-intensive. Video consultations may offer the chance to deliver cost-effective health care for those patients.

**Research questions:**

How often and why are referrals to secondary care and hospital admissions needed when a scheduled or unscheduled video consultation is offered at a prison?

**Method:**

In five German prisons, a pilot project was conducted in order to assess feasibility, acceptance and consultation reasons of primary care and psychiatric video consultations between June and December 2018. This analysis includes the data of 436 consultations from June 2018 to February 2019 and focuses on referral and admission rates, as well as reasons.

**Results:**

Most consultations were scheduled (341/436). In 67,4% (294/436) of all consultations the patient was asked to come back if symptoms persisted or got worse. In 26,6% (116/436) a follow up appointment with the video consultant or prison physician was scheduled. A referral to other specialties, most often psychiatry, was necessary in 3,9% (17/436) of the cases. Only in 1,8% (8/436) a hospital admission was needed. Usually (7/8) an admission was the result of an unscheduled consultation and video was used in 87% (7/8). Reasons for admissions were severe abdominal pain, hypotension, unstable angina / suspected myocardial infarction or a suspected schizophrenic episode.

**Conclusions:**

Most scheduled and unscheduled consultations did not require a subsequent patient transport to external healthcare providers. Using telemedicine allowed a prompt consultation with the possibility to refer patients to other specialties or hospitalize them when necessary.

**Points for discussion:**

- 1.) Compared to a face-to-face consultation will video consultations more likely lead to under-, over- or incorrect treatment? Or is there no difference?
- 2.) In which settings would you consider video consultations as an adequate health care solution?
- 3.) What is the scientific as well as the health care impact of video consultations in future?

**Theme Paper / Ongoing study with preliminary results****Telemedicine in patents with arterial hypertension and diabetes - preliminary results from the pilot project**

Marija Petek Ster

Medical faculty, Dep. for family medicine, University of Ljubljana, 1000 Ljubljana, Slovenia. E-mail: marija.petek-ster@mf.uni-lj.si

**Keywords:** telemedicine, family medicine, chronic diseases, feasibility, acceptability

**Background:**

With the increasing availability and rapid development of information and communication technologies, especially the Internet, the use of telemedicine is also becoming more widespread. The aim of telemedicine is to improve the quality of patient's care.

**Research questions:**

In the pilot project of managing patients with diabetes and arterial hypertension in Slovenia tested the feasibility and acceptability of telemedicine monitoring for patients and health care workers, the impact on the health related outcomes and the workload of health care workers.

**Method:**

We included 100 patients with arterial hypertension, arterial hypertension and diabetes or diabetes only who were able to use blood pressure and /or blood glucose monitors and a smartphone, based on a pragmatic approach to sampling. Patients were monitored for 6 months in accordance with a pre-designed protocol that followed national guidelines. According to the protocol, patients transmitted the blood pressure and sugar values to a nurse, who provided additional instructions or referred the patient to a doctor. Qualitative data analyses of semi structured interviews with patients and health care workers were made.

**Results:**

The method was feasible and acceptable for patients with basic e-literacy. It means some additional workload for the nurse, but the workload of a doctor or emergency department has not increased. The method contributed positively to the patient's knowledge of the disease and treatment; brought additional information about the values of blood pressure and blood glucose profile and helped the physician in adaptation of treatment.

**Conclusions:**

A pilot project confirmed that telemedicine monitoring is feasible and acceptable for patients with basic e-literacy; however, due to the methods used and short follow-up time and, we were unable to assess the impact of the cost and health related outcomes.

**Points for discussion:**

Experiences with telemedicine in the management of patients with chronic diseases other countries?

Which outcomes are the most relevant in assessment of the usefulness of telemedicine in primary care?

**Web Based Research Course Presentation / Study Proposal / Idea****Can medical students look after themselves? Participatory action research to promote well-being and decrease depression in Riga, Latvia**

Cindy Heaster, Sandra Gintere, Vija Silina, Ilze Koreškova

Riga Stradins University, LV-1007 Rīga, Latvia. E-mail: cindyheaster@gmail.com

**Keywords:** Action Research, well-being, depression, medical students,

**Background:**

Medical students worldwide experience a high prevalence of depression, and Latvia is no exception. To improve student well-being and decrease the prevalence of depression, we need a better understanding of stressors and coping mechanisms and to act on this understanding. Participatory Action Research (PAR) works with the stakeholders through an iterative process of planning, action and reflection to enact change. Medical students are a group who could be empowered to produce, together with the researchers, their own solutions to improve well-being and decrease depression.

**Research questions:**

How do medical students experience stress and how do they cope with it?  
Which interventions improve well-being and decrease depression?

**Method:**

This mixed methods, PAR study will use in-depth interviews and focus group discussions in the initial exploratory phase. The aim of this phase is to explore themes related to student well-being and depression, and define together with the students which interventions would be the most acceptable. These interventions include, but are not limited to, peer support programmes, physical activity, organisational changes and individual and group psychotherapy. The second, pre-action phase will involve quantitatively measuring well-being and depression using the WHO-5 and PHQ-9. In the third, action phase, we will implement interventions found to be the most feasible, and acceptable to students using a PAR reflective cycle of information collection, reflection, and action. In the fourth phase, the WHO-5 and PHQ-9 will again be used to measure well-being and depression.

**Results:**

Results will be presented at the end of each phase.

**Conclusions:**

We have known for many years that medical students experience a higher rate of depression than the general population. We need to move beyond numbers to an understanding of lived experience in context, and then act collaboratively on this understanding to promote medical student well-being.

**Points for discussion:**

The advantages and disadvantages of participatory action research

The feasibility of decreasing stressors in medical education

**Web Based Research Course Presentation / Ongoing study no results yet****Communication in Patient-Physician Relationship in Turkey: Opinions of Family Physician Residents**

Nazife Alpman, Gülsen Ceyhun Peker

Ankara University Medicine Faculty, 06230 Ankara, Turkey. E-mail: nazzifealpman@hotmail.com

**Keywords:** Family Physician, Communication, Turkey

**Background:**

Creating a healthy society is directly related to creating healthy communication media in social life. Primary care health service centers are the first contact point for patients to encounter healthcare services. The effective patient-physician relationship that is established here significantly affects the effectiveness and quality of the service and improves preventive and curative health services. A healthy patient-physician communication increases satisfaction with health services, eases overcoming diseases, ensures cooperation with patient in treatment, decreases malpractice cases and burnout syndrome in physicians. It is accepted that 70% of the diagnoses are made as a result of a healthy patient-physician interview. However, in this multiple structure where reciprocal information exchange is intense there are personal variables such as work, education, family, social life, stress... And these may turn into communication confusion and problems. When the complaints of the patients about physicians are examined, it is seen that they mostly complain about physicians' communication skills. On the other hand, according to the researches 63% and 90.6% of family physicians working in primary care health service centers had a negative communication experience with their patients. In the literature, there are studies carried out on patients and physicians working in primary care health service centers about patient-physician communication. However, the researches about the family physician residents, who are the family physician specialists of the future, are limited.

**Research questions:**

Are there the communication problems in patient-physician relationship?  
How does education of communication effect this relationship?

**Method:**

We are collecting volunteer family physician residents' viewpoints by online survey. Data is going to be analyzed by IBM SPSS 15.0 (SPSS Inc., Chicago, IL, USA) program, an  $\alpha$  level of .05 will be used for all statistical tests.

**Results:**

not yet

**Points for discussion:**

Are there the communication problems in patient-physician relationship?

How does education of communication effect this relationship?

Which other variables do effect this relationship?

**Web Based Research Course Presentation / Finished study****Contagious content: the role of social media in vaccination.**

Louise Fitzgerald, Emer Ryan

ICGP, 1 Dublin, Ireland. E-mail: fitzgelo@tcd.ie

**Keywords:** Vaccine, Vaccination, Immunisation, Social Media

**Background:**

Social media is biggest development in information technology in the last decade. The internet and social media play a crucial role in dissemination of information (Zeng et al., 2010). Public health campaigns are slow to utilize these modern means of communication – although hashtags such as #VaccinesWork, featured during World Immunization Week 2019. The anti-vaccination movement has gained popularity over the last 40 years with a correlation with decrease in vaccination uptake (Ołpiński, 2012). A study co-authored by Broniatowski et al 2018 found that Russian trolls tweeted both pro vaccine and antivaccine messages in order to amplify the debate.

**Research questions:**

We conduct a content analysis of social media sites of vaccine relevant activity.

**Method:**

Vaccination related search terms, “vaccine” and “immunisation” and hashtags #vaccination and #immunisation were entered into the social media sites, Facebook, Instagram, Twitter and Pinterest. The 20 most popular posts, groups and pages were recorded and categorised into “vaccine information”, “pro-vaccination” and “anti-vaccination” subgroups. Snowball sampling was used to evaluate the most frequently used links and hashtags in each subgroup.

**Results:**

Term and hashtag “Immunisation” and #immunisation revealed much higher rates of pro-vaccination and vaccination information posts across all social media platforms than terms “vaccine” and hashtag #vaccine. Overall, groups with anti-vaccination manifestos were more common than pro-vaccination groups when all search terms were entered. Twitter had the highest number of anti-vaccination posts of the social media sites when search terms were used. In August 2019, Pinterest announced that searches on its site for vaccine-related topics will only turn up links to reputable public health organisations.

**Conclusions:**

Traditional media fact-checked for their audience but that model has broken down with social media. We are facing a growing gap between where the scientific and official information lives and where the public is going.

**Points for discussion:**

We discuss impact of the internet and social networks on vaccination.

We discuss implications for online public health communications.

We discuss the need for future research including how best to combat bot-driven content.

**Web Based Research Course Presentation / Study Proposal / Idea****Efficacy of healthcare policies implemented in primary healthcare in the countries of South-Eastern Europe during the Covid-19 pandemic**

Marija Zafirovska, Aleksandar Zafirovski, Ljubin Šukriev, Danica Rotar-Pavlič

AGP/FM SEE, 1000 Skopje, North Macedonia. E-mail: m.zafirovska27@gmail.com

**Keywords:** primary healthcare, covid-19, policies, measures, prevention

**Background:**

Primary healthcare practitioners, as the first-contact of healthcare, play a vital role in the pandemic of covid-19. Many countries implemented different policies and preventive measures in order to tackle the rapidly increasing numbers of infected citizens. These policies affected the organization and protocols in all three levels of healthcare and demanded fast adaptation both of its healthcare providers and users.

**Research questions:**

The aim of this research is to evaluate the effect of the different health policies, protocols and resources implemented in primary healthcare on the outcome of the covid-19 pandemic in different countries in South-Eastern Europe.

**Method:**

For this longitudinal cohort study, we are going to use an anonymous online survey that will consist of a list of questions - binominal, multiple choice, scale questions and comments. The collected data will be quantitative and qualitative in nature.

The survey will be distributed by the AGPFM-SEE electronically to the member countries and with the help of other local medical organizations to the primary healthcare practitioners. The survey will take about 10-15 min to fill.

We are expecting to cover a minimum of 200-300 primary healthcare practitioners per country, but hoping to collect more.

**Results:**

We expect to find that the increasing number of infected citizens in certain Southeastern European countries is due to the citizens' violation and neglect of the preventative measures, untimely creation of policies by the government and ineffective organization of doctors in the three levels of healthcare. Different strategies implemented in primary healthcare would greatly impact the infection rate and outcome. We expect to find that in countries where the primary practitioners were actively more included in prevention and detection of covid-19, the numbers of infected citizens are smaller.

**Conclusions:**

We predict that public health awareness is a crucial factor in the spreading of covid-19 in different Southeastern European countries.

**Web Based Research Course Presentation / Study Proposal / Idea****Efficacy of healthcare policies implemented in primary healthcare in the countries of South-Eastern Europe during the Covid-19 pandemic**

Marija Zafirovska, Aleksandar Zafirovski, Ljubin Šukriev, Danica Rotar-Pavlič

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**Conclusions:**

We predict that public health awareness is a crucial factor in the spreading of covid-19 in different Southeastern European countries.

**Web Based Research Course Presentation / Ongoing study no results yet****Modelling and effectiveness of an educational intervention for the development of professional skills in residents of Family Medicine and Community Care.  
PROEMPATHY**

Sabela Couso Viana

Instituto de Investigación Biomédica de Galicia Sur, 15894 Teo, Spain. E-mail: sabelacouso@gmail.com

**Keywords:** Burnout, Professional; Empathy; Therapeutic Alliance; Primary Health Care

**Background:**

The burnout syndrome among health care workers frequently rises to prevalence above 50%. One of the consequences most supported by the literature is the impoverishment of the therapeutic alliance, triggered by a loss of empathy of the clinician towards the patient due to the emotional exhaustion he or she suffers.

The main factors that influence the presence of this pathology are stressors related to the organization of work. However, this equation is also influenced by individual factors that can be acted upon and which are often the only tools available for professionals.

Due to the widely supported relationship of empathy, burnout and therapeutic alliance, we decided to carry out a complex training plan focused on personal development in teaching units of Family and Community Care in Spain.

**Research questions:**

Is effective an intervention aimed to promoting the development of personal skills throughout the training of family and community care doctors and nurses?

**Method:**

Pre-post study, comparing two educational interventions, one face-to-face (N=90) and other online (N=70), with a control group (N=160). Participants: All physicians and nurse trainees on Primary Health Care in three Spain Health Regions who wish to participate in the study.

The face-to-face intervention consists of 3 annual workshops, while the online one will be carried out by adapting the theoretical contents of the face-to-face intervention for online use and will pursue the same objectives and be fed by the same contents.

The variation in the level of empathy will be quantified by means of the Interpersonal Reactivity Index (IRI) questionnaire, adjusted by burnout (Copenhagen questionnaire) and other variables such as resilience (Connor-Davidson), locus of control, social support (Oslo-3), sense of coherence (OLQ-13), age, sex, personality (TIPI-SP v2) and other organisational factors. Statistical analysis with GLM and GAM models.

**Web Based Research Course Presentation / Finished study****The Sociodemographic Characteristics and the Thoughts on Primary Healthcare of the Women in the Women's Shelters Affiliated with the Municipalities in Ankara**

Hüsna Sarıca Çevik, Ayşe Selda Tekiner

Ankara University School of Medicine, 06080 Ankara, Turkey. E-mail: saricahusna@gmail.com

**Keywords:** Family Medicine, Intimate Partner Violence, Primary Healthcare, Spousal Abuse, Violence Against Women

**Background:**

Violence against women is a global problem, based on gender inequality. When the generality of the violence and the physical, mental, and social problems caused by violence are considered, taking protective measures and supporting women, who are exposed to violence by early identification are important.

**Research questions:**

It is aimed to determine the sociodemographic characteristics of women and their frequency of applying to the family doctors and sharing the information about the violence that is exposed to before they consult to a women's shelter, to define their opinions about the physician and the family medicine system.

**Method:**

After the Local Ethical Committee approval, this study, which was carried out in the three Women's Shelters in Ankara, between April 1st - May 31st, 2019, was accomplished by 55 participants. An in-depth interview was conducted using a semi-structured interview form including open-ended questions.

**Results:**

It was detected that psychological violence turned into physical, sexual, and/or economic violence. The reasons that 89% of the women did not tell the family physician that they were exposed to violence were primarily shame, lack of communication with the doctor, concerns about confidentiality, and the thought that the subject was beyond the scope of the family doctor. The participants stated that family doctors could contribute to the prevention of violence by questioning the women about violence and making the necessary referrals (65,5%) and providing psychological support in the family health center (34,5%).

**Conclusions:**

The family physician has an important role in identifying intimate partner violence and activating the support system for victims of violence. When intimate partner violence is detected, or there is any suspicion, the family doctor is in an ideal position to help the victim as the first stage of accessibility to healthcare services, providing patient-centered and ongoing care.

**Points for discussion:**

The role of the family physician to determine the violence against women

The expectations of the violence sufferers from the family physicians

The reasons for the lack of scanning of intimate partner violence in family medicine

**Freestanding Paper / Finished study****A prospective observational cross sectional study with Focused cardiac ultrasound (FOCUS) conducted by the family physicians at patients with a high risk of cardiovascular diseases.**

Mihai Iacob

Department of Research in Primary Health Care, Ultrasound Working Group in Family Medicine - AEDUS / EUVEKUS, Timisoara/Vienna, 300150 TIMISOARA, Romania. E-mail: dr\_iacob@yahoo.com

**Keywords:** Point of Care Ultrasonography (POCUS), Clinical Ultrasonography, Focused Cardiac Ultrasound(FOCUS)

**Background:**

FOCUS is a complement of the clinical exam, for the evaluation of the structural and functional abnormalities of the heart, to the hemodynamic critical patient. Just a few studies have assessed the value and accuracy of focused cardiac ultrasound (FOCUS) performed by family physicians. This study aimed to evaluate the diagnostic accuracy of FOCUS performed by family doctors compared to echocardiography performed by a cardiologist at the patients with a high risk of cardiovascular diseases.

**Research questions:**

How can we improve the rapid evaluation of the critical hemodynamic patient in primary healthcare?

**Method:**

We made FOCUS on the patients which present after clinical-examination the suspicion of cardiac pathology (cardiomegaly, valvulopathy, pericarditis, endocarditis, congenital malformations, aneurysms, and arrhythmias) and use the five-standard-cardiac-scans: Subxiphoid-view, Parasternal-long/short axis, Apical-four-chamber-view, and IVC-assessment. We conducted a prospective-observational-cross-sectional-study of 1780 patients with high-cardiovascular-risk. High-risk-patients identified on inclusion-criteria, were first examined by a family-doctor with expertise, subsequently compared with ultrasound review by cardiologists, to determine the accuracy of this application. We have developed a Computerized-Diagnostic-Algorithm of the cardiac-pathology detected by non-cardiologists. The agreement between family-physicians and cardiologists on each finding, was evaluated using Cohen's kappa coefficient with 95%CI.

**Results:**

We identified 585 patients with cardiac-pathology and subsequently confirmed by the cardiologist. We did the descriptive-statistical-analysis of the echocardiographic-cases detected. The accuracy of FOCUS-screening in primary care, was 96.07% with a sensitivity:95.12% and specificity:96.57%, $p < 0.001$ , for all 1780 emergency-patients which were subsequently confirmed by the cardiologist as the "Gold-Standard" method. The prevalence of cardiac-pathology was:34.55% with 95%CI:32.34% at 36.81%. Reports of the two-groups for identifying cardiac-pathology showed 95%-agreement( $k=0.88$ ;95%CI=0.81-0.95),standard-error:0,037.

**Conclusions:**

FOCUS performed by trained-family-physicians is comparable to echocardiography performed by cardiologists. It could be a reliable tool and screening-test for the initial diagnosis of patients suspected of cardiac-abnormalities and we propose as a complementary-diagnostic tool followed by referral to the cardiologist.

**Points for discussion:**

How can we evaluate the structural, functional and hemodynamic abnormalities of the heart to the high-risk patients of cardiovascular diseases?

Will it be possible soon, practice of the Cardiac Focused Ultrasound (FOCUS), by family doctors who were trained in specialized centers, for conducting Rapid Cardiac Assessment?

Will it be possible to use echocardiography with the stethoscope in the evaluation of heart disease by future family physicians?

**Freestanding Paper / Ongoing study with preliminary results****Improving end-of-life care in long-term care. Results from a RCT- effects on resident quality of life and symptoms**

Pauli Lamppu, Marja-Liisa Laakkonen, Jouko Laurila, Harriet Finne-Soveri, Hannu Kautiainen, Kaisu Pitkälä

Helsinki University, 00270 Helsinki, Finland. E-mail: Pauli.lamppu@Gmail.com

**Keywords:** nursing home, long term care, palliative care, end-of-life care, advance care planning, quality of life, quality of dying, symptoms

**Background:**

With increasing life expectancy, long-term care (LTC) facilities are a likely last home to an increasing number of senior citizens. The need for quality EOL care in this setting is widely recognized with various development projects to improve care conducted

**Research questions:**

Is it likely that we can influence LTC resident-level EOL outcomes with a light and feasible staff training?

**Method:**

20 LTC wards with 340 eligible residents were included in our cluster-randomized trial. Intervention wards got a four afternoon training in the principles of advance care planning, palliative and symptom care and various practical scenarios.

**Results:**

In the two-year follow-up, there were no differences between the groups in resident quality of life measured with 15D score. No differences were observed in the secondary outcomes of quality of dying approximated by proxy satisfaction and symptoms using the ESAS or PAINAD scores

**Conclusions:**

While our results suggest a large variability in EOL care quality even in our fairly well developed geriatric care system, it seems that a light training is not able to influence resident level outcomes over a longer period. It is likely that reasons for not adapting to new strategies lie in several levels within the organizations. Future trials might benefit from better knowledge of the required EOL tools, skills and attitudes for a successful LTC facility.

**Freestanding Paper / Finished study****Scales to evaluate pain in general practice : only the BPI and the SFMPQ are stable and efficient.**

Jean Yves Le Reste, Sophie Roignan, Jeanlin Viala, Jerome Fonseca, Sophie Lalande, Delphine Le Goff, Patrice Nabbe

EA 7479 SPURBO, médecine générale, 29200 Brest, France. E-mail: lereste@univ-brest.fr

**Keywords:** pain scale, general practice, validity

**Background:**

Pain is a multidimensional phenomenon that is subjective with physiological and psychological components. It seems necessary to have valid and reliable pain measures. A previous study (presented at EGPRN in 2019) has identified Brief Pain Inventory (BPI), SF MPQ-1 and 2 (Short Form McGill Pain Questionnaire) as reliable. Visual Analog Pain Scale (VAS) and Pain drawing were less reliable but as they are commonly used the research team decided to collect their reliability data. The present study aimed to collect reliability data of these five scales.

**Research questions:**

What are the reliability data of the BPI, SFMPQ 1 and 2, VAS and pain drawing scales?

**Method:**

A systematic review of literature via PubMed was undertaken with no restriction on the publication date. Only English and French language papers were examined. screening, selection and Inclusion were conducted until June 2019 in accordance with the PRISMA statement. Data of validity (convergent, discriminant, construct, face and responsiveness) were extracted for each four scales.

**Results:**

17 relevant articles were included for BPI, 8 for SF-MPQ-1, 5 for SF-MPQ-2, none for Pain drawing and 2 for VAS. Convergent validity was studied in several articles included for BPI, SFMPQ 1 and 2, VAS. Construct validity was studied for BPI and SF-MPQ. Discriminant validity was studied for BPI in one article. Face validity was studied in one article for both SF-MPQ-1 and 2. Responsiveness was studied in one article for BPI, 2 articles for SF-MPQ-1 and 3 articles for SF-MPQ-2.

**Conclusions:**

Satisfactory validity data were found for BPI and SF-MPQ. Data were inadequate for Pain drawing and insufficient for VAS. The five relevant validities were not all studied for BPI and SF-MPQ. Further studies could supplement these data. It is disturbing that validity of VAS, which is very used in practice is so poorly studied.

**Points for discussion:**

do you use BPI and SFMPQ?

do you use VAS?

what do you think about reliability and external validity of VAS?

**Freestanding Paper / Finished study****Thoughts of Intern and Resident Doctors Living in Istanbul about Mobbing at Work**

Pemra C. Unalan, Kübra Temel, Arda Kekilli, Ceren Karabiber, Öykü Uslu, Pınar Günay

Marmara University, School of Medicine, Department of Family Medicine, 34662 Istanbul, Turkey. E-mail: pcunalan@gmail.com

**Keywords:** Mobbing, intimidation, medicine, intern, resident, asistant, seniority, healthcare sector

**Background:**

Mobbing is considered as acts of psychological and physical attacks such as all kinds of ill-treatment, threats, humiliation by one or more employee against another employee which is carried out systematically and consistently in the purpose of intimidating individuals in the workplace. People working particularly in health services are working under more risk than other service areas and professions.

**Research questions:**

What is the thoughts of residents and interns living in Istanbul about mobbing? Have they exposed any mobbing act and showed any reaction?

**Method:**

A qualitative design applied to 38 participants with face to face interviews by the help of a semi-structured form. Participants are chosen with a purposeful sampling method from three different types of institutions. Interviews were conducted and lasted at least 20 minutes. Transcripts are created after the interviews are audio recorded. Analysis is performed by researchers working independently. The researchers reached a consensus on the list of codes that are common in their list. The entire list of codes has been revised until all researchers agreed.

**Results:**

Main-themes in our research;1-Mobbing perception. 2-Reactions against mobbing acts 3-Seniority and authority 4-Mobbing and environment 5-Attitude of person who does mobbing(temperament, manner) 6-Prevention of mobbing. Many of the participants said that mobbing was something coming from superiors, learned from them and applied in time and because of that it should be interrupted from the top seniority in order to prevent mobbing. Participants emphasized on some expressions for the feelings caused by mobbing such as "emotionally depressed", "feeling inadequate", "exhausted", "feeling meaningless", "despair", "unhappiness", "hating from work environment", "discouraging".

**Conclusions:**

Mobbing is a serious problem in the hospital setting. Determining the boundaries of tasks/jobs, increasing the effectiveness of the law, investigating the complaints, not approving mobbing acts as possible but talking about it and fight against mobbing are leading proposals to cope with mobbing.

**One-Slide/Five Minutes Presentation / Study Proposal / Idea****Artificial intelligence algorithms promoting help-seeking behavior among depressed youth**

Kim Kristoffer Dysthe

Institute of Health and Society, University of Oslo, 0318 Oslo, Norway. E-mail: k.k.dysthe@medisin.uio.no

**Keywords:** Chatbot algorithm. Help-seeking behavior. Youth depression.**Background:**

Symptoms of depression are common in adolescents. If not treated, symptoms can develop into more severe mood disorders later in life, leaving a window of opportunity for intervention in general practice. However, depressed adolescents often avoid seeking professional help. Instead, they search for information on the Internet, often being misleading and lacking scientific evidence. From previous research, we know that adolescents are positive to new clinical designs using technology as an integrated part of therapy, but we know little about the information needs of youth with symptoms of depression. This study aims to establish the empirical background needed to develop mental health literacy interventions promoting positive help-seeking attitudes.

**Research questions:**

What are the information needs of youth with symptoms of depression, and what information will affect help-seeking behavior?

**Method:**

Our dataset consists of 15 000 questions about mental health problems written by youth aged 16-25 years on Internet services. We use text-mining tools for content analysis to find texts describing symptoms of depression. We conduct a qualitative study within a realist epistemology, using thematic analysis based on the Health beliefs model, asking what kind of information impedes, and what enables help-seeking behavior. From the data, we extract dialogues based on relevant questions and corresponding answers.

**Conclusions:**

Being part of the larger multi-center research project "Social Health Bots," we will use the dialogues to train chat-BOT algorithms to detect and categorize questions related to help-seeking behavior. Internet or mobile clinical applications based on such algorithms can advise depressed youth to seek professional assistance. Beyond the scope of this study, further interaction - and service design, as well as clinical trials, are necessary for validation and utilization of technology in general practice.

**Points for discussion:**

How we can use data from Internet forums in health research.

The implementation of technology into clinical practice - as simple as it seems? Design process and research possibilities.

**One-Slide/Five Minutes Presentation / Study Proposal / Idea****Benzodiazepines prescription in Europe. Toward an international project.**

Églantine Ferrand Devouge, Juliette Chambe, Cédric Rat

General Practice Department, Medical University, Rouen, 76230 Bois-guillaume, France. E-mail:  
eglantine.ferranddevouge@gmail.com

**Keywords:** benzodiazepines, medical costs, general practice, family medicine, European countries

**Background:**

Balancing benefits versus harms should not lead clinicians to long-term benzodiazepine (BZD) prescription. Nonetheless, BZD and z-drugs are widely prescribed beyond the recommended duration in France, Spain or Belgium, while prescription rates are low in Germany and UK. There are large variations among European countries (ESEMeD survey, European panorama, OECD report).

**Research questions:**

Are there specificities, either related to General Practitioners (GPs) practices or to patients' behaviors, that might impact the management of insomnia and anxiety?

The study objective will be to analyze national specificities related to the management of insomnia and anxiety in general practice.

**Method:**

The project will be based on 3 steps:

1. Elaboration of validated tools: an observation grid and a self-administered questionnaire focusing on anxiety and insomnia management. This step will be based on Delphi rounds, and will require the involvement of an international working group.
2. Description of anxiety and insomnia management in primary care:
  - a. A participant observation of GPs consultations performed by a trainee (student, intern...), on consecutive consultations, up to 4 days/month, for 5 to 6 months. We intend to collect sociodemographic data, consultations data based on CISP, and specific outcomes related to insomnia/anxiety management, using the grid elaborated in step 1.
  - b. A survey focusing on the patients' way of dealing with anxiety or insomnia, using validated questionnaire developed in step 1 about patients own management (on the model of COCO study).
3. After data-analysis, a triangulation of the results (GPs practices, patients' perspectives, and OECD drugs data) will be performed in order to build explanatory assumptions for these differences.

**Results:**

No results at this time.

**Conclusions:**

This study should provide a better understanding of national specificities between European countries in the management of anxiety and insomnia, and allow optimization of BZD prescription.

**Points for discussion:**

1. First step: we are open to discussion on how to develop consensus tools (face-to-face working group, Delphi round...)
2. Second step: the method needs to be adapted to the different kind of practices in each country, depending on the presence or not of trainees, the organization of GPs, etc.
3. Third step: we considered doing qualitative interviews (3 to 5 volunteer GPs for each country) to help analyzing the differences reported in the participant observation, the survey among patients and the OECD data

**One-Slide/Five Minutes Presentation / Study Proposal / Idea****Efficiency of the use of augmented reality in teaching anaphylactic shock at the primary health care level**

Špela Tevžič, Zalika Klemenc Ketiš, Antonija Poplas Susič, Uroš Zafošnik, Polona Selič, Špela Mirošević, Nina Ružič Gorenjec

Community health care centre Ljubljana, Slovenia, 1000 Ljubljana, Slovenia. E-mail: spela.tevzic@zd-lj.si

**Keywords:** augmented reality, medical education, primary care, emergency medicine, anaphylaxis, simulation

**Background:**

Anaphylaxis is a potentially life-threatening, rapid-onset hypersensitive reaction. Simulation is a tool that increases exposure to events in a safe environment, allowing trainers to develop skills without harming patients and is helpful in educating health care professionals on how to diagnose and manage anaphylaxis. Augmented reality has the potential to offer a novel approach to medical training that supplements conventional training methods with gamification and a more interactive learning experience.

**Research questions:**

What is the efficiency of the use of augmented reality in teaching the diagnostics and management of a patient with anaphylactic shock at the primary health care level?

**Method:**

We will develop a simulation scenario (for simulation with a high fidelity simulator in a learning and clinical setting and for augmented reality) for anaphylactic shock and an evaluation scale for assessing the effect of the intervention. We will conduct a single-blinded randomized controlled trial. We will enrol primary care physicians who will be divided into four groups (two controls, two tests). All participants will be involved in a one-day education program, consisting of lectures and skills practice. The test groups will additionally engage in the education about anaphylactic shock in augmented reality. The baseline will be assessed in a learning environment through a simulation based on the developed scenario. The simulation will be independently assessed with developed evaluation scale by three experts. Participants will perform the simulation again after the intervention. After 6 (first pair of control and test groups) and 12 months (second pair) a simulation will be repeated in the participants' workplace with a standardised patient.

**Results:**

We expect the use of augmented reality in teaching will increase the share of completed simulations by 50%.

**Conclusions:**

We expect to prove that augmented reality is an efficient educational tool for emergency care at the primary health care level.

**Points for discussion:**

Should there be changes to the study timeline in order to better evaluate short- and long-term effectiveness of the intervention?

What are other evaluation tools that would assess the participants' management of the patient during the simulation?

**One-Slide/Five Minutes Presentation / Study Proposal / Idea****Home activity control system: artificial intelligence to empower patients with diabetes through daily activity monitoring**

Jesus González-Lama, David Pérez-Cruzado, Nicomedes Rodríguez-Rodríguez, Matilde Romero-López, Gertrudis Roldán-Molina, David Requena-Polonio

Maimonides Biomedical Research Institute of Cordoba (IMIBIC), 14940 Cabra, Spain. E-mail: jagonla@telefonica.net

**Keywords:** artificial intelligence, diabetes mellitus, e-health, self-care, telemedicine

**Background:**

Poorly controlled type 2 diabetes mellitus (T2DM) is associated with significant morbidity, mortality and healthcare costs. The effective behavioural change and extensive education and self-management is one of the key approaches to alleviate complications from diabetes. E-health solutions can help to patients and healthcare professionals to manage this challenge.

**Research questions:**

It would be feasible and acceptable a home activity control system (Beprevent) to help to patients with T2DM and their healthcare providers to manage their disease?

**Method:**

We have planned a pilot, controlled, not randomized feasibility study, to evaluate a home activity control system (Beprevent) in the management of patients with DMT2, through the labeling of tailored objects (selected by the patient) linked to behaviors related to the management of that disease. Beprevent is a multipurpose solution of home activity control that informs people about routines through a mobile application, which also allows sending messages. This study will provide information on the best way and sample size necessary for conducting a definitive trial using standardized continuation criteria. Twenty patients with T2DM (10 in the intervention group and 10 in the control group), living alone or with people who cannot move on their own, will be included. The primary outcomes will include measures of feasibility such as recruitment rate and proportion of patients who remain in the study at the end of the study (6 months), and also degree of satisfaction (acceptability) of patients and professionals. Secondary outcomes will include degree of adherence to each of the therapeutic objectives agreed with the patient (exercise, hygiene, food and medication), HbA1c and other intermediate variables.

**Points for discussion:**

Improving the measurement of the adherence of T2DM patients to health behaviors with non-interventional artificial intelligence tools.

Difficulties in recruiting this type of patients.

**One-Slide/Five Minutes Presentation / Finished study****Parkinson's disease: Threats and opportunities of patient online discussion forums.**

Sabine Bayen, Cassandre Carpentier, Nassir Messaadi

University of Lille, Department of General Practice, 59045 Lille Cedex, France. E-mail: kroehnchen@hotmail.fr

**Keywords:** Parkinson's disease, online discussion forums, peer communication, self medication, netnography

**Background:**

People are aging and complex chronic conditions are increasing. At the same time, GPs are facing an increasing media coverage and popularization of health, especially by the internet. The free access to the internet allows chronic ill patients to seek medical information on their own initiative. Furthermore, the internet encourages them to join existing virtual communities to receive peer support through online discussion forums. Parkinson's disease (PD) is a complex chronic condition affecting all dimensions of the patient's daily life. It is interesting for GPs to explore the patient's authentic real live experience of the disease to meet their real needs.

**Research questions:**

What do people with Parkinson's disease and their relatives share and discuss on the most frequently visited online discussion forums?

**Method:**

A qualitative prospective study according to the method of Netnography, was conducted. Four popular patient online discussion forums with public access were investigated. The web users' quotes were collected from May 2018 to October 2018. Data analysis and triangulation were performed by two researchers using the Nvivo 12® software.

**Results:**

In total, 23 online discussion threads were analyzed: 302 messages posted by 70 web surfers, 115 encoded nodes were created. Three user profiles emerged: the leader (21.43%), the expert (14.28%), and the follower (42.86%). The web users shared their unfiltered illness experience between peers. They tried to find alternative therapies and replaced their allopathic medication by questionable dietary supplements without any medical advice. They incited peers to stop their ongoing medication and to replace it.

**Conclusions:**

Patients express voluntarily their daily experience with PD on internet discussion forums. They are actively looking for a cure of PD. They aim to limit, or to stop their disease evolution, during which they are taking considerable risks for their health, especially when they tend to opt for inappropriate auto-medication, sometimes encouraged by peers.

**Points for discussion:**

How to find the balance between free discussions between peers and the risk of dissemination of false or partially false medical information?

Would the implementation of trained expert patients to moderate these forums be a barrier or a benefit for the web users?

Do we (GPs) underestimate the risk of virtual communities's influence on the patient's engagement to shared care projects?

**One-Slide/Five Minutes Presentation / Study Proposal / Idea****Why do European Primary Care Physicians sometimes not think of, or act on, a possible cancer diagnosis?**

Tuomas Koskela, Marija Petek Ster, Magdalena Esteva, Merce Marzo, Davorina Petek, Senada Hajdarevic, Vija Silina, Sara Contreras, Cecilia Högberg, Liina Pilv, Jolanta Sawicka-Powierza, Marcello Mangione, Michael Harris

University of Tampere, General Practice, 33520 Tampere, Finland. E-mail: tuomas.koskela@tuni.fi

**Keywords:** The Örenäs Study, cancer, diagnosis, early diagnosis

**Background:**

Primary care (PC) is often an entrance when suspecting cancer. Primary Care Physicians (PCPs) see patients whose symptoms are non-specific and common. The symptoms can be explained by cancer, but cancer is rarely the cause. Cancer diagnosis in PC represents a high-risk area for errors. Knowledge of diagnostic errors could be used to encourage and promote learning. To our knowledge, there is little evidence on PCPs' experiences of failures in cancer diagnosis. This study aims to explore the pitfalls of cancer diagnosis in primary care.

**Research questions:**

Why European GPs sometimes fail to think of, or act on, a possible cancer diagnosis?

**Method:**

A qualitative international study using online survey with open questions asking for case narratives from PCPs about this topic. The study will be carried out in at least 25 European countries by the Örenäs Study Group. Subjects will be eligible for the study if they are working as PCPs. A purposive sample of PCPs will be recruited in each country by an Örenäs group national lead. The target will be to recruit at least 5 physicians per country and a maximum of 10 including both genders and PCPs with varying experience. The respondents will be asked to describe a case according to the questions agreed as a result of a pilot study. In order to preserve patient anonymity, the PCPs will be asked to describe the cases in such a way that the identity of the patient cannot be deduced. We will use thematic analyses to analyse data. At least three members of the Örenäs group will make the initial coding separately and then compare their coding results in skype meetings. Combining codes into the themes will be made at a face to face meeting of the Örenäs group members.

**Points for discussion:**

What kind of challenges do you see in this study?

**Freestanding Paper / Published****arriba – A Decision Aid for General Practice**

Johannes Hauswaldt, Attila Altiner, Norbert Donner-Banzhoff

Institut für Allgemeinmedizin UMG, 37073 Göttingen, Germany. E-mail: johannes.hauswaldt@med.uni-goettingen.de

**Keywords:** decision aid; shared decision making; general practice

**Background:**

Shared decision-making (SDM) has been a buzzword for all those working on improving health care systems. While this kind of arriving at decisions about screening, diagnosis and treatment is not disputed, implementation in practice has been incomplete. Decision aids (DAs) are meant to help patients and doctors to improve knowledge, clarify values and agree on a common management strategy. Arriba is a DA to be used during the consultation by patients and GPs together.

**Research questions:**

What are the wants and needs of GPs regarding SDM in their practice? What are the expectations of patients? Which kinds of DAs are available? Which of them have been successful?

**Method:**

Currently available arriba software modules will be presented, the underlying evidence base and effectiveness studies conducted so far.

**Results:**

Arriba has been the most popular DA used in German General Practice. Originally developed for cardiovascular prevention, software modules now cover a range of clinical topics such as depression, oral anticoagulation for atrial fibrillation, screening for prostate cancer and aortic aneurysm and several more. Some of them have been implemented by contracts with health insurance organizations.

**Conclusions:**

The active support by a community of GPs active in teaching and research has been a crucial factor for the success of arriba.

**Points for discussion:**

Are DAs available in participants' countries? Are they adapted to the general practice setting?

Have they been disseminated successfully? What are enabling factors or barriers?

What are the consequences for future developments?

**Freestanding Paper / Almost finished study****How GPs decide to assess cardiovascular risk factors in European countries – a qualitative EGPRN Fellowship study.**

Ilze Skuja, Aleksandra Trubovich, Emilie Femtehjell, Marta Marques, Elina Skuja, Aivars Lejnieks, Michael Harris

Riga Stradins University Ilze Skuja GP Practice, Family Medicine, LV1001 Riga, Latvia. E-mail: skujailzedr@gmail.com

**Keywords:** Primary health care systems. General Practitioners. Cardiovascular risk factors. Decision-making.

**Background:**

Cardiovascular disease (CVD) is the main cause of death in Europe, leading to 3.9 million deaths a year (45% off all deaths). General Practitioners (GPs) are often the first clinicians to be consulted by patients, and they need to assess CVD risk factors (RF) and initiate preventive measures, so that overall prevalence of CVD morbidity and mortality can reduce.

**Research questions:**

How do GPs think and act when seeing patients who might have CVD RFs?

**Method:**

A semi-structured questionnaire was designed following a literature review. The researchers used this to interview GPs in five countries (Latvia, Portugal, Norway, Russia and England) until there was data saturation. Data were transcribed, translated into English, coded, validated, then divided into themes and sub-themes, with comparisons made across the participating countries.

**Results:**

There were 10 interviews in Latvia, Russia, Norway and Portugal and 8 interviews in England, each lasting 25-45 minutes. Relevant differences between national health care systems included the structure of GPs' teams and how they are financed. We identified eight overarching themes relating to how GPs assess CVD risk: ranking of the relative importance of different RFs; indications to perform RF assessments; typical profiles of patients that need RF assessment; the effect of obesity; use of guidelines; assessment using SCORE risk charts; limitations and problems associated with CVD risk assessment.

**Conclusions:**

While GPs' knowledge of CVD RFs are broadly similar across these countries, there are national variations in practitioners' approach. These differences are driven by variations in financial, historical and geographical factors, as well as specific differences in GPs' knowledge. However, we found more similarities than differences between the views of GPs in the five countries studied, and these may provide a basis for a Europe-wide primary care approach to acting on CVD risk factors.

**Points for discussion:**

How can we use our findings to reduce the between-country differences in CVD rates?

How can postgraduate training and other medical education be used to support GP decision-making in patients that may have CVD RFs?

**Freestanding Paper / Finished study****Is there relation between adherence to medications and adherence to preventive medicine?**

Michal Shani, Alex Lustman, Yochai Schonmann, Doron Comaneshter

Clalit Health Service, Family Medicine, 76804 Mazkekret Batya, Israel. E-mail: michal.shani@gmail.com

**Keywords:** medication adherence, preventive medicine, diabetes mellitus, hypertension

**Background:**

Medication adherence is crucial in chronic patients' care. Better medication adherence is related to better outcome. The association between medication adherence and adherence to preventive medicine has not been tested.

**Research questions:**

Is there relation between adherence to medications and adherence to preventive medicine?

**Method:**

We included all patients aged 50-75 with diabetes or hypertension who were insured by Clalit and treated with at least one chronic medication in 2017. For each patient we examined the adherence to one of 22 oral medications for treatment of diabetes or hypertension. Good adherence was defined as claiming at least nine monthly prescriptions during 2017. We calculated for each patient the average adherence rate for her/his medications. We tested the relation between average medications adherence rate and whether patients had annual influenza injections, mammogram and colon cancer screen according to the recommendations.

**Results:**

262,649 patients were included. Average age was 63.7, 50.6% were men. 81.5% of the patients had hypertension and 59.4% had diabetes. Patients used  $2.2 \pm 1.1$  medications on average. 59.6% of the eligible patients had received an influenza vaccine during 2017, 67.8% had undergone colon cancer screening, and 75.1% of the women had a mammography according to the recommendations.

Patients who received an influenza vaccine had higher adherence rates to medication compared to patients who did not have the injection OR=1.27 (CI 1.25-1.30), patients who performed mammography had OR=1.15 (CI 1.11-1.18) for medication adherence rate compared to those who had not, and patients who had been screened for colon cancer had OR=1.18 (CI 1.16-1.21) for medication adherence compared to those who had not.

**Conclusions:**

Our findings suggest that medication adherence is associated with adherence to preventive medicine in diabetic and hypertensive patients.

**Points for discussion:**

mediation adherence and preventive medicine adherence

**Poster / Ongoing study with preliminary results****E- Health Literacy among Primary Care Patients: A Cross- Sectional Study in Latvia**

Anda Stolarova

Latvian university, LV-1050 Riga, Latvia. E-mail: anda.stolarova@gmail.com

**Keywords:** e- health literacy, primary care**Background:**

The internet has become largely accessible. E-Health literacy - the ability to seek, evaluate and use online health information - is an essential prerequisite of health-related self- efficacy.

**Research questions:**

to assess e-Health literacy among primary care patients and in previously reported risk groups of low e-Health literacy among them.

**Method:**

Patients attending 7 primary care clinics in Riga were surveyed. A modified self- reported 7-item E- health literacy scale, score range 7-21, was used to measure e-Health literacy. The data was analyzed using SPSS-22. The low level of E- health literacy was defined as score 14 and less.

**Results:**

86,9% (154) of 175 patients surveyed used the internet: of those aged 16-44 years - 95,7%, of 45-64 years old - 82,8%, but of aged 66 and more - 61,0%. Of the internet users health information searched online 75,5% (53): of those aged 16-44 years 60,9% (39), of the 45-65 years old ones and 36,6% (15) in the elderly aged 66 and more. eHEALS score among internet users was lower in the age group of 45-65 years (14 (11-19)) than 16-44 years 16 (14-19),  $p=0,005$ ), in patients with chronic diseases than without them (12 (11-16) vs. 15 (14-19),  $p=0,001$ ) and with poor or satisfactory health status ((14 (11-16) vs 16 (13-19),  $p=0,007$ ), but the median score did not depend on education (15 (12-17) secondary vs. 15 (12-19) higher education)). The low level of e- Health literacy was more frequent in seniors than in those aged 45-65 and 14-45 years (73,3% vs 59,0% vs 32,1%,  $p=0,040$ ) in patients with chronic diseases (64,1% vs 38,2%,  $p=0,010$ ) and with poor or satisfactory health status (58,9% vs 35,3%,  $p=0,014$ ).

**Conclusions:**

E-health literacy scores are lower in patients over 45 years of age, with chronic diseases and poor/satisfactory self- reported health status.

**Points for discussion:**

The elderly, those with poor health status and chronic disorders might be on risk of disinformation because of lower e-health literacy.

The self- reported E- health literacy might not show the real e- health literacy.

Further studies in order to assess e- health literacy using more accurate methods and to determine strategies for prevention of disinformation such as eHealth skills training, directing patients to reliable websites, introducing a reliability label on health information resources on the internet should be conducted.

**Poster / Finished study****Patient responsiveness in chronic non-communicable diseases therapy in General practice according to e-health database**

Vija Silina, Jelena Danilenko

Riga Stradins University / SIA Vija Med, LV1057 Riga, Latvia. E-mail: vija.silina@gmail.com

**Keywords:** Non-communicable diseases, prescriptions, patient responsiveness**Background:**

On the 1st of January, 2018 mandatory use of e-Health in Latvian health care has been started. Previously, it was difficult to keep track of whether a patient always uses a prescription drug from a pharmacy

**Research questions:**

Do patients with most common chronic non-communicable diseases regularly take the prescribed medications from pharmacy to ensure appropriate treatment

**Method:**

A cross sectional survey was carried out in the general practice (GP) in Riga. Prescriptions (from 01/18/18 till 28/02/19) for the most common chronic conditions in the practice of a GP were selected: primary arterial hypertension (PAH), diabetes mellitus type 2 (DM 2), bronchial asthma (BA), and chronic obstructive pulmonary disease COPD). There were reviewed and classified as used or not used (data from pharmacies). The Mann-Whitney test was used for comparison. Data are described using median, interquartile range (IQR), R-Spearman's rank correlation coefficients.

**Results:**

In total 4697 state compensated prescriptions have been written out, 95 of them were recalled. In total 4602 active prescriptions were analyzed. In total 3.59% of prescriptions were not used.

- From 3874 prescriptions for PAH, 133 (3.4%) were not used. Patients age median is 68 (IQR - 21).
- From 495 prescriptions for DM 2 13 (2.6%) were not used, Patients age median is 69 (IQR - 13).
- From 288 prescriptions for BA 19 (6.6%) were not used. Patients age median is 45 (IQR - 50).
- From 288 prescriptions for COPD, all were used.
- Women don't use prescriptions more often than men ( $p = 0.47$ ).
- There was a weak positive but statistically significant correlation between the number of didn't used prescriptions with patient age ( $r = 0.097$ ,  $p = 0.001$ ).

**Conclusions:**

About 4% of patients do not use the prescriptions for chronic conditions in the GP practice. Women more often than men don't use the prescribed therapy.

**Points for discussion:**

E-health system provides statistical information about whether patients have bought the prescribed medications and can be used for quality improvement in the GP practice.

**Poster / Ongoing study with preliminary results****Use and relevance of a mobile health tool to answer information needs of chronic respiratory diseases patients: a mixed-method study.**

Jason Koman, Stephane Schuck, Nathalie Texier, Adel Mebarki

University of Bordeaux/Kap-Code, 33600 Pessac, France. E-mail: jason.koman@kapcode.fr

**Keywords:** e-health; healthcare solution; evaluation

**Background:**

Connect'inh is a collecting-data device connected to inhalers used by patients with chronic respiratory diseases. Data are sent to an application which geolocate where an asthma crisis took place, indicate what could have provoked the crisis (pollen, pollution), and record how many crisis have occurred over a year.

**Research questions:**

The main goal of this device is to improve medical monitoring for these patients. We conducted a study under real conditions to ensure whether this device meets the needs of asthma patients. This study intend to describe how the use of Connect'inh could contribute to transform health practices.

**Method:**

The study was conducted in patients with chronic respiratory diseases. The patients were followed for 3 months through a mixed-method study (questionnaires and semi-structured interviews) split in 2 phases. The current abstract focuses on the first phase. In total, 50 people participated in the first phase of the study: 42 answered the questionnaire (24 woman), 14 participated in semi-structured interviews (10 woman).

**Results:**

The analysis of the questionnaires from phase 1 showed that 63% of the patients considered that the follow-up of their chronic respiratory pathology was not sufficient, and that a tool allowing a personalized follow-up (follow-up of crises, information on the treatments background or crisis) coupled with environmental information would be very valuable. Semi-structured interviews showed consistent results, adding that patients saw no objection to share medical data collected by Connect'inh with a physician to improve their follow-up. After one week of use, 63% of the participants felt that Connect'inh was meeting their needs.

**Conclusions:**

This study evaluated the use of a mobile health tool and its relevance in real life conditions. Asthmatic patients are in need for an improved follow up of their chronic respiratory disease, and the use of a mobile health tool such as Connect'inh would fulfill this need.

**Points for discussion:**

Asthma patients needs

General practitioners needs with asthma care

**Poster / Ongoing study with preliminary results****User-centered development of a digital communication tool to overcome language barriers in emergency medical services: Lessons learned in the DICTUM rescue project**

Eva Maria Noack, Jennifer Schulze, Frank Müller

Department of General Practice, 37073 Göttingen, Germany. E-mail: evamaria.noack@med.uni-goettingen.de

**Keywords:** paramedic care, medical translation application software, app, digital communication tool, foreign-language patients, language barrier

**Background:**

For medical treatment it is essential that patients and medical staff can communicate with each other. In emergencies that require rapid assessments and decision-making, language barriers can have dangerous consequences. If patients' complaints or medical history are not understood, this may lead to incorrect decisions and initial treatment.

We have developed an app-based communication tool to help paramedics communicate with foreign-language patients. We report on the tool's development process and arising challenges.

**Research questions:**

How can we design an application software (app) that meets paramedics' demands as to facilitate communication with foreign-language patients in rescue missions?

**Method:**

We use an action-oriented research approach involving paramedics and software designers in the development process. The app's content, user interface design and hardware requirements are discussed and improved in focus group discussions and tested in case trainings to make sure that the app is ready to use in the field. The tool is now implemented and evaluated within a clinical study.

**Results:**

Involving paramedics, we revealed and subsequently considered paramedics' experience-based knowledge and found out how they implement guidelines in practice. The tool must address adults and child patients and third parties, e.g. relatives. Paramedics need to ask questions, give information and ask for consent. The content of conversations varies considerably between rescue missions. Despite its comprehensive content, the tool has to allow rapid medical history taking. The use in the field places specific demands on the hardware and communication options.

**Conclusions:**

Paramedics' active involvement has greatly contributed to the development of the digital communication tool. The use of mockups turned out to be very useful.

Currently, technological innovations are mushrooming in health care and digitisation has great potential for the medical field. We argue that any software development in the health sector should actively involve both end users and developers in order to meet the users' demands.

**Points for discussion:**

Which possibilities do we have to involve end users in the development process of health technologies?

What experience have you had in communicating with foreign-language patients?

**Poster / Finished study****Considering ADHD in adults might be useful in smoking cessation efforts; a study carried out among physicians.**

Tevfik Tanju Yilmazer, Tolga Kadioglu

IZMIR TEPECIK TRAINING RESEARCH HOSPITAL, FAMILY MEDICINE, 35183 IZMIR, Turkey. E-mail: tjyilmazer@hotmail.com

**Keywords:** Attention deficit and hyperactivity disorder, smoking, , smoking cessation

**Background:**

Attention Deficit and Hiperactivity Disorder (ADHD) is known to be more prevalent in smokers than the general population and it also might present difficulties in smoking cessation efforts. Aim of this study is to emphasize the possible effect of ADHD in smokers at a certain profession group, the physicians. It was executed by World Helth Organisation's (WHO) "Self Reporting Scale of Adult Type ADHD". Since the physiological mechanisms are quite common in ADHD, the importance of diagnosis and treatment of ADHD during cigarette cessation is emphasized.

**Research questions:**

Should ADHD evaluation be performed in smoking cessation ?

**Method:**

A group of smoker and non-smoker control group of physicians working at İzmir Tepecik Training and Research Hospital during the study period (November 2017 - June 2018) were included in the study. During the study, WHO "Self Reporting Scale of Adult Type ADHD" consisting of 18 questions was given to a total of 126 doctors. The obtained data were analyzed with student's t, chi square tests and pearson correlation coefficient were used.

**Results:**

Eleven smokers had high and 49 had very high ADHD probability. Meanwhile in the non-smokers, 23 people with high and 43 people with very high ADHD probability. There was a statistically significant relationship between smoking and the likelihood of ADHD ( $p < 0.05$ ).

**Conclusions:**

During both personal and professional smoking cessation efforts, it might be reasonable to refer to ADHD-related questions and keep this disorder in mind and manage accordingly especially if there are findings associated with ADHD

**Poster / Ongoing study no results yet****Mixed method situational review of primary family violence care in IMOCAFV**

Sara Ares Blanco, Thomas Frese, Anca Lacatus, Ana Claveria, Raquel Gómez Bravo, Zaida Azeredo, Markus Herrmann, Nena Kopcavar, Jinan Usta, Carmen Fernández Alonso, Sarah Simons, Leo Pas

Spanish Society of Family and Community Medicine semFYC, 28004 Madrid, Spain. E-mail: sararesb@gmail.com

**Keywords:** Domestic Violence, Intimate Partner Violence, Child abuse, Elder abuse, Primary Health Care, Policy

**Background:**

The 'IMOCAFV' project is developing a multi-country vision on how to provide effective primary care for family violence (FV). In phase I, a situational analysis is performed based on mixed method review of countries' policies and interventions, key persons inquiries and professional questionnaires. Aim: Provide in a first phase of IMOCAFV a mixed methods analysis of policies and interventions for primary FV care in different health care settings, high, low and middle income countries.

**Research questions:**

How to perform a multi-level in depth mixed method analysis of policies, protocols, problems and good practices on primary FV care?

**Method:**

National guidance for FV primary care tasks is centralised into a central online database. Documentation is reviewed online nationally answering questions about prevention, detection, assessment and collaborative care for intimate partner violence, child abuse and elder abuse. Semistructured online inquiries are sent to a pragmatic sample of key persons and professionals in each country. Online training provides guidance for standardized mixed method review of materials. A continuous comparative analysis is made at local and international level; it should provide cues for the Delphi study planned in the second phase.

**Results:**

The key questionnaire describes policies and interventions defined for primary health care and advocacy support in different health services settings in three continents.

The professional questionnaire describes problems encountered and professionals opinion's.

Different online software packages are suitable for international research collaboration with some limitations. Ethical and security requirements may differ, while high security level applications require more budgets.

**Conclusions:**

The organisation of a two-level international qualitative analysis is challenging from a methodological and organisational point of view. A qualitative analysis in a multilanguage context requires specific agreements. Challenges will be discussed using first results.

**Points for discussion:**

1.How to facilitate a good qualitative analysis at both national and international level?

2.How to use different software platforms taking into account countries' different requirements and organisational facilities in different income countries?

**Poster / Published****Potential correlates of burnout among general practitioners and residents in Hungary: the significant role of gender, age, dependant care and experience**

Peter Torzsa, Andras Mohos, Csenge Hargittay, Bernadett Markus, Laszlo Kalabay, Szilvia Adam

Semmelweis Egyetem, Department of Family Medicine, 1085 Budapest, Hungary. E-mail: torzsa.peter@med.semmelweis-univ.hu

**Keywords:** burnout, general practitioners, residents, gender, correlates, predictors

**Background:**

Burnout is increasingly prevalent among general practitioners (GPs) in Hungary, which may lead to functional impairment and, subsequently, to poor quality of patient care. However, little is known about potential predictors of burnout among GPs.

**Research questions:**

What are the psychosocial correlates of burnout among GPs and residents in Hungary?

**Method:**

We collected socio-demographic and work-related data with self-administered questionnaires in a cross-sectional study among GPs (N=196) and residents (N=154). We assessed burnout with the Maslach Burnout Inventory Human Services Survey (MBI-HSS) and calculated the mean level of burnout and the proportion of physicians suffering from low, intermediate and high degree of burnout. We deployed Mann-Whitney U test to explore gender disparity in the level of burnout between female and male physicians and between general practitioners and residents.

**Results:**

The prevalence of moderate to high level emotional exhaustion, depersonalisation, and impaired personal accomplishment was 34.7%, 33.5% and 67.8% as well as 41.0%, 43.1%, and 71.1% among GPs and residents, respectively. Residents reported significantly lower level of personal accomplishment vs GPs. We identified a significantly higher level of depersonalization among male physicians compared to female physicians. Age correlated negatively with emotional exhaustion and depersonalization and positively with personal accomplishment among GPs. Dependant care was positively associated with burnout among female GPs. Female residents were more likely to report depersonalization. High workload was positively correlated with depersonalization among female GPs. Younger age emerged as the strongest predictor of emotional exhaustion. Male gender and fewer years of experience predicted depersonalization best, and male gender showed a significant predictive relationship with low personal accomplishment.

**Conclusions:**

We identified specific socio-demographic and work-related correlates of burnout, which may guide the development of specific and effective organizational decisions to attenuate occupational stress and subsequent burnout as well as functional impairment among GPs, and thus, may improve the quality of patient care.

**Points for discussion:**

Which are the most effective interventions to prevent burnout among GP's and GP trainees?

How frequent is the burnout among GP trainees in other European countries?

**Poster / Finished study****Supporting Health Behaviour Change in Real World General Practice: An evidence-informed report from Crete, Greece**

Christos Lionis, Marilena Anastasaki, Sophia Papadakis

Clinic of Social and Family Medicine, School of Medicine, GR71003 HERAKLION CRETE, Greece. E-mail: lionis@galinos.med.uoc.gr

**Keywords:** health, behaviour, care, General Practice

**Background:**

Health behaviour change is key to the prevention and management of the majority of conditions and diseases seen in general practice. General practitioners (GPs) among others are important intermediaries to influencing behaviour change among patients and families. There is a growing body of evidence to support specific behaviour change techniques that can be integrated into routine practice.

**Research questions:**

What is the feasibility of adapting and implementing a training program in behaviour change developed in West Europe/North America for use in Southern European general practice settings?

To what extent are such efforts effective in knowledge, self-efficacy, and practice changes?

**Method:**

We report on key findings and lessons learned from two European research and one Greek collaborative projects focussed on behaviour change in primary care practice settings (TITAN, FRESH-AIR, VACCINATION-PHARMACISTS) which were implemented on Crete (Greece). The qualitative and quantitative findings generated from these projects were examined with a focus on smoking cessation, vaccination and adherence to rehabilitation behaviours. Particular attention has been given on methodological approaches including very brief advice (VBA), motivational interviewing, and action planning.

**Results:**

GPs exposed to the TITAN and VBA training intervention documented significant increases in knowledge, self-efficacy, and rates of tobacco treatment delivery between the pre- and post-assessment comparison with a control group. Missed opportunities for prevention in regards tobacco treatment delivery by GPs were highlighted. Screening and referral to pulmonary rehabilitation program was found to be feasible and acceptable.

**Conclusions:**

Implementing behaviour change interventions after suitable adaptation for low-resource setting seems feasible and effective. This paper will provide evidence-based information to further integration of health behaviour interventions into research activities and clinical settings.

**Points for discussion:**

1. What approaches and methods for supporting patient behavior change could effectively be implemented in Southern European General Practice settings?
2. What factors can facilitate or impede the success of these intervention programmes?

**Poster / Ongoing study with preliminary results****Supporting primary care for sleep disorders, including insomnia, in an adult population.**

Kristien Coteur, Catharina Matheï, Marc Van Nuland

KU Leuven, 3000 Leuven, Belgium. E-mail: kristien.coteur@kuleuven.be

**Keywords:** co-design; primary care; insomnia; participatory research

**Background:**

Sleep disorders and insomnia are widespread problems in the general adult population, with prevalence of chronic insomnia varying from 6 to 76.3% worldwide, depending on the diagnostic and screening methods used. (NIH State of the Science, 2005; Nowicki et al., 2016; Ohayon & Lemoine, 2002; Rocha et al., 2002) To treat sleep disorders, both national and international guidelines stress the importance of non-medicinal interventions. Research shows that these interventions can provide a healthy alternative for medication, and support the discontinuation of current use of sleep medication (Mitchell et al., 2012). The interventions mainly consist of educating patients and offering them the necessary tools for self-management of the health problem.

**Research questions:**

Which type of educational material for patients contributes to the implementation of recent national guidelines (2018) for the approach of sleep disorders and insomnia by primary care professionals?

**Method:**

Participatory design: co-design in three phases. In each phase, a different method was used, specifically selected to meet the requirements of the design process at that time.

**Results:**

During this project, the importance of well-trained primary care professionals was often emphasized, referring to their knowledge of sleep (architecture) and how to treat insomnia without medication. Professionals also discussed the importance of their network and proper referral. Patients pointed out many flaws in existing educational materials: use of jargon, no attention for the impact of insomnia on a patient's psychosocial well-being and their context, no differentiating between acute and chronic insomnia, etc.

During the presentation, we will discuss the main results of each phase more in detail. We will also discuss how we selected the method for each phase, and conclude with a draft version of the product that was designed.

**Conclusions:**

Co-design is an interesting approach to combine perspectives when creating health-related materials for insomnia.

**Funding statement**

This work is supported by EBPracticenet.

**Points for discussion:**

co-design: can we use it more often to create materials that patients really relate to?

multidisciplinarity in the treatment of insomnia

insomnia as a public health topic: how to improve general knowledge?

**Poster / Finished study****Health Status and social support in long-term cancer survivors: a cross-sectional study**

Magdalena Esteva Cantó, Beatriz Leon, Joan Llobera, Marc Casajoana, Edurne Zabaleta-Del-Olmo, Tomás López-Jiménez, Bonaventura Bolibar

Majorca Primary Care District, 07002 Palma de Mallorca, Spain. E-mail: mesteva@ibsalut.caib.es

**Keywords:** Primary health care, cancer long-term survivors, life style, comorbidity, quality of life, health promotion.

**Background:**

Quality of life and social support are key elements during the cancer survivorship period.

**Research questions:**

Does cancer survivors display a worse health status and less social support compared with population who have not suffered a cancer?

**Method:**

Descriptive study nested in phase II and III of a cluster randomized trial (EIRA study) to establish the effect of a complex intervention individual, group and community) in primary care that aims to decrease tobacco consumption, the low adherence to Mediterranean diet and low physical activity.

Setting: 38 health centres of 11 provinces of Spain.

Participants: Subjects 45-75 years old with almost two risky behaviours were included.

Measurements: Sociodemographic, diet, physical activity, tobacco consumption, body mass index, Charlson comorbidity index, diagnosis of cancer, health status perception and social support.

**Results:**

We included 4,259 patients; 190 (4.46%) were cancer survivors. Cancer survivors were older (62.8; SD=7) compared to non-cancer persons 58.7 years; (SD=8;  $p<0.01$ ). Prevalence of permanent disability was higher in cancer survivors 11.9% vs. 3.5%;  $P<0.001$ ). No differences were observed between groups in smoking, adherence to Mediterranean diet and physical activity, obesity and scores of social support. Cancer survivors patients perceived their health status lower than non-cancer persons (OR 1.82 IC95% 1.02-2.75), had higher percentage more than 1 health problems (OR 1.68 IC95% 1.18-2.39), higher presence of COPD (OR 2.17; IC95% 1.25-3.78), and depression (OR 1.65; IC95% 1.06-2.57). Adjusted model show a higher risk of worse perception of health status and age.

**Conclusions:**

Cancer survivors suffer from a higher number of chronic diseases, have more permanent disability and value their health status as bad with more frequency than people without cancer but social support is similar in both groups. More than 80% of cancer survivor's maintain unhealthy behaviour in high proportion. This could represent an important problem for their future health and quality of life.

**Poster / Finished study****Illness Perception and Quality of life in Breast Cancer Patients**

Goranka Petriček, Klaudija Gospić, Gorka Vuletić, Venija Cerovečki, Zlata Ožvačić Adžić, Miroslav Hanževački

University of Zagreb, School of Medicine, Department of Family Medicine, Zagreb, Croatia; Zagreb-Zapad Health Center, Zagreb, Croatia, HR-10000 Zagreb, Croatia. E-mail: goranka.petricek@mef.hr

**Keywords:** Breast Cancer, Illness Perception, Family Medicine

**Background:**

Breast cancer (BC) is the most frequent cancer in women. Evidence suggests that the illness perception is closely related with the quality of life of BC patients

**Research questions:**

To investigate the illness perception in BC patients and its relation with the QOL.

**Method:**

Cross-sectional study was carried out in 100 BC patients in 18 Croatian family medicine practices. Patients completed two questionnaires: The Brief Illness Perception Questionnaire (Brief IPQ-B) and The World Health Organization quality of Life "WHOQOL – BREF" Questionnaire. Patients' general and disease data were also collected. Statistic analysis was done using Statistika, version 7.1 statistic program, and values  $P < 0.05$  were considered statistically significant.

**Results:**

The patients mean age was  $59.05 \pm 11.3$  years and duration of their BC was  $57.39 \pm 31.93$  months. Distribution of patients' illness perception average scores (on 0-10 Thurston scale) showed higher scale range for: treatment control ( $8.6 \pm 1.8$ ), personal control ( $7.3 \pm 2.5$ ) and illness coherence ( $7.5 \pm 2.8$ ); while lower scale range for: consequences ( $4.1 \pm 2.8$ ), illness duration ( $4.0 \pm 3.1$ ), concern ( $4.0 \pm 3.1$ ), emotional response ( $4.0 \pm 3.1$ ), timeline ( $4.0 \pm 3.1$ ) and illness identity ( $2.7 \pm 2.6$ ). QOL average values (on 1-5 Likert scale) showed tendency of higher scale range ( $3.6 \pm 0.6$ ). Younger patients were significantly more concerned ( $p < 0.01$ ) and with greater emotional response ( $p < 0.05$ ) than older patients. Patients with shorter illness duration perceived significantly less treatment control ( $p < 0.05$ ) and their illness to have more consequences ( $p < 0.01$ ) than patients with longer illness duration. Patients who scored high on consequence ( $p < 0.01$ ), timeline ( $p < 0.01$ ), identity ( $p < 0.05$ ), concern ( $p < 0.01$ ) and emotional response ( $p < 0.05$ ) had significantly lower QOL.

**Conclusions:**

Significant relationships between illness perception and QOL observed in BC patients imply strengthening BC patients' emotional and social support could be helpful in improving their QOL.

**Poster / Finished study****The effect of the breast cancer on control of diabetes**

Alexandra Verzhbitsky, Sofia Eilat-Tsanani

Department of Family Medicine, Bar Ilan University; Clalit Health Services, 18000 afula, Israel. E-mail: alexaverba@gmail.com

**Keywords:** breast cancer, diabetes mellitus, glucose control**Background:**

Diabetes mellitus (DM) is characterized by various long-term complications, between which association with malignant disorders including breast cancer (BC).

The contribution of DM to development of BC has been discussed widely. In contrast the effect of breast cancer on the management of DM and the control of the disease has not been reported.

**Research questions:**

How does BC influence on the control of DM?.

**Method:**

A cross sectional study. Included in the study women with DM who were diagnosed with BC.

Demographic data, information related to control of DM, date of onset of BC and related treatments were retrieved from the data base of CHS.

Control of DM was defined as HBA1C<7.5 for women younger than 65y. and <8 for women aged 65 years and older.

Control of DM was evaluated 2 years before and after diagnosis of breast cancer, considering demographic and morbidity factors.

**Results:**

The study population included 220 women with DM who were diagnosed with breast cancer during 2005-2016, 56% of them were Jews. Obesity was recorded in 78% of them. Anxiety was diagnosed in 55% and depression in 43%. Surgical procedures were documented in 87% of the women, radiation in 67%. Oncologic medications were purchased by 31%.

The trend towards controlled DM was reported in 186 women and towards not controlled in 30 women.

According the logistic regression model the factors identified with chance for trend towards controlled DM were: for Arabs less than Jews [OR=0.2, 95% CI 0.09-0.7, p=0.007], older age [OR=1.1, 95%CI 1.06-1.18, p=<0.001] not having mental disorder [OR=0.18, 95% CI 0.06-0.54, p=0.002]

**Conclusions:**

On average diagnosis of BC did not disrupt the control of DM. It is possible that the BC raise the level of self-care. We should focus on younger women, Arabs and those having mental co-morbidity to prevent deterioration of DM.

**Points for discussion:**

diabetes mellitus co-morbidity.

glucose control

cancer co-morbidity

**Poster / Finished study****Empagliflozin versus Canagliflozin for Prevention of Heart Failure in Patients With Type Two Diabetes**

Joseph Azuri, Ariel Hammerman, Enis Aboalhasan, Ronen Arbel

Sackler Faculty of Medicine, Tel Aviv University, 6745605 Tel Aviv, Israel. E-mail: azurij@actcom.co.il

**Keywords:** empagliflozin, canagliflozin, heart failure, diabetes

**Background:**

The sodium glucose cotransporter 2 inhibitors (SGLT2i) empagliflozin and canagliflozin have proven efficacy in reducing the risk of hospitalization for heart failure (HHF) or cardiovascular mortality in patients with Type 2 diabetes mellitus (T2D). The addition of SGLT2i to the standard of care may impose a significant burden to the healthcare system.

**Research questions:**

To determine the cost saving strategy between Empagliflozin and Canagliflozin for prevention of HHF and cardiovascular mortality in patients with HF and T2D.

**Method:**

We calculated the cost needed to prevent one event of HHF or cardiovascular mortality, by multiplying the one-year number needed to treat (NNT) to prevent one event, by the annual therapy cost. Efficacy estimates were extracted from published RCT data. Sensitivity, scenario and subgroup analyses were performed to mitigate differences and uncertainties in the trials. Drug costs were based on the 2019 US National Average Drug Acquisition Cost prices.

**Results:**

The cost needed to prevent one event of HHF or CV mortality with empagliflozin is \$529,828 (\$391,612-\$835,055) compared to \$1,206,348 (95% CI: \$787,930-\$2,912,624) with canagliflozin. In all the scenario and sensitivity analyses performed, empagliflozin was consistently a significant cost-saving strategy compared to canagliflozin, except for the sub-group of patients with prior history of HF.

**Conclusions:**

Empagliflozin prescribed for preventing CV death or HHF in type 2 diabetes patients seems to be a major cost-saving strategy compared to canagliflozin for the same purpose. Canagliflozin may be used primarily for patients with prior history of HF.

**Points for discussion:**

How should the clinician consider medical treatment in an era of financial constraints ?

How important are financial issues and drug costs in clinical decision making ?

**Poster / Finished study****Participation in structured diabetes mellitus self-management education program and association with self-management behavior - results from a population-based study**

Solveig Carmienke, Marcus Heise, Jens Baumert, Lars Gabrys, Alexander Bauer, Yong Du, Thomas Frese, Christin Heidemann, Astrid Fink

Institute for General Practice and Family Medicine, Medical Faculty of Martin-Luther-University Halle-Wittenberg, 06120 Halle, Germany. E-mail: solveigcarmienke@posteo.de

**Keywords:** diabetes mellitus self-management education; self-management; diabetes mellitus; population-based study

**Background:**

Participation in structured diabetes self-management education programs (DSME) for patients with diabetes mellitus is associated with an improved self-management behavior (SMB) in randomized-controlled studies. However, little is known of the effects of DSME on SMB in population-based studies after a broadly dissemination of DSME in German routine health care.

**Research questions:**

Is participation in an DSME associated with an increased SMB in routine health care setting for diabetic patients?

**Method:**

We included 1,495 persons with diabetes (934 ever- and 561 never-DSME participants) from the population-based survey German Health Update 2014/2015. SMB was defined by keeping a diet plan, keeping a diabetes diary, holding a diabetes pass, blood sugar self-measurement, foot self-examination, eye examination, haemoglobin A1c (HbA1c) measurement. We conducted multivariable weighted logistic regression analyses for SMB differences comparing ever- and never-DSME participants and a latent class analysis. Age, sex, socioeconomic status, living together, limitation due to chronic illness for six months, self-efficacy, health attention and time since diagnosis were included as confounders in the all analyses.

**Results:**

DSME participation increased the chance for SMB regarding (all OR [95% CI]) keeping to a diet plan (2.10 [1.33-3.32]), keeping a diabetes journal (4.0 [2.92-5.49]), keeping a diabetes pass (6.21 [4.51-8.55]), blood sugar self-measurement (3.86 [2.95-5.05]), foot self-examination (2.94 [2.04-4.24]), eye examination (3.85 [2.84-5.22]), HbA1c measurement (2.95 [2.19-3.96]). Furthermore, we could identify three SMB-profiles: 1) poor performance in all variables, 2) good performance in HbA1c measurement, foot self-examination and eye examination, but poor performance in the other SMB-variables, 3) very good performance in all variables. Participation in DSME increases the average probability for high SMB for diabetic patients from 5% to 59%.

**Conclusions:**

DSME participation is associated with a significantly improved SMB even in routine health care. General practitioner should refer patients to a DSME to improve their SMB.

**Points for discussion:**

-Should future research investigating SMB in diabetic patients take DSME as a confounder into account?

-What could population-based studies in routine health care add to knowledge of DSME interventions based on data randomized-controlled trials ?

- SMB and confounding variables we analysed in this study

**Poster / Finished study****Current situation within a sample of breastfeeding women in Ille et Vilaine concerning the prevalence and modalities of cosleeping**

Sidonie Chhor

DMG Rennes, 35000 RENNES, France. E-mail: sidochhor@gmail.com

**Keywords:** breastfeeding, cosleeping, primary care**Background:**

Cosleeping in breastfeeding is a very controversial topic in France as well as in the rest of the world and does not have clear recommendations. The World Health Organization (OMS) and the American Academy of Pediatrics (AAP) recommend that infants sleep in the parental room for the first six months of bed-sharing to allow optimal breastfeeding and reduce the occurrence of sudden infant death.

**Research questions:**

The objective of this study is to take stock of a sample of breastfeeding women in Ille and Vilaine (Bretagne, France) regarding the prevalence and modalities of shared sleep and more specifically bed sharing during breastfeeding.

**Method:**

Descriptive cross-sectional quantitative epidemiological study by anonymized paper questionnaire distributed in liberal general practices, paediatrician, midwife, Child Maternal Protection Centres (PMI) and at the hospital. The inclusion criterion was to be a mother breastfeeding an infant six months or less in Ille and Vilaine (mixed or exclusive breastfeeding). The primary endpoint was bed sharing in the last 15 days prior to the consultation.

**Results:**

Data collection conducted from July 25, 2018 to December 8, 2018. 400 questionnaires were analysed. During the night, 47% of breastfed infants usually slept alone in a crib in the parental room, 19.8% in a sidecare crib, and 6% in the parental bed. 66.8% of breastfeeding mothers reported sleeping with their child in the last 15 days prior to the consultation. The main reasons for bed sharing were breastfeeding, mother-child proximity and maternal fatigue. The sleeping conditions described by the French Coordination for Breastfeeding (COFAM) to minimize the risk of sudden death in the event of bed sharing were not met in the vast majority of cases.

**Conclusions:**

The prevalence of cosleeping in this sample of breastfeeding mothers is high, it would be interesting to carry out a new national study to determine the prevalence of bed sharing in France.

**Points for discussion:**

current situation of cosleeping in breastfeeding

cosleeping patterns during breastfeeding

recommendations in cosleeping in breastfeeding

**Poster / Published****Advice and information for patients with low back pain: an interview study of general practitioners**

Ditte Meulengracht Hjelmager, Line Dausel Vinther, Søren Herold Poulsen, Lone Stub Petersen, Martin Bach Jensen, Allan Riis

1.Department of Development and Planning, Aalborg University, Denmark 2.Research Unit for General Practice at Aalborg University, Denmark 3.Physiotherapy Department, University College of Northern Denmark, 9220 Aalborg, Denmark. E-mail: ariis@dcm.aau.dk

**Keywords:** General practice, low back pain, patient education, self-management, health information technology

**Background:**

Patient education is recommended for all patients with low back pain (LBP). However, information about the nature of LBP and support to self-manage are inconsistently delivered in general practice.

**Research questions:**

The objective was to identify general practitioners' (GPs) barriers and facilitators regarding the use of health information technology (HIT) in the treatment of patients with LBP.

**Method:**

This is a qualitative study employing a participatory design approach, with an inductive analytical thematic approach utilising semi-structured interviews. Eight interviews were conducted with an average duration of 60 min. The interviewees were Danish GPs from different geographical settings and different organisational structures, varying in age and professional interests. We applied an inductive thematic analysis method to code units of meaning in the text and identify themes.

**Results:**

Through the inclusion of healthcare professionals in the design process, this study found that in order for GPs to recommend a HIT application it is essential to target the application towards their patients. Furthermore, GPs required that the HIT application should support patient self-management. Additionally, the content of the HIT application should support the initiated treatment and it should be easy for GPs to recommend the HIT application. Finally, healthcare professionals expressed a need for being involved in the design process.

**Conclusions:**

GPs would be more willing to recommend a HIT application that: applies content in line with frequently used recommendations and supports the patients' needs.

**Points for discussion:**

Online information cannot replace the GP, but can rather be a bonding tool between the patient and the GP

It is important to address both GP and patient barriers to applying new technology and to consider the literacy level

Participatory methods could play a central role in the future development of online information material

**Poster / Almost finished study****Clinical piloting of “gut feeling” questionnaire in Ukraine.**

Pavlo Kolesnyk, Antonina Niroda, Natalia Kopin, Iryna Yakym, Andriy Kolesnyk

Family medicine training center, family an internal medicine department, 388000 Uzhgorod, Ukraine. E-mail: dr.kolesnyk@gmail.com

**Keywords:** gut feeling, GFQ questionnaire, piloting.

**Background:**

The evaluation of family doctors' (FD's) “gut feeling” plays a significant role in diagnostic considerations and influences the choice of patient management tactics. The gut feeling questionnaire (GFQ) for their evaluation has already been tested in 4 European countries.

**Research questions:**

The purpose of the study was a clinical piloting of the Ukrainian version of GFQ questionnaire among FDs in real-live practice to see if a change to the Ukrainian version of the trial was necessary.

**Method:**

The study involved 8 family practitioners who were interviewed in 67 real clinical cases. After consultation of each patient FDs were asked to fill in the GFQ thinking aloud about each clinical case. FDs' comments were recorded verbatim.

**Results:**

Out of 67 collected GFQs 40 were totally filled in by FDs. All FDs comments were collected and coded afterwards. Using all collected comments the final Ukrainian version of GFQ has been developed and consensus decision was made.

To explore how well items fit together conceptually, the internal consistency is undertaken (Parsian & Dunning, 2009). This was analyzed using Cronbach's alpha.

**Conclusions:**

This study is important for GPs in the decision-making process and in determining patient management tactics (to determine feeling of FD's confidence, anxiousness concerning diagnosis or clinical strategy). Clinical piloting of GFQ is the final step validating it in Ukraine.

**Points for discussion:**

This questionnaire has not been used in Ukraine yet, what are possible barieers while it's implementation?

Are there differences in acception the questionnaire among family doctors according to their age?

What are differences in gut feeling acoording to the diagnosis among familly doctors of different age

**Poster / Finished study****Communication between General Practitioners and Nursing Homes in Germany 2019.**

Eric Kroeber, Thomas Frese, Alexander Bauer

Institute of General Practice and Family Medicine, Martin-Luther-University Halle-Wittenberg, 06112 Halle, Germany. E-mail: eric.kroeber@posteo.de

**Keywords:** E-Health, Telemedicine, Nursing Homes, General Practice

**Background:**

The German health care system is facing a sizable challenge in the near future. Currently, almost one million care recipients are living in nursing homes. There is a shortage on caregivers and General Practitioners (GPs).

**Research questions:**

This study investigates basic information on communication routines and difficulties as well as GP's perspectives on E-health-technologies in patient care in nursing homes.

**Method:**

A questionnaire-based cross-sectional study, carried out among n=600 randomly selected GPs in Germany sent by mail.

**Results:**

The response rate was 19.8% (n=114). The respondent's mean age was 53 years (min=35; max=77), two thirds were women (65.1%). GPs commonly use fax (92.3%) and telephone (86.5%) to communicate with nursing homes. Less than 10% routinely use E-mail (6.2%), E-health software (5.3%) or chat-services (0.9%). About half of GPs regard unnecessary (52.3%) or unspecific (50.5%) nursing home visit requests as well as medication plan changes by other physicians (51.4%) as a common but evitable problem. Many GPs want to use E-medication plans (84.6%), E-follow-up prescriptions (78.8%) and E-letters of referral (69.2%) in the future. 32.7% of GPs already have fully digitalized patient files. Only 8.7% work exclusively paper-based.

**Conclusions:**

Though GPs are open for digitalized communication with nursing homes, fax and telephone are still mostly used. GPs prefer to execute less complex tasks digitally, like change of medication plans and letters of referral. Fewer can imagine digital solutions for complex procedures like acute health problems and ward rounds. Only 7.6% do not want to work digitally at all.

**Points for discussion:**

E-Health technologies in nursing home/ GP context - what are the facilitators and barriers to improve patient care?

E-Health technologies in nursing home/ GP context in Europe - what are the medical indications are what is the benefit for patients?

E-Health-based monitoring in nursing homes - what is the specific benefit for patients

**Poster / Ongoing study with preliminary results****Dermatoscopy in GP practice - challenge in the battle with melanoma**

Elina Skuja, Valerija Novaka, Laine Bekere, Raimonds Karls, Ilze Skuja

Riga Stradins University, Family Medicine, LV1083 Riga, Latvia. E-mail: e.e.skuja@gmail.com

**Keywords:** Dermatoscopy, skin pigmentation, melanoma

**Background:**

Incidence of skin melanoma varies across Europe ranging 3 - 35 patients per 100,000.

In Latvia, 230 (11.8/ 100,000) patients were newly diagnosed with skin melanoma in 2017.

This indicates the need for improving prevention and early diagnosis of disease.

Dermatoscopy in general practice (GP) provides an opportunity to diagnose melanoma at early and potentially curable stage and can be used as a first-line diagnostic tool for melanoma.

Skin pigmentation diagnostics with dermatoscope is a cost-effective manipulation of GP in Latvia. There are European co-financing projects available to support GPs in purchasing equipment.

**Research questions:**

To evaluate patients' risk factors for development of melanoma and to find out patients' opinion on possible diagnostics of skin pigmentation in primary care (PC).

Compare the results of the skin pigmentation inspection using naked eye method and dermatoscopy in GP, evaluated by a dermatologist (2nd opinion).

**Method:**

The study includes adults from different GP practices in Latvia who agree to participate. Self drawn-up questionnaire is used, including questions about risk factors and knowledge. Likert scale is used to assess thoughts on dermatoscopy in PC settings.

At step 2 patients with skin pigmentations will be evaluated for 1-5 skin pigmentations using naked eye method and digital dermatoscope. Digital images obtained during dermatoscopy will be submitted to a dermatologist for independent evaluation to compare the results.

Data will be analysed using SPSS program.

**Results:**

Pre-liminary results show that patients have different opinion about melanoma. The attitude to GPs involvement differs from absolute trust to GP until trust only to dermatologist. Study also proved that patients support when GPs work with computerised additional features in making diagnoses.

**Conclusions:**

It is very helpful to work in everyday practice with digital medical tool to get quicker and more precise diagnoses. Usage of digital dermatoscopy could improve GPs everyday work with patients supposed to melanoma.

**Points for discussion:**

Is skin melanoma a problematic issue in other countries?

Do GPs evaluate skin pigmentations in other countries?

**Poster / Finished study****Development and validation of a tool assessing knowledge and attitudes regarding adult vaccination: The Attitude Towards Adult VACcination (ATAVAC) questionnaire.**

Philippe-Richard Domeyer, Dimitrios Gougourelas, Konstantinos Kolokas, Anastasia Papaioannou, Vasileios Gkizlis, Emmanuil Chatzimanolis, Sofia Birka, Ioanna Tsiligianni, Athina Tatsioni, Zoi Tsimtsiou

Hellenic Open University, 26335 Patra, Greece. E-mail: philip.domeyer@gmail.com

**Keywords:** development; validation; tool; questionnaire; knowledge; attitudes; vaccination; adults

**Background:**

Despite the unequivocal value of vaccination in reducing the global burden of infectious disease, anti-vaccination movement thrives. To our knowledge, no fully validated tool exploring knowledge and attitudes of primary care patients regarding adult vaccination exists.

**Research questions:**

The aim of our study was to develop and validate a questionnaire assessing knowledge and attitudes regarding adult immunization.

**Method:**

This national cross-sectional study included 2,070 adult patients who presented for routine care in 23 Greek public Primary Healthcare Units. The development of the questionnaire was a result of literature review, semi-structured interviews and pilot-testing of its preliminary versions to researchers and patients. The initial version of the questionnaire contained 15 items measuring the respondents' knowledge and attitude towards adult immunization on a 6-point Likert scale. The sample was randomly split into two halves. Exploratory factor analysis, performed in the first sample, was used for the creation of multi-item scales; confirmatory factor analysis was used in the second sample to assess goodness of fit.

**Results:**

The final sample consisted of 1571 individuals. Overall Cronbach's alpha was 0.844. The initial exploratory factor analysis resulted in a three-factor model. The subsequent confirmatory factor analysis indicated that an 11-item version of the scale provided the best fit of the model to the data (root mean square error of approximation, RMSEA=0.050; comparative fit index, CFI=0.955, Tucker Lewis index, TLI=0.937; standardised root mean square residual, SRMR=0.053).

**Conclusions:**

The ATAVAC instrument proved to be a reliable and valid tool, suitable for assessing knowledge and attitudes regarding adult vaccination.

**Points for discussion:**

Vaccination is considered the second most successful public health intervention; there is a need for using validated instruments to assess vaccination knowledge and attitudes in primary care populations

Need for translation to other languages and further validation in other settings

**Poster / Ongoing study no results yet****The Broad Spectrum Project: understanding AMR, from pharmacoepidemiology to knowledge, attitudes and practice in Family Medicine**

Peter Konstantin Kurotschka, Alice Serafini, Stefania Apila Alegiani, Marco Massari, Roberto Da Cas, Viviana Forte, Maurizio Marcias, Maria Francesca Moro, Luigi Minerba, Adolfo Figueiras, Mauro Giovanni Carta

University of Cagliari: Department of Medical Science and Public Health, 41121 Modena, Italy. E-mail: alice.serafini@hotmail.it

**Keywords:** Antimicrobial resistance; Misprescription; Antibiotics; Indicators; crossculturaladaptation; surveyresearch

**Background:**

AMR has emerged as a threat to public health worldwide. Italy has a high consumption rate of antibiotics and aggregated level data shows that there is a high variability of antibiotic prescription rates among different regions of the country and among different seasons of the year. For all these reasons it seems to be very likely that the majority of antibiotic prescriptions in Italy could be avoided. The 90% of antibiotic prescriptions is filled by GPs. Consequently, they could play an important role in tackling the phenomenon of antibiotic overuse and irrational prescription habits. Antibiotic prescribing is a complex behaviour, related to both intrinsic and extrinsic factors to the healthcare professional. Therefore, to inform stakeholders in the development of effective interventions, an understanding of the context specific determinants of antibiotic prescription is needed.

**Research questions:**

We aim to measure, with validated tools, knowledge and attitudes of GPs on AMR and antibiotic prescriptions in Italy and to evaluate the influence of knowledge and attitudes of GPs on their prescriptions of antibiotics.

**Method:**

variables related to the work environment, socio-demographic factors, knowledge and attitudes of GPs regarding AMR and antibiotic prescription (determinants) will be measured in a cross-sectional study through a questionnaire (ITA-KAAR-11) administered to all 1205 sardinia's GPs. Reliability and validity of ITA-KAAR-11 will be measured through Cronbach's alpha and exploratory factor analysis and assessed through known-group validation. Prescription data of GPs will be obtained from the Sardinian administrative database. Every GP will be deemed to have an adequate quality of prescriptions of antibiotics (AQPA) if the indicators proposed by the ESAC-net are better than the median of the region. The association between the dependent variable (AQPA=yes/no) and the determinants of prescription (=independent variables) will be calculated using a Poisson regression model and expressed as crude and adjusted prevalence risk ratios (PRR).

**Poster / Finished study****What are the factors that have hindered the achievement of the advance directives since the 2016 French law? A thematic analysis based on the grey literature review.**

Zambonino Marine, Le Goff Delphine, Collin Antoine, Nabbe Patrice, Hazif-Thomas Cyril, Jean Yves Le Reste

Brest, 29200 BREST, France. E-mail: marinezambonino@orange.fr

**Keywords:** Advance Directives, Community, Ethics

**Background:**

Advance directives (AD) are a document giving medical instructions in the event that the patient is no longer able to express them. This system was updated, in France, by the Claeys-Leonetti law in February 2016. Nevertheless few French patients have written their AD. No Data is available in medical literature. What are or could be the factors hindering the achievement of AD since the Claeys-Leonetti law in grey literature?

**Research questions:**

What are the factors that have hindered the achievement of the advance directives since the 2016 French law? thematic analysis based on the grey literature review.

**Method:**

Systematic literature review was undertaken between the 1/01/2016 31/12/2017 using the adapted PRISMA guide on Google Scholar. Search equation was using "advance directive", "community", "ethics" as keywords. Exclusion criteria were: no reference to the French law, anticipated directives were not the main topics, the community was not mentioned, ethics was not mentioned. Inclusion criteria corresponded to the identification of hindering factors for the achievement of ADs. Documents were compiled using a thematic and hermeneutic analyses. A heuristic map was created. All of the PRISMA process and coding were achieved with two researchers working blind.

**Results:**

139 documents were found, 19 were eligible, 16 were included in the thematic analyses comprised 6 book extracts, one book, one study report, 5 publications, a dissertation and a thesis manuscript. 101 axial codes were identified and grouped into 19 sub-themes assembled into 11 main themes: Individual sphere, care sphere, communication, temporality, opposability, interpretation, elaboration, psychic and spirituality, law and society.

**Conclusions:**

One of the obstacle is the opposability of the AD. Many other limiting factors exist in legal, ethical, sociological, and practical affairs. They concern all actors implied in the AD, from the individual to the social groups. Education of health professionals about AD should be promoted to override these constraints.

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