

## POSTER BOARD - 01

### External Validity of Thromboprophylaxis Guidelines in Hip Fracture Patients: a Retrospective Analysis

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**Objectives:** Major orthopedic surgeries are recognized risk factors for thrombo-embolic events. Thromboprophylaxis following orthopedic surgery is widely recommended. Yet randomized controlled trials (RCT) evaluating efficacy and safety of thromboprophylaxis in the population with traumatic hip fracture have enrolled a selected group of patients. Patients with traumatic hip fracture often present with multiple comorbidities making them likely to be underrepresented in thromboprophylaxis studies. We hypothesize that randomized controlled trials in support of the CHEST guidelines for thromboprophylaxis following hip surgery for traumatic fracture have a low external validity. We designed a study to measure the prevalence of exclusion criteria from thromboprophylaxis trials in the population that underwent surgery for a traumatic hip fracture at the Centre Hospitalier de l'Université de Montréal (CHUM). We also aimed to quantify the number of transfusions received, number of bleeding events and deaths according to the presence or not of exclusion criteria to randomized controlled trials.

**Method:** We identified all original studies supporting the CHEST thromboprophylaxis guidelines for patients suffering a traumatic hip fracture (n = 3). We extracted all inclusion and exclusion criteria reported by authors. Then, we conducted a retrospective cohort study on a random selection of all was patients who underwent an urgent traumatic hip fracture surgery at the CHUM from January 1<sup>st</sup> 2012 to December 31 2016. Patients (n = 250) were randomly selected from the medical archives list (50 patients/year). Data was collected through chart review of the electronic medical charts. For each participant, data on the presence of exclusion criteria, number of transfusions received post-operatively during hospital stay, significant bleeding events, thrombotic events and death were extracted. We used appropriate descriptive statistics, binomial exact confidence intervals and kruskall wallis and fisher's exact tests to analyze results. Analysis was done using Stata 13.

**Results:** We included 250 patients, (172 (68.8%) women, mean age 78.7 SD(13.1)yo). Overall, 164 (66% 95%CI [59-71%]) subjects presented at least one exclusion criteria for one of the 3 RCT, and 57 (23%) [95%CI 18-29%] presented an exclusion criterion to all trials. No thrombotic event was reported (0%, 95%CI [0-1.4%]). There were 114 (46%, 95%CI [39-52%]) patients receiving at least one transfusion during the postoperative period. The median number (IQR) of transfusions according to the number of exclusion criteria were: no criteria, 0(0-1) transfusion; 1 criterion, 0(0-2); 2 criteria, 0(0-2); 3 or more criteria, 2(0-4) (p=0.011). The same trend was observed with significant bleeding events (p < 0.001) and mortality (p=0.001), with an increasing proportion of patients experiencing these complications when presenting more exclusion criteria.

**Conclusions:** Our results suggest that patients who would have been excluded from the randomized controlled trials supporting the actual thromboprophylaxis guidelines present with more bleeding complications and a higher transfusion need in the postoperative period. There is a trend showing a relation between the number of exclusion criteria and the frequency of bleeding adverse events. This demonstrates that the population excluded from trial may be at higher bleeding risk, therefore, the risk-benefit ratio demonstrated in trials does not apply to this population. Whether thromboprophylaxis may be of benefit to these patients is unknown.

## POSTER BOARD - 02

### Information "Pills" for doctors and citizens in Italy: a scientific communication project to contrast overdiagnosis and overtreatment

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**Objectives:** Reliable and accurate public health information is essential to get high-level health care.

General access to more information is a double-edged sword: though unarguably positive, it comes from information sources that are largely unregulated, boosting healthcare consumerism, a driver for over-diagnosis and over-treatment.

The Italian information and educational tool *Pillole* questions consumers' false beliefs, rooted in physicians even more than in patients.

For instance, information about dementias is subject to mass media recurrent claim of "epidemic" diffusion without any mention of epidemiological data reporting a reduction trend for incidence and prevalence in several western countries in last decades. This inappropriate information causes a demanding attitude for evaluation.

Uncertainty on the diagnostic value of biomarkers and neuroimaging in cognitive impairment can lead to identification of a supposed risk condition that is untreatable (*BMJ* 2013; 347: f5125), but triggers a cascade of prescriptions, monitoring and unproven therapies. Information tools can be improved.

**Method:** *Pillole* are scientific up-to-date evidence-based information sheets, designed around a strategic public health thought. Since 2004 they are issued in two formats:

- Good clinical practice *Pillole*, for health professionals, aiming to give greater value to primary and specialist medical care, taking the point of view of a universalistic and supportive NHS.

- Health education *Pillole*, designed for citizens, aiming to inform on the basic elements of health self-management and acquire better skills to put them into practice, provide a critical sense about the limits, risks and costs of current treatments and the availability of effective alternatives, make good use of health services, do not urge physicians to irrational consumerist prescriptions.

In addition, recently we designed a third experimental format, using a short plain text with appealing editing to give clear information at a glance, aimed to increase diffuse knowledge among those who have no time to read extensively.

**Results:** For example, some issues of *Pillole* deal with dementias epidemiology (*Pillole* di Educazione Sanitaria 119-120/2016, *Pillole* di Buona Pratica Clinica 141-142/2017) and prevention measures (*Pillole* di Educazione Sanitaria 67/2011 and 121/2016). As mass media use to report an "epidemic" spread (eg *Quotidiano Sanità* 13.03.2017, *La Repubblica* 20.09.2017), favouring diffuse fear for cognitive impairment, *Pillole* present epidemiological data and suggestions to prevent cognitive impairment, reduce alarmism, contrast over-investigation and prevent over-diagnosis, disease mongering and useless treatments. *Pillole* can be used by health professionals to communicate with citizens, patients and their family members; general practitioners can use *Pillole* to update their own knowledge while they look for documented answers for their patients. The three formats help in using reference-based information at different language and target levels, but founded on the same data and drawn up with the same accuracy.

**Conclusions:** Diffusion of Pillole among citizens in the physician office can help health professionals to discuss with patients and their families before prescribing treatments, tests, procedures and products in order to share uncertainty about results and reducing overdiagnosis and hence overtreatment. Besides, the diffusion of prevention strategy can help in empowering citizens to identify and reduce risks. In conclusion, Pillole can • contribute to a better understanding of the limits of diagnostic tools in use, • reduce the demanding attitude for exams and medical treatments, • redirect towards useful and safe preventive actions.

## POSTER BOARD - 03

### **Do words matter? Investigating how the wording of Choosing Wisely recommendations influences acceptance among physiotherapists**

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**Objectives:** The aim of this study is to explore physiotherapist's preferences for framing of the Australian Physiotherapy Association (APA) Choosing Wisely recommendations, thereby indicating aspects of the wording that could increase acceptance.

**Method:** We will conduct an online discrete choice experiment with ~400 physiotherapist members of the APA who are currently registered and practicing. Participants will indicate their agreement with the initial six APA Choosing Wisely recommendations (strongly agree/agree/unsure/disagree/strongly disagree). Recommendations will then be re-worded according to the following attributes: i) solution (3-level): alternative not provided (1), mentioned at the beginning (2), or mentioned at the end (3); ii) directness (2-level): "don't" or "do" vs. "consider avoiding" or "don't routinely"; and iii) action (2-level): "don't do" vs. "do". Participant will be given 18 scenarios (3 pairwise comparisons for each recommendation) and select which recommendations they would be most willing to follow. Descriptive statistics will identify recommendations participants are most willing to follow. Mixed logit models (using NLOGIT software) will identify attribute levels important for acceptance and the probability a participant will adopt a recommendation.

**Results:** The protocol for this study will be presented at this conference.

**Conclusions:** Choosing Wisely recommendations are intended to reduce low-value care by facilitating open patient-therapist communication. However, the wording of these recommendations could either support or prevent adoption. For example recommendations to 'avoid low-value care' could threaten clinicians and prevent adoption, while recommendations to 'replace low-value care with high-value care' could do the opposite. Further, research has demonstrated that specific recommendations can reduce inappropriate test ordering from physicians managing people with low back pain, while vague recommendations can do the opposite. Globally, over 1200 Choosing Wisely recommendations are published across numerous health disciplines, but no one has investigated how the wording of these recommendations could increase acceptance and adoption. Understanding how the wording of Choosing Wisely recommendations influences acceptance is the first step towards implementation activities to reduce low-value physiotherapy and potentially low-value care across the 200+ professional societies with Choosing Wisely lists worldwide.

## POSTER BOARD - 04

### **An exploration of physician perspectives on mammography screening for average-risk women**

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**Objectives:** Although the influence of practice guidelines on physicians' ordering of mammography screening is well established, conflicts exist in the recommended mammography screening initiation ages and screening frequency among different mammography guidelines. Furthermore, growing evidence nuancing the benefits and harms of screening has put systematic screening into question.

Understanding physician perspectives on the evidence that affects patient care will be important for informing future best practices as guidelines evolve. A large amount of data exists on these perspectives from thousands of physicians who read and react to clinical research synopses (Patient Oriented Evidence that Matter: POEMs) through an ongoing continuing medical education program.

The purpose of this study is to explore physicians' perspectives on clinical research regarding mammography screening for average-risk women and the extent to which they use this POEM information in their clinical practice.

**Method:** The Essential Evidence Plus database was searched from 2012 to 2017 with the term "breast neoplasm" to identify relevant POEMs on mammography screening, screening decision-making, and overdiagnosis. Using the Information Assessment Method (IAM), physician ratings and comments about mammography evidence were extracted from reflections on clinical research summarized as POEMs. The items of interest in the IAM were those calling on physicians to reflect on the value of the information and its applicability. Quantitative data were assessed with descriptive statistics. Using an iterative approach, the qualitative data were subjected to both an inductive and deductive analysis. These data were coded thematically into sub-themes, which were grouped into major themes. Connections were sought between both quantitative and qualitative data.

**Results:** Four relevant POEMs were identified. The number of quantitative POEM ratings ranged from 1243 to 1351. Across all POEMs, among the physician ratings about using the information for a patient, over 50% were about using it in a discussion with a patient or other healthcare provider. Three major themes emerged from the analysis of 310 qualitative comments across all POEMs: 1) Perspectives on information presented in POEMs, 2) Applying this information in practice, and 3) Confronting clinical and cultural realities. Physicians held diverse perspectives on the value of the POEMs. Some physicians continued to support screening while others condemned harms such as overdiagnosis. Although physicians noted the potential of the POEM to improve patient counseling, access to this information did not necessarily diminish perceived challenges in screening discussions. Physicians advocated for the personalization of screening decision-making and patient-centered approaches to respect each patient's values and preferences.

**Conclusions:** This study of POEMs data reveals important divergences in the ways physicians value clinical evidence on mammography screening and use it in practice. Physicians' intent to use the POEMs to support balanced screening discussions and prevent unnecessary testing and treatment suggest the potential of this information to reduce overdiagnosis at the level of the patient-provider consultation. However, our results also revealed challenges experienced by physicians in understanding and explaining evidence about screening and overdiagnosis. This research acknowledges the constant evolution of evidence on mammography screening and therefore points to the difficulty in deciding what exact information should be shared with average-risk women considering screening. Despite

continuing controversies in mammography screening, physicians expressed the importance of optimizing ethical screening decision-making and respecting women's personal values and preferences. Further research should explore how primary care providers can implement shared decision-making on breast cancer screening with their patients.

## POSTER BOARD - 05

### **A 20-year retrospective study examining outcomes in children and young adults diagnosed with primary thyroid cancer after usual care including invasive surgery and assessing whether a less invasive or watchful-waiting approach would reduce harm. A call for a new thyroid cancer classification in children and young adults**

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**Background and objectives.** Although paediatric primary thyroid neoplasia (PTN) is a rare event, early over-detection leads to unnecessary invasive surgery. Surgical complications, lifelong monitoring, repetitive radioisotope imaging, and hormone replacement all cause children and parents overstress. Excessive ultra-sonographic screening in the past 15 years has exponentially increased the PTN incidence in children and young adults, leaving mortality unchanged. In 85% of children with PTN, papillary thyroid cancer (PTC) is an indolent lesion of epithelial origin (IDLE) having 99% survival. The term IDLE has still no place in the International Classification of Diseases (ICD-10). To find out whether a less invasive or watchful-waiting approach would reduce harm, overdiagnosis and overtreatment, we collected and analysed retrospectively our 20-year hospital data on children and young adults with PTC treated by usual care (including invasive surgery as in adults) assessing how children and their parents experienced cancer and diagnosis-therapy-related family stress.

**Method:** From a cohort of 45 children with PTN attending our hospital during a 20-year follow-up, we retrospectively analysed variables from the clinical records of 42 children (excluding the 3 with medullary PTN leading to the worst-case scenario). We recorded surgery, clinical complications, histologic PTN findings, including PTC, or IDLE, and follicular thyroid cancer (FTC) histotypes, radioisotope imaging, number of admissions, ICD-10 at the first discharge after surgery, scheduled and unscheduled visits, and deaths. To investigate diagnosis-therapy-related stress, we interviewed children's and young adults' parents about their feelings, depression, requests on diagnostic procedures for siblings, anxiety about school year lost by children or their siblings, distance from hospital, and family economic burden. Primary outcome measures were cancer lesions according to PTN type, patients with PTC who could have undergone less invasive procedures, procedural and social costs, the percentage of parents reporting cancer diagnosis-related stress, and cancer-related mortality.

**Results:** The age at primary PTN diagnosis (PTC and FTC histotypes) was 12.5 years  $\pm$  3.6 SD (range 3.9-17.9). A total 37 patients (88.1%) had histologic findings indicating PTC, namely IDLE, and 5 patients (11.9 %) had FTC. Despite these diagnostic findings, all the 42 children underwent total thyroidectomy, in one or two surgical steps (the second step by six months). All the patients' records mentioned the same ICD-10 PTN codification at the first discharge after surgery. Eight children were lost to follow up, one died of FTC (showing 10 years after diagnosis a diffuse metastatic disease), and one of a disease other than PTN. Data for cost-effectiveness and parental answers on diagnosis-, and surgery-related stress are still under analysis and will be presented at the conference.

**Conclusions:** To resolve clinical and social problems related to overdiagnosis and overtreatment in paediatric PTN, hence reducing invasive procedures in children and young adults, complications, overstress, economic costs, and family burden, we need to reappraise

the current PTN classification and diagnostic, and procedural existing guidelines, including both children and adults, and establish an international registry reserved to patients under 18 years of age at diagnosis, including an IDLE codification for PTC, who might fare better with less invasive and possible watchful-waiting approaches.

## POSTER BOARD - 06

### **Consultant-level reporting of Key Performance Indicators within the health insurance industry: a study assessing feasibility and impact on accountability, cost efficiency, and quality of care**

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**Objective::** The impact of transparency, the sharing of data, within the healthcare industry has been investigated at great length, specifically in the domains of accountability, cost efficiency, and quality of care. Bupa is committed to putting our customer's best interests, health, and well being at the heart of everything we do, including maintaining the affordability of high-quality healthcare. In order to bridge the gap in information asymmetry, Bupa recently launched a pilot in which a group of consultants are provided with monthly dashboards containing personalised information on Key Performance Indicators (KPI). The KPI dashboard identifies unwarranted variation in clinical practice, highlighting areas for potential performance improvement.

**Method:** The KPI dashboard is composed of 2 sections: the first displaying a breakdown of recent activity attributed to the consultant, whilst the second provides a detailed insight into specific performance indicators, including peer-to-peer comparison. The measures used focus on utilisation rates (diagnostics, pathology, surgery, imaging etc.) and the cost efficiency of healthcare delivery.

Consultants from four specialties (Ear, Nose & Throat, Ophthalmology, Cardiothoracic Surgery, and Urology) are partaking in the pilot. Consultants displaying sustained improvement in practice will be eligible to join Bupa's Open Referral Consultant Network. Following a period of 12 months the pilot will be evaluated operationally, financially, and clinically.

Operational feasibility of providing the dashboards to consultants and addressing consultant queries is to be assessed on a scale of light, medium, and heavy touch; these have reducing levels of interaction (face-to-face, phone, email) with Bupa field team employees and Medical Directors.

**Results:** The pilot was launched January 2018 and changes in consultant practice are not yet visible within the claims data, however preliminary trends will be visible by August 2018. 82% of consultants responded to the invite to join the pilot, of which 86% have subsequently agreed to participate. Early indications suggest that the consultants are engaged and interested in understanding their data and how it compares to that of their peers.

## POSTER BOARD - 09

### **"Prostate specific antigen utilization trends in an academic hospital in Argentina"**

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**Objectives:** To describe trends in Prostate specific antigen determinations, between 2006 and 2015, in men without prostate cancer aged 40 to 79 years who were affiliated to a Health Maintenance Organization associated to an Academic Hospital in Buenos Aires, and

their eventual temporary association with US Preventive Services Task Force (USPSTF) recommendations changes during 2008 and 2012.

**Method:** We analyzed a time series of aggregated data. We calculated the annual age standardized rates of accumulated determinations of Prostate specific antigen for every 100 affiliates without a personal history of prostate cancer. Additionally, we compared trends by age groups (40-49, 50-59, 60-69 and 70-79). We used Jointpoint and MS Excel.

**Results:** We identified 103,038 Prostate specific antigen determinations performed over a total of 784,180 men during the ten year span of the study. Between 2006 and 2008 there was an upward trend in the number of Prostate specific antigen measurements with an annual average percentage increase of +4.4% (95% CI +1.8 to +7.1). Between 2008 and 2011, the curve reached a plateau (-0.3%, -2.6 to +2.3), after which the annual number of determinations began to decrease (annual average reduction of -3.7% (-4.4 to -2.9)). We did not find significant changes between different age groups over those years.

**Conclusions:** We found a gradual decrease in Prostate specific antigen utilization in men between 40 and 79 years affiliated to an Health Maintenance Organization in Buenos Aires after the 2012 USPSTF recommendation against prostate cancer screening.

## POSTER BOARD - 11

### Mapping Ghost Management in Medical Research and Public Health

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**Objectives:** At the Preventing Overdiagnosis Conference 2017, Marc-André Gagnon (Carlton University, Ottawa) built on the concept of ghost management in science (Sergio Sismondo) to develop a reflection on corporate capture and institutional corruption in the biopharmaceutical sector. He postulates that because of the current business model, the activity of pharmaceutical firms is more oriented towards producing influence on medical knowledge and social determinants of value, than towards producing innovative treatments. We wanted to verify the validity of this hypothesis by mapping the strategies and issues highlighted in three long-form Re-Check investigations on 3<sup>rd</sup> and 4<sup>th</sup> generation oral contraceptives, systematic breast cancer screening and HPV vaccines.

**Method:** Search for documents as well as for scientific and mainstream publications, FOIA requests, journalistic investigative methods, Re-Check evaluation grids and mapping tools.

**Results:** The mapping of our investigations confirms the hypothesis put forward by Gagnon. Our maps show ghost management at work in the case of these three health measures targeting healthy girls and women. Ghost management is practiced by the pharmaceutical industry, but also by other players in the health system (health authorities, regulatory authorities, research centers, NGOs) as soon as the stakes reach a critical size. Our maps illustrate how this "new model of science (...) drawing its authority from traditional academic science" (Sismondo) is an effective strategy for capturing the different levels identified by Gagnon: science, regulation, market, health professions, media, technology and civil society.

**Conclusions:** Re-Check mapping highlighting ghost management currently at work in medical research and public health confirms Gagnon's hypothesis (Sismondo's concept). Such methods deserve to be developed, enriched, validated and applied by academic research. They should also become part of an evaluation grid used by journalists investigating pharmaceutical companies and health system's players: organizations devoted "to influence ideas and social structures in a way that maximizes commercial value"

(Gagnon) and strengthens their position. The more investigations and academic research document the phenomenon, the better it may enable to develop solutions and transform institutional structures and medical practices to stem this endemic corruption.

## POSTER BOARD - 12

### **Systematic medication review in general practice – a collaboration between Clinical Pharmacology and General Practice**

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**Objectives:** It is estimated that almost 30.000 elderly are hospitalized in Denmark each year, as a result of preventable adverse events due to prescription drugs. In patients older than 60 years of age, 9 % of all hospital admissions are due to adverse drug reactions and polypharmacy increase the risk significantly. Hence, it is important to reduce the number of unnecessary medical treatments among the elderly.

The objective of this study was to develop a method of conducting a systematic medication review in general practice as a collaboration between The Department of Clinical Pharmacology and General Practice.

**Method:** A medication review was offered general practitioners in the Capital Region of Denmark in 2017. The project proceeded throughout 2017 and was a collaboration between the Department of Clinical Pharmacology, a team of medication consultants and the general practitioners of the included patients. The Department of Clinical Pharmacology performed a thorough medication review of the selected patients, which was sent to the medication consultant. Subsequently the medication consultants offered a visit at the general practitioner to discuss potential changes to the individual patient's medication. At the visit, the general practitioners acceptance rate of the proposed medication changes was registered.

Patients older than 64 years of age and with more than 5 medications were included. The Department of Clinical Pharmacology was given seven days to conduct the medication review, returning it to the medication consultant seven days before the visit.

**Results:** Of the included patients 13 medication reviews were not performed due to failure to comply with the time schedule. Further eight were not performed due to lack of clinical information which we were unable to obtain by contacting the general practitioner. In total 113 patients were included and their medication reviewed. The median age of the patients was 75 years (interquartile range 69-82 years) and 58 % were female. A total of 1791 prescriptions were reviewed and 807 (45 %) changes were proposed. Of these, discontinuation was the most frequent proposed change (57 %), whereas change of medication (22 %), reduction of dose (15 %) and increase of dose (6 %) were less frequent. The time schedule for the medication review was difficult to meet, and canceled at the end of the project.

**Conclusions:** In summary, we found that almost half of the prescriptions gave rise to a proposed medication change, with discontinuation being the leading proposal. This may indicate an overmedication in general practice for this group of patients. The medication review was very thorough with high quality clinical information. It involved several steps and several health professionals, hence it was a very time consuming model with a time



consumption of several hours. Therefore it is proposed, that this model will only be reserved for elderly, complex polypharmacy patients.

## POSTER BOARD - 13

### Medication review in elderly

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**Objectives:** The number of elderly is increasing in our society. This population group suffers from more chronic diseases and is therefore taking more medications. Polypharmacy and inappropriate use of medication increase the risk of adverse drug reactions and is a contributor to unplanned hospitalization. Therefore, it is important to focus on inappropriate use of medication and to promote rational pharmacotherapy and thereby prevent hospitalization among the elderly. The objective of this pilot study was to develop a medication review model with special focus on the medication taken by elderly living in nursing homes and to investigate and measure the degree of implementation of potential medication changes. The main focus of the medication reviews was on four medications; antibiotic, pain patches, antipsychotics and anti-dementia drugs.

**Method:** This study was an intervention study in which medication reviews were performed in corporation between a pharmacist and a consulting physician from the Department of Clinical Pharmacology at Copenhagen University Hospital Bispebjerg in the Capital Region of Denmark and the patients' general practitioner. Only participants living in nursing homes in the Capital Region of Denmark and in treatment with antibiotic, pain patches, antipsychotics or anti-dementia drugs were included. The intervention consisted of two parts. First the pharmacist and the consulting physician performed a medication review with access to information about the patient's medication, diagnosis, laboratory result and health information. This was followed by a meeting between the pharmacist, the consulting physician and the patient's general practitioner in order to discuss the potential changes in the patient's medication. Finally, a four month follow-up to evaluate the degree of implementation of the accepted medication changes was performed.

**Results:** 100 patients were included and 49 informed consents were collected. 30 (61.2 %) were females and the average age of the participants was 85.3 years (SD ± 9.5). Medication reviews were performed and in total 530 prescriptions were reviewed. In average, the participants were treated with 10.8 medications. 109 interventions were suggested and qualified by the patient's general practitioner. 99% of the proposed changes were approved by the general practitioner and the most frequent type of intervention was discontinuation (43.5%) followed by dose reduction (23.5%) and reassessment of the treatment (22.6%). Among the 109 interventions only 18.3% were concerning the four medications in focus (antibiotic 4.3%, pain patches 1.7%, antipsychotics 11.3% and anti-dementia drugs 0.9%). After four months 34.3% interventions had been implemented and 2.8% had been partly implemented.

**Conclusions:** The type of medication review performed here showed a high degree of approved proposals which can be due to the structure of the medication review. The preliminary result showed that the medications in focus were not among the most frequent interventions indicating that the reassessment of high risk medication is complex and that irrational pharmacotherapy concerns a wide variety of medications. Therefore the four

medications in focus were not suited as inclusion criteria for this type of study identifying patients in high risk of adverse drug reaction.

## POSTER BOARD - 14

### **Running around the swimming pool: behavioural symptoms versus akathisia as a side effect of risperidone in an 84 years old woman cognitively impaired**

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**Objectives:** In cognitive impaired elderly with behavioural symptoms the use of antipsychotic drugs is critical because of side effects whose nature often is not correctly recognized (Marston L, Nazareth I, Petersen I, et al. Prescribing of antipsychotics in UK primary care: a cohort study. *BMJ Open* 2014;4: e006135. doi:10.1136/bmjopen-2014-006135). For physicians the common reaction is to increase drug dosage to obtain sedation but with the result of movement or behavioural symptoms worsening.

The opposite decision, to lower drug dosage, if taken by physicians, can be difficult to share with caregivers because of fear to find more difficulties in managing the patient, and with other health professionals that consider sedation a priority and are trained to use drugs as the main resource.

Which is the best interest of the patient who cannot give direct information about personal feelings and perceptions?

**Method:** A cognitively impaired 84 years old woman was referred to the psychiatrist because of behavioural symptoms as wandering and refusal of help in dressing or showering. For the psychiatrist suggestion, risperidone was administered at increasing dosage. No change in behaviour was noticed but wandering increased. After a few weeks of treatment the psychiatrist suggested to reach the dosage of 10 mg daily.

The old lady was on holiday in a residence to the sea: as the need to move increased, she began to use to run breathlessly around the swimming pool in the garden. To the protests of her caregiver, she answered she was forced to run because of agitation.

In a few days she was referred to emergency in the nearby hospital where she met a neurologist who decided to taper off the treatment and refer the patient to the dementia service for follow up.

**Results:** After risperidone withdrawing, in the neurological surgery the old lady appeared as a demented patient with clinical, neuropsychological tests and neuroimaging suggesting Alzheimer dementia; she needed sedation because of wandering and quetiapine 25 mg twice was administered daily with good results also in the caregiver management. After 2 years, behaviour symptoms were mild and easy to contrast by conversation and food or drink offer, the wandering gradually changed in daily promenades in the countryside with the caregiver or alone in the large home garden. No special needs were reported and everyday life help for showering and dressing was well accepted. The caregiver asked for a small increase in quetiapina dosage to help in sleeping and the option of quetiapine 25 mg three times a day is still in use. The patient son met her mother 3 or 4 times a week for leisure promenades and quiet, short conversation with her.

**Conclusions:** Akathisia is an example of ambiguous symptom that can be read as part of behavioural syndrome in demented patients instead of a side effect of treatment with psychotropic drugs as antipsychotics or antidepressants (Gøtzsche P. *Deadly Psychiatry and Organized Denial*. People's Press, 2015.). Without direct observation of the patient, following

the "agitation" reported by family members and by the caregiver, an erroneous interpretation can be given. The result is the akathisia increasing in an escalation of drug dosage and symptom worsening. Better knowledge of each antipsychotic profile, a limited use in elderly patient to obtain agitation or delirium relief, drugs tapering off to understand if symptoms or side effects are reported, can be useful strategies to avoid inappropriate drug use.

## POSTER BOARD - 15

### **Polypharmacy and Acuity Among Emergency Department Short Stay Unit Patients.**

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**Background:** Emergency department (ED)-based short-stay units (SSUs) have been implemented globally with the primary scope of accommodating non-emergent, self-care sufficient adult patients who need either diagnostic tests, observation, or short-term treatment. Recently there has been a trend towards admitting patients with more complex disease to SSUs. Mainly because of increasingly overcrowded internal medicine departments.

**Objectives:** To investigate and evaluate the current patient clientele at a SSU, with an emphasis on polypharmacy.

**Methods:** We conducted a single center SSU point-prevalence study. Data collection included patients' gender, age, Danish Emergency Process Triage (DEPT) acuity ranking upon admission (in order of decreasing severity: red, orange, yellow, green), primary diagnosis, number of active medications and types of medications.

**Results:** Out of 15 patients there were 10 men, mean age 70.3 ( $\pm$  SEM 4.16), and 5 women mean age 68.2 ( $\pm$  SEM 5.86),  $p=0.775$ . DEPT acuity ranking among men: 50% yellow, 50% green; among women: 20% orange, 60% yellow, 20% green. The most common diagnoses upon admission were pneumonia (33%), exacerbation of chronic obstructive pulmonary disease (27%), and the need of blood transfusion due to malignancy-induced anemia (20%). 87% of patients had  $\geq$  5 active medications, of these 60% were on paracetamol, 40% were on anti-hypertensives, 27% received antidepressants, 20% were on anti-coagulants.

**Conclusion:** Currently other than non-emergent patients are SSU admitted, and polypharmacy is highly prevalent among them. The appropriateness of this development is questionable. A short stay focus may be inappropriate for sorting out polypharmacy in patients with increasingly complex disease.

## POSTER BOARD - 16

### **The psychosocial effects of a planned prostate biopsy on men with increased prostate specific antigen and suspected prostate cancer**

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**Objectives:** Since the 1990'ties the incidence and prevalence of prostate cancer have increased across the higher-income countries of Northern, Western and Southern Europe,

e.g., the incidence has increased from 3 to 10 % per annum. At the same time the prostate cancer mortality has stayed stable or had a minor decrease, except for the Baltic States, where the mortality has increased steadily. There is still some contradiction in best available evidence if prostate antigen (PSA) screening and early identifying and treating prostate cancer can reduce prostate cancer mortality. On the other hand, PSA screening and early diagnosis could lead to overdiagnosis of prostate cancer and thereby overtreatment for those men treated for the cancer. This leaves undesirable effects on the men's psychosocial and physical health. The aim of this study was to explore the potential psychosocial effects of prostate biopsy on men due to suspected cancer.

**Method:** A qualitative study was conducted at the outpatient clinic of Pauls Stradins Clinical University Hospital (Riga). We included men aged from 50 to 70 of various education levels, increased PSA levels and with no prior prostate biopsy. Specific PSA level and/or abnormal findings during digital rectal examination were not set as the pre-determinative inclusion criteria. Multi-morbid patients and those with prior biopsy were excluded. Semi-structured interviews were audio recorded, transcribed and subsequently analysed, using the Strauss and Corbin concepts: open, axial and selective coding, which identifies the main themes common to all interviews.

**Results:** Seven volunteers with an elevated PSA level and abnormal findings during a digital rectal examination were interviewed while awaiting prostate biopsy. The PSA test before referral to the biopsy was performed in interviewees with and without symptoms and was initiated by urologists, general practitioners or patients themselves. The majority of men felt anxiety and fear prior to the planned prostate biopsy. The men indicated that they had received an insufficient amount of information about the planned procedure. Some of interviewees had been seeking additional information about the procedure, while others had not. Psychosocial effects such as irritability, deterioration in relationships with relatives, denial, a feeling of hopelessness, despair, and pessimism about their future lives were identified. Knowledge of interviewees regarding PSA test was low and mostly related to prostate cancer.

**Conclusions:** Negative psychosocial experiences were identified in all patients before the expected prostate biopsy. The study implies that discomfort might be mitigated by providing detailed information about the planned procedure itself and its significance.

## POSTER BOARD - 17

### **Proton pump inhibitors: implementation of a de-prescribing strategy**

Carmen Fontela, [Natalia Alzueta](#), Lorea Sanz, Amaya Echeverria, Teresa Acin, Maria Concepción Celaya, Leire Leache, Javier Garjon, Antonio Lopez  
Servicio Navarro de Salud, Pamplona, Spain

**Objectives:** Proton pump inhibitors (PPI) are the most consumed drugs and omeprazole is one of the most prescribed drugs in our health system. It has been estimated that 10% of people in our region take a PPI daily.

Prescribing a PPI without indication contributes to polypharmacy and drug interactions. Besides, chronic administration can lead to safety problems such as hypomagnesaemia, enteric infections or osteoporotic fractures.

To develop a strategy in order to optimize the use of PPI in a northern region of Spain (616,758 inhabitants).

**Method:** A so-called "PPI optimization strategy" was implemented including the following activities: 1) A multidisciplinary group (gastroenterologists, general practitioners (GPs) and

primary care pharmacists (PCP)) was established to design the strategy; 2) Evidence on PPIs and gastroprotection was assessed; 3) Criteria for selection of candidates for intervention was agreed ( $\geq 65$  years treated with PPI without authorized indication); 4) Pharmacists presented the program to GPs and nurses. 5) Patient-oriented support materials were provided to doctors (explanatory leaflets for candidates and general public too); 6) Candidates for intervention were retrieved through an in-house developed software that interacts with all clinical records in our province; 7) A message to all retrieved clinical records was sent asking the doctor to withdraw the drug; 8) A mass media campaign supporting the strategy was launched that included press release for local newspapers. 8) PPIs withdrawal was monitored and evaluated.

**Results:** PPI optimization strategy was created. PCP gave training sessions for the GPs and nurses with the purpose of providing education and awareness. A mass media campaign was carried out for the population. Inclusion criteria:  $\geq 65$  years old and treated with PPI without authorized indication for it registered in medical records. Patients' list was obtained from Observa (Observatory of medication safety), an in-house developed software that allows a communication between PCP and GPs linked to the medical records. Through this tool PCPs sent a message to doctors whose patients met the inclusion criteria. The message included information about the low benefit of chronic PPI treatment in patients without risk factors, the risk of adverse events and a discontinuation of the PPI treatment was proposed. A total of 9,325 patients were candidates for the intervention. Preliminary results showed that GPs evaluated 40% of the proposals and 43% were accepted.

**Conclusions:** There is a high use of PPI in elderly patients. The use of web tools such as Observa can contribute to the optimization of pharmacotherapy and avoids PPI overuse. Almost half of the evaluated proposals of de-prescribing were accepted.

## POSTER BOARD - 18

### A STRATEGY FOR URINARY INCONTINENCE TREATMENT DEPRESCRIPTION

Natalia Alzueta, Carmen Fontela, María Concepción Celaya, Amaya Echeverría, Leire Leache, Lorea Sanz, Teresa Acin, Javier Garjon, Cristina Agudo  
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**Objectives:** To evaluate the impact of a strategy for the optimization of the urinary incontinence treatment in patients with diapers.

In aged patients, the use of drugs for urinary incontinence contributes to increase the risk of suffering adverse effects such as delirium, tachycardia, atrial fibrillation, dry mouth, falls, eye dryness or constipation. According to the Priscus, Beers and STOPP criteria, these drugs are not recommended in this population group.

The combination of these drugs and diapers is considered a therapeutic duplicity.

**Method:** A retrospective health care evaluation of an intervention implemented in a northern region of Spain. Inclusion criteria: treatment with drugs for urinary incontinence (solifenacin, tolterodine, fesoterodine, oxybutynin, trospium or mirabegron) and all day use of diapers. Informative sessions were given in health care centers with the purpose of providing education and awareness.

The list of patients included in the strategy was obtained from "Observa" (Observatory of medication safety). This in-house developed software allows a communication linked to the electronic medication lists and medical records, between primary care pharmacists and GPs. Through this tool, proposals for discontinuation of those drugs were sent to each doctor whose patients met the inclusion criteria. The message also included information about the low benefit of these drugs in patients and the risk of suffering adverse events. If this message

was accepted, the discontinuation of the treatment was immediately transferred to the electronic prescription.

**Results:** A total of 392 patients were included in this intervention strategy. After 6 months, 81.6% of the sent proposals were evaluated by doctors, with an acceptance of 64.4%. Only 87 patients continued the treatment with the drug and diapers. The total amount of discontinued drugs was 206: solifenacin 27%, tolterodine 22%, mirabegron 19%, fesoterodine 18%, oxybutynin 11% and tropsium 2%, which amounts to an annual saving of 130,415€.

**Conclusions:** The strategy led by primary care pharmacist aimed at promoting rational use of drugs for the urinary incontinence had a direct impact in patient's quality of life, reducing the risk of adverse events. Observa allows intervening on the general population for the treatment optimization in a simple way and promoting medicines rational use. This strategy improves directly health care quality, while reducing costs. There was a great acceptance of the discontinuation proposal by GPs, reducing costs and improving the patients' safety.

## POSTER BOARD - 19

### **OBSERVA: A TOOL FOR KNOWLEDGE TRANSLATION TO PHARMACOTHERAPEUTIC MANAGEMENT**

María Concepción Celaya<sup>1</sup>, [Natalia Alzueta](#)<sup>1</sup>, Lorea Sanz<sup>1</sup>, Teresa Acin<sup>1</sup>, Carmen Fontela<sup>1</sup>, Amaya Echeverría<sup>1</sup>, Leire Leache<sup>1</sup>, Iker Zuazu<sup>2</sup>, María Resano<sup>2</sup>, Javier Garjon<sup>1</sup>

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**Objectives:** Medication review consists of a structured evaluation of the patient's treatment, with the objective of increasing health benefits and minimizing the risks associated with the medication. The review includes prevention, identification, notification and resolution of medication-related problems (MRPs).

To describe the application in the clinical practice of a new electronic tool developed to improve the medical treatment reconciliation and medical review made by pharmacists in healthcare transitions.

**Method:** "Observa" (Observatory of the medication safety) is a new collaborative work web environment that allows a communication linked to the electronic medication lists and medical records between clinical pharmacists and physicians. Besides, it provides clinical decision support about interactions, contraindications, duplicities, anticholinergic load and potentially inappropriate drugs in elders.

Pharmacists perform the medication reconciliation at hospital admission and discharge and, in primary care, they are responsible for reviewing the treatments of patients that have not been admitted to hospital in the last year.

Through this tool, pharmacists assess the adequacy of the pharmacotherapy considering aspects such as drug related adverse events, prescription errors, high-risk medications, drugs without indication, interactions, contraindications, redundant treatments, dose adjustment in renal failure and anticholinergic load.

These proposals are directed to physicians through electronic health records and they can accept, reject or postpone them.

**Results:** A 15-months retrospective analysis was performed. A total of 9,920 proposals were registered; 167 detected during individual medication review, 37 during reconciliation and 9,716 massive discontinuation proposals included in the intervention strategies. A total of 110 proposals were sent to doctors: 41.8% were accepted, 12.7% were rejected and 45.5% were pending at the moment of the analysis. Around 1110 clinical questions and answers related to patient treatments were registered.

**Conclusions:** Medication reconciliation and review is a priority process that enhances significantly patients' safety. Observa facilitates the pharmacotherapeutic management during the continuity of health care process, and promotes the pharmacist's clinical activity.

## POSTER BOARD - 20

### **Physical harm resulting from colorectal cancer screening – a systematic review**

Frederik Martiny<sup>1,2</sup>, Anne Katrine Lykke Bie<sup>1,2</sup>, Christian Jauernik<sup>1,2</sup>, Or Rahbek<sup>1,2</sup>, Sigrid Brisson Nielsen<sup>1,2</sup>, John Brodersen<sup>1,2</sup>

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**Objectives:** Screening for cancer intends to provide benefit but also entails an unintended risk of causing harm. Many types of harm might occur during the screening cascade, including the risk of overdiagnosis due to both over detection and over definition. Regardless of the diagnostic outcome, all screening participants are at risk of enduring physical harms due to screening. Harms of screening are often underreported and asymmetrically presented compared to the benefits of screening. In addition, the definition, measurement and reporting of harms is heterogeneous and of poor quality in clinical studies. These methodological issues have major consequences when systematic reviews do not focus sufficiently on harm assessment methods in studies. As former reviews of colorectal cancer screening have not addressed the above detailed issues, this systematic reviews aims to assess the evidence regarding physical harms of colorectal cancer screening in line with recent methodological recommendations in the PRISMA harms extension.

**Method:** Conduct and reporting follows recommendations from the PRISMA harms extension and the Cochrane Handbook. The study protocol was published on PROSPERO prior to data extraction to ensure transparency. Databases were searched in April 2017 and included Pubmed, Medline, Embase, Cinahl, PsycInfo and the Cochrane library. There were no restrictions concerning study design, language or date of publication. All types of clinical studies were included if they provided data on physical harms due to screening of asymptomatic individuals in average risk of colorectal cancer by any combination of fecal occult blood testing, sigmoidoscopy and/or colonoscopy. Using an extended version of the newly published risk of bias tool for non-randomized studies, ROBINS-I by the Cochrane Collaboration, we appraised the risk of bias of the included studies. The overall quality of the evidence will be evaluated using the GRADE criteria. The study protocol is available at: [https://www.crd.york.ac.uk/prospero/display\\_record.php?RecordID=58844](https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=58844)

**Results:** Preliminary results and methodological issues identified in studies included for review will be presented at the conference

## POSTER BOARD - 21

### **A decision aid for cervical cancer screening – how users perceive the information about benefits and harms**

Dennis Fichtelpeter, Inger Janßen, Sabine Keller, Klaus Koch, Ulrike Lampert, Christoph Schürmann, Astrid Seidl, Martin Wegmann, Beate Zschorlich, Milly Schröer-Günther  
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**Objectives:** Germany plans to implement an organised screening programme for cervical cancer screening. This involves a change from the annual offer of a Pap test to a combined Pap/HPV test every three years for women aged 35 and older. Also, regular invitations

containing a decision aid will be sent out to all women. The Institute for Quality and Efficiency in Health Care (IQWiG) was commissioned to develop the invitation letter and the decision aid, and to have them tested by users. One focus was the communication of benefits and harms.

**Method:** A systematic search was performed to analyse the benefits and harms of cervical cancer screening. Additionally, the long-term effects were modelled based on an existing and validated decision analysis tool. The invitation letter and the decision aid were tested in qualitative focus groups (32 participants) and an online survey (2,014 participants). The process also included a public commenting procedure.

**Results:** Most users perceived the decision aid to be informative, helpful and balanced. The majority found the information on possible overtreatment to be relevant. Healthcare professionals were more reluctant to provide information on harms in the decision aid, fearing it might lead to lower participation in screening. The survey showed that the decision aid only had little impact on screening intention. Most women consider the benefits of screening to outweigh the harms. The majority would participate in the screening programme, despite the possibility of overtreatment and the potential harms of conization.

**Conclusions:** Although cervical cancer screening can lead to a substantial reduction of cancer morbidity and mortality, possible harms should also be communicated in a decision aid. Doing so did not lead to a substantial difference in the acceptance of the screening programme.

## POSTER BOARD - 22

### How users perceive information about overdiagnosis – a systematic review

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**Objective:** Various studies show that the concept of overdiagnosis is difficult to understand. Our aim was to provide an overview of the current knowledge on how information about overdiagnosis is perceived by users of health information, to summarize the findings and to identify research gaps.

**Methods:** A systematic literature review. PubMed, the Cochrane Database of Systematic Reviews, Web of Science, PsycINFO were systematically searched from 1997 to October 2017. Various databases were searched manually. Two reviewers independently screened the titles and abstracts. Quantitative and qualitative studies were included. Data were assessed on the basis of the type of information, type of disease and diagnostic method, outcome, study design and setting and research needs suggested by the authors.

**Results:** 17 Studies were included (10 quantitative, 6 qualitative and one mixed-methods study). Most studies presented overdiagnosis information in relation to mammography and breast cancer. Only one study assessed reception by health professionals. Most of the studies presented written information; only few studies used graphics. Several outcomes were assessed, e.g. prior knowledge, comprehension, intention to undergo screening, attitudes towards screening and informed decision. In summary, prior knowledge of overdiagnosis was low. Various formats could increase knowledge of overdiagnosis. Despite this effect, many people still found it hard to distinguish between overdiagnosis, overtreatment and false-positive findings. Attitudes towards screening remained mainly positive after exposure to overdiagnosis information. Most of the studies showed a negative effect on intention, although it is unclear if this leads to lower participation. One study found that a decision aid



including overdiagnosis information increased the number of women making an informed decision.

**Conclusion:** Written and graphical information can help women and men understand overdiagnosis and may help people make an informed decision. Research and public awareness about overdiagnosis seems to increase. But it is still a challenge to adequately communicate the idea of overdiagnosis. Besides written and graphical information, new ways of communicating overdiagnosis need to be investigated. Also, more studies about indications other than cancer screening are desirable.

## POSTER BOARD – 23

### **Conflict resolution: Protocol for an experimental study of users' perceptions and responses to competing interest disclosure statements in patient decision aids**

Rachel Thompson<sup>1,2</sup>, [Gabrielle Stevens](#)<sup>1</sup>, Hillary Washburn<sup>3</sup>, Paul Barr<sup>1</sup>  
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**Background:** Competing interests among patient decision aid authors have potential to undermine the usefulness of these tools for supporting patients to make informed and values-concordant health decisions. Competing interests may also contribute to overdiagnosis and overtreatment. Prevailing decision aid quality standards attempt to counteract the potential effects of competing interests by advocating disclosure. However, we know little about how decision aid users perceive and respond to competing interest disclosure statements and thus, whether this approach is sufficient. This poster will describe the protocol for a forthcoming experimental study designed to better understand users' perceptions of and reactions to competing interest disclosure statements in patient decision aids.

**Methods:** Approximately 360 English-speaking adults in the United States will be recruited to participate in an online survey using a commercial panel service. Recruitment quotas will be imposed so that the final sample is composed equally of participants with adequate and limited health literacy. During the survey, participants will be asked to "*Imagine that you have been told by a doctor that you have a rare and serious strain of the flu called Elephant Influenza*" and will be randomised to receive advice that either "*While searching online, you find this decision aid on treatment options for Elephant Influenza*" or "*While in the clinic, your doctor gives you this decision aid on treatment options for Elephant Influenza*". Participants will then be randomised to view a brief fictional patient decision aid on treatment options for Elephant Influenza that features one of three different competing interest disclosure statements (disclosure of no competing interests, disclosure of competing interests, disclosure of competing interests with additional cautionary statement about the bias competing interests can introduce) and asked several closed and open-ended questions.

**Analysis and Dissemination:** Data analysis will address four primary research questions: (1) how frequently do decision aid readers notice, remember, and understand author competing interest disclosure statements in a patient decision aid, and does this depend on type of disclosure statement? (2) what is the effect of type of disclosure statement on decision aid readers' perceptions of the trustworthiness of the decision aid, their (hypothetical) treatment choices, and their perceptions of the values concordance of their (hypothetical) treatment choices? (3) is the effect of type of disclosure statement on perceived trustworthiness, treatment choices, and perceived values concordance moderated by the (imagined) mode of delivery of the decision aid? and (4) how unnecessary, informative, patronizing, and important do decision aid readers perceive disclosure statements to be, and does this depend on type of disclosure statement? Study results will be disseminated widely and inform understanding of the adequacy of current approaches to managing competing interests among patient decision aid authors

## POSTER BOARD - 24

### INVESTIGATING OVERDIAGNOSIS USING TEMPORAL COMORBIDITIES PATTERNS

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**Rationale/Objectives:** During the last decades the prevalence of medical conditions has increased, thus more and more patients are living with numerous diagnoses of which many represent comorbidities that appear as a consequence of the primary condition. Overlapping symptoms in these comorbid conditions complicate the process of making the right diagnosis. Thus, missed diagnoses, misinterpretation of symptoms and overdiagnosis are common problems when diagnosing patients with multiple morbidities. Here, our objective was to identify flawed diagnoses by exploring the co-occurrence patterns among comorbidities and investigating significant time-dependent disease correlations using population-wide data from Denmark.

**Methods:** This study takes advantage of a population-wide disease registry, The Danish National Patient Registry, which covers all hospital encounters in Denmark from January 1994 to December 2015 and includes 6.9 million individuals. Many patients share many chronic diseases and their associated comorbidity patterns and the concept of temporal trajectories of diagnoses can be used to pinpoint diagnoses, which appear unusually in the context of other diagnoses. Statistical significant trajectories were created for the entire population to identify common disease paths and diseases, which might be overdiagnosed.

**Results:** Investigating temporal diagnose correlations of the 6.9 million patients results in 13,436 and 684 significant trajectories consisting of four or five consecutive diseases, respectively. We devised an "inverted imputation" scheme that identifies diagnoses which appear in unusual contexts, and observed that the diagnoses of chronic obstructive pulmonary disease, asthma and several cancers stood out as having frequently observed contextual diagnoses, which at the same time, relative to the overall frequency, appear in other contexts. The scheme allowed us to pinpoint individuals with these types of diagnoses that may reflect overdiagnoses that appear without the most common comorbidity context.

**Conclusion:** We show that population-wide data covering long time periods can be used to support analyses of temporal disease trajectories that point at specific individuals that may be overdiagnosed. In Denmark other types of data, including biochemical test values, medication patterns and socio-economic data can be linked to these individuals for further substantiation of the characteristics of different overdiagnosis aspects.

## POSTER BOSARD - 25

### DianaHealth.com: a useful tool that promotes appropriateness in healthcare.

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OBJECTIVE: DianaHealth.com ([www.dianahealth.com](http://www.dianahealth.com)) is an on-line database that seeks to improve the appropriateness of care and clinical practice by identifying recommendations of low and high value clinical practices around the world. It was developed in 2013 by the Department of Clinical Epidemiology and Public Health of the Hospital de Sant Pau in

Barcelona. The website is open access, independent and regularly updated. It is available in English and Spanish, and has a search engine to retrieve appraisals using one or more search criteria. The aim of this work is to describe the behaviour of DianaHealth visitors during the last 2 years.

**METHODS:** The information for analysis was gathered through a web-server programme (AWStats® 6.9) and included number of visits per day, month and year; unique visits per month and year; annual mean length of the visits (minutes); number of pages and hits (files requested from the server) per visit; device used (desktop or mobile device), and user country. Data were tracked throughout a period of 24 months (2016-2017). The statistical analysis included the medians of the analysed metrics. Data were collected as information aggregates, considering absolute anonymity.

**RESULTS:** The total number of recommendations included in DianaHealth.com until May 2018 was 4019. Between 2016 and 2017 there was an increase of 3 times of the total visits and 2 times of the unique visits. In 2016 there were 17,332 total visits and 8,703 unique visits; and in 2017 46,490 and 16,980, respectively. The mean length of visit for both periods was similar (2016: 4mins 50secs; 2017: 4mins 17secs). The mean pages per visit was 7.09 in 2016 and 3.66 in 2017. The mean hits per visit was 24.02 in 2016 and 11.45 in 2017. In 2016 the 86.6% of them were done from a desktop, 12.7% came from mobile devices and 0.7% from other devices. In 2017 an increase in the use of mobiles was noted (82.7% desktop; 16.8% mobile, and 0.5% others). Both years, most of the hits were from Spain (79.9%); among European countries, most visits came from France (2.5%), and the United Kingdom (0.8%).

**CONCLUSIONS:** DianaHealth is a helpful and increasingly used tool, fact that is proven by the increase of 3 times of visits in one year, with more than 46,000 visits in 2017. Despite this important growth, more efforts must be made to promote and disseminate this website in order to improve knowledge and easy access of general public, professionals and stakeholders to low value recommendations

## **POSTER BOARD - 26**

### **A survey to assess the awareness of, and agreement with initiatives and recommendations about low-value diagnostic practices**

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**Introduction:** The need to reduce the use of healthcare practices which provide no value has led to the development of initiatives seeking to improve the appropriateness of clinical and healthcare practice by identifying potentially inappropriate healthcare services, making recommendations, and proposing improvement actions. The online portal DianaHealth ([www.dianahealth.com](http://www.dianahealth.com)) identifies, gathers, classifies, and publishes clinical recommendations of diverse scientific societies from all over the world for ease of reference.

**Objectives:** To identify the awareness, perceived usefulness and clinical applicability of low-value published recommendations on diagnostic interventions considered by Spanish physicians and healthcare managers.

**Methods:** We designed a survey asking about the recommendations on diagnostic tests published for each medical specialty on DianaHealth to September 2016. It included some common questions about the knowledge and opinion concerning the most established

initiatives as well as questions on specific diagnostic recommendations for each medical speciality (531 in total). Along 2017 we conducted this survey among the clinical leaders of 18 Spanish hospitals and primary care centres, using an electronic platform accessed by the people who accepted the invitation to participate.

**Results:** A total of 413 (39%) physicians from 34 different specialties participated, and the answers provided varied between centres (range 21%-100%) and specialties (range 12%-79%). Do Not Do (57%) was the most widely known initiative. Most participants (82%; range 14%-100%) stated that they knew at least one of the 13 initiatives that identify non-recommended practices, with a mean of four initiatives (range 1%-12%). The perceived usefulness was 77% (range 14%-100%), and applicability scored 74% (range 21%-100%). Sixty-one per cent (range 19%-94%) claimed to know the recommendations of their corresponding specialty. A total of 78% (range 36%-98%) agreed with them and 78% (range 37%-100%) considered them useful. We assessed 531 recommendations; 52% (range 12%-82%) were considered totally implemented in clinical practice, and perception — among those who agreed with them— of total and partial compliance was 50% (range 12%-82%) and 41% (range 16%-79%), respectively.

**Conclusions:** There is a large variability among Spanish doctors, centres and medical specialties regarding knowledge, perceived usefulness and clinical applicability of initiatives and recommendations aimed to reduce low-value diagnostic interventions. Clinical leaders continue to be little aware of the existence of initiatives addressed to improving clinical appropriateness, despite considering them useful. More dissemination actions, addressed to professionals who should know and apply these recommendations, are required.

## POSTER BOARD - 27

### **Fatigue and pain leading to the diagnosis of depression. Diagnostic procedure experienced by patients with fibromyalgia. A qualitative study.**

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**Objectives:** Fibromyalgia is a functional syndrome characterized by pain, fatigue and many other somatic symptoms. The lifetime prevalence of psychiatric comorbidities, such as depression, among patients with diagnosed fibromyalgia is high. It has been suggested that the reason for this phenomenon could result from similar pathophysiological mechanisms. Furthermore, the diagnostic criteria of these conditions are partly overlapping. The aim of this study was to explore experiences of fibromyalgia patients on diagnostic procedures using a qualitative analysis method.

**Method:** The study is based on the data from fibromyalgia patients of the city of Nokia, Finland. All the fibromyalgia patients who had been treated in the primary health care were identified from the electronic patient records of the health care center of Nokia. 96 patients filling the diagnostic criteria (ACR2010) of fibromyalgia were identified. Further, 18 fibromyalgia patients (15 female and 3 male) were selected using the purposive sampling method into focus group interviews. Altogether, four sessions (4-5 participants per each) were carried out before the saturation of the data was reached. A semi-structured interview was used. The main focus of the interviews was to explore patients' experiences and perspectives on diagnostic process of fibromyalgia. All the interviews were recorded, transcribed verbatim and analyzed through the inductive content analysis based on the phenomenological theory. The particular interest was focused on the diagnostic process of depression as a comorbidity.

**Results:** The data analysis revealed two main themes among the interviews. First, the patients had experienced that their fibromyalgia symptoms were frequently explained as depressive symptoms by the physicians. They described that the diagnosis of depression was based on the feeling of pain and fatigue rather than how they experienced their mood. Patients repeatedly pointed out that their own perception of their mental health differed from the physicians' opinions. They did not feel themselves depressed even though they reported symptoms common with depression. Nevertheless, psychological interventions aiming to improve the management of pain and other symptoms of fibromyalgia were found useful by the patients. One participant described her perception on psychological intervention as follows: "I guess it would be worth prioritizing how to cope with the pain. Maybe it's more psychological, but I think it's the most important thing in this".

**Conclusions:** Based on our findings from this qualitative analysis, setting the diagnosis of depression for fibromyalgia patients who do not regard their mood as low, does not seem to be useful. Psychological interventions aiming at to cope with the symptoms of fibromyalgia better could be included in the treatment instead.

## POSTER BOARD - 28

### **Reducing unwarranted variations in frequency of coronary angiographies in Germany by describing, understanding and modifying local practice**

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**Objectives:** Germany has one of the highest numbers of coronary angiography worldwide. Nevertheless, we find a great variation between German regions for both, diagnostic coronary angiographies and percutaneous coronary interventions (PCI). We assume that this variation is not only due to variation in morbidity but also reflects factors such as guideline adherence, physician-patient communication and access to care.

In this mixed method project, we aim to first describe the variation of coronary angiographies and PCIs in different German regions. Secondly, we explore current practices and motives for (non-)adherences to guidelines in the diagnostic process of patients with suspected CHD. Based on these results, we consequently plan to develop a complex intervention (treatment pathway) to improve guideline adherence and thus appropriateness of coronary angiography.

**Method:** The projects will be organized according to the recommendation of the Medical Research Council for the development and evaluation of complex interventions. The first study will use descriptive methods based on routine data of three German Health Care Insurances and registry data to describe status quo and associated factors of coronary angiography. The second study will use qualitative methods to understand barriers and facilitators of guideline adherence and medical decision making. Furthermore, we will discuss variations in care and thereby identify implementation targets for the planned treatment pathway. Based on this information, we will develop local treatment pathways in four selected regions. Relevant peers will develop the local pathway in group discussions. Using this bottom-up approach, we directly address implementation challenges.

**Results:** At this early phase of our project, we are happy to discuss our study protocol, search feedback and networking opportunities with researchers from other European countries during the conference. No results will be presented.

## POSTER BOARD - 29

### **Systematic monitoring of ETCO<sub>2</sub> in procedural sedations: a relevant medical practice or not ?**

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**Objectives:** Clinical monitoring of all patients should be performed during procedural sedation to prevent possible complications including airway obstruction, apnea and hypotension. Capnography, which measures end-tidal carbon dioxide (ETCO<sub>2</sub>), is a non-invasive monitoring method that provides information about metabolic, circulatory and respiratory activities. ETCO<sub>2</sub> could be added to other standard monitoring during procedural sedation as measurements of blood pressure, pulse, respiration, and oxygen saturation to allow early detection of critical respiratory incidents. This project aims to determine if ETCO<sub>2</sub> should be mandatory in our hospital to ensure the safety of care during procedural sedation.

**Method:** Literature search was conducted in indexed databases and grey literature between January 1<sup>st</sup> 2005 and April 12<sup>th</sup> 2018. Systematic reviews (SRs), clinical practice guidelines (CPGs) and primary studies on the use of ETCO<sub>2</sub> monitoring in adults or children under procedural sedation were retrieved. Two reviewers independently performed selection, quality assessment and data extraction. Outcomes included respiratory depression rate, interventions needed to respiratory support, cardiac arrest, desaturation, hypotension, antagonist administration and false alarms. Two hospital databases were consulted to estimate the volume of procedural sedations performed during the financial year 2016-2017. Reported accidents were also retrieved from hospital database between January 1<sup>st</sup> 2012 and March 21<sup>st</sup> 2018.

**Results:** Six SRs and 26 CPGs were analyzed. Although CPGs recommendations are based on poor scientific evidence, they mainly targeted propofol administration or deep level sedation for the use of ETCO<sub>2</sub>. Results from meta-analyses (n = 4) suggest a statistically significant lower risk of desaturations with the ETCO<sub>2</sub> in addition to standard monitoring compared to standard monitoring. Heterogeneity between studies (desaturation definitions, procedures, depth of sedation, sedatives, oxygen administration) invites caution regarding the interpretation of these data. Effects of ETCO<sub>2</sub> use on other outcomes remain undetermined. No serious complication with ETCO<sub>2</sub> use during procedural sedation was reported. More than 30,000 interventions with procedural sedation are performed each year in our hospital, mainly related to emergency, gynecologic, radiologic and endoscopic procedures. The addition of ETCO<sub>2</sub> to clinical monitoring was only found in the emergency department. Adverse events during procedural sedations were reported in two cases according to the hospital database.

**Conclusions:** The addition of ETCO<sub>2</sub> to standard monitoring could possibly improve clinical management of procedural sedations by reducing desaturation events. However, the clinical significance to prevent such events on serious respiratory outcomes is unclear. Because results mainly refer to deep sedation with propofol, no firm conclusion can be drawn regarding ETCO<sub>2</sub> use in case of minimal to moderate procedural sedations. Considering the risk of unnecessary medical interventions, clinicians should be advised to use ETCO<sub>2</sub> in specific procedural sedations instead of systematically.

## POSTER BOARD - 30

### **Moving upstream on overdiagnosis and overtreatment, or: Let's influence public opinion and public believes**

Harald Schmadlbauer  
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**Abstract in Full:** Experts complain public opinions, public believes, marketing-driven or industry-influenced disinformation (of health professionals as well as patients / public!), widened diagnostic boundaries and similar factors as important drivers for overdiagnosis and overtreatment.

While there is broad consensus on strategies like shared decision making, reshaping the definitions of diseases, sensibilising health professionals, changing incentive systems, which all focus on health professionals or patients who are already in individual contact with the health system, there are few thoughts on the question: How do we reduce the public desire to be screened, diagnosed or treated in a way, that harms people and produces massive waste of resources?

The article proposes to do the obvious: Moving upstream by using professional, scientifically developed and proved methods of public relations (PR). Influencing public opinion and public believes is something the medical industries do since their very beginning, in a highly effective way. But among experts – for instance in evidence based medicine – there is widespread unwillingness and resistance to communicate with media, to do professional public relations work. PR is said to be uncontrollable, not to be measured in terms of input and outcome. There is fear of being misinterpreted, being criticized for promoting unorthodox / controversial positions (try to argue against widening cancer-prevention on TV!), to experience embarrassing situations and so on. Both obstacles – the disputable fame as well as personal fears – can be overcome.

The article offers a framework and a toolbox for influencing respectively controlling public opinion and public believe regarding health information. Examples for strategic frameworks are the DPRG/ICV step model as a frame of reference to measure and control PR outcome, or Reputation Management as a tool to improve the public perception (credibility, leadership...) of persons or organisations to gain public support for the person's or organisational goals by practical examples of the Upper Austrian district health insurance fund (OÖGKK).

The article also describes operational methods of PR such as agenda setting, storytelling or content marketing to be used within the described strategic frameworks.

Insufficient budgets are a very weak excuse for not doing professional PR for good health information. If the thesis is correct, that all western civilizations spend enormous amounts on low value care – it should be easy to gain multiple return on investments in effective PR strategies on public perception of benefits and risks of diagnosis and treatment.

**Objectives:** Influencing public opinion on value, benefits, risk and cost of diagnosis and treatment.

### **Method**

Strategical frameworks:

- PR Controlling (DPRG step model)
- Reputation Management
- Stakeholder Model

Operational methods (examples):

- agenda setting,
- storytelling
- content marketing

**Results:** Influencing public opinion by professional methods of PR can be controlled, monitored and measured by modern methods of Media and Communication Sciences.

**Conclusions:** Public health authorities such as governmental or social insurance organisations, but also the science community should embrace PR as a supporting strategy in winding back the harms of too much medicine.

### **POSTER BOARD 30a**

#### **Trends and variation in UK sales of over-the-counter analgesics: a retrospective database study and international policy review protocol**

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**Objectives:** Analgesics are among the most commonly used and accessible drugs in the world. They are generally well tolerated and effective. Yet, not all medicines available over-the-counter (OTC) are low risk or used appropriately. Products containing codeine have been associated with dependence, addiction, overdose-related deaths and collateral toxicity from combinations with paracetamol or ibuprofen. Policy surrounding public access to OTC codeine varies across the world. Currently, 15 of the 28 European Union member states do not permit the sale of OTC codeine. More recently, Australia and Manitoba, Canada changed the status of codeine-containing medicines to prescription-only. Access to data and monitoring of OTC medicines is limited. Without access to this data, it is unclear whether policies that restrict OTC medicines are effective in reducing use and associated harms. Codeine-containing products are available OTC in the United Kingdom (UK). Thus, we will explore trends and variation in OTC analgesics in the UK and review current policy across the world.

**Method:** National retail data will be purchased from a global data analytics company. The data will include value sales (cost, £), unit sales (number of packs sold) and volume sales (number of tablets sold) of oral analgesics for adults at the national and regional level for the past three years (2016 to 18). The data will be adjusted using a proxy for population growth from the Office of National Statistics to calculate rates for each measure per 1,000 of the population. Data will be plotted over time using joinpoint regression, aggregated and stacked by analgesic type. The total number of codeine products sold will be combined with the total number of prescribed codeine-containing medicines each year. This sum will provide an approximate total which will be used to determine the proportion of codeine-containing medicines purchased OTC each year. The rate of unit sales, volume sales and value sales for each geographical area will be calculated individually and displayed on three choropleth maps using a colour spectrum to represent the rate in each region. The



restrictive review will search TRIPdatabase, PubMed and Google using 'over-the-counter', 'codeine', 'regulations' and variations of these terms. Data will be extracted from included studies and national regulation bodies. A list of countries and their income levels will be tabulated from the World Bank and used to guide the search and data extraction. Countries will be stratified by the level of access to codeine-containing medicines (no access, restricted and complete access). If codeine can be purchased OTC, then the dose (mg), pack size, formulation and other indications will be recorded. If there is no access, the date access was changed and available evidence-base used in the decision-making processes will be collected and assessed for quality and bias using specific tools. Variation will be described descriptively and quantitatively using a choropleth map.

**Results:** Over the last five years, sales of OTC medicines increased by 13% (£2.3 billion in 2012 to £2.6 billion in 2017; IRI, 2017). Implementation of this protocol is required to determine what proportion of this increase was for analgesics and codeine-containing medicines. The restricted review with synthesise current policies and restrictions on OTC codeine containing medicines and the evidence-based used for these decisions.

**Conclusions:** Examining trends, variation and legislation of OTC codeine sales is important with the current push to promote self-care and change policy on the access of codeine-containing medicines. Previous studies have focused on analysing the trends of prescribed medicines. This focus may be attributed to the difficulty and lack of available data on sales of OTC medicines.

**Conflicts of interest:** GCR is receiving funding from the National Health Service (NHS) National Institute of Health Research (NIHR) School of Primary Care Research, Najji Foundation and Rotary Foundation to study for a Doctor of Philosophy at the University of Oxford. She has no other conflicts of interests to disclose.

## POSTER BOARD - 31

### **Overdiagnosis and overtreatment and the tension between the probabilistic and mechanistic approaches in medicine: a multilevel analysis alternative to the tyranny of the averages**

Juan Merlo

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**Objectives:** Two main conceptual approaches co-exist today in epidemiology and clinical medicine when it comes to decision-making on diagnoses and treatments. The *probabilistic approach* is based on the analysis of differences between group averages and measures of association like the odds ratio. Individual differences around averages tend to be interpreted as uncertainty and the interest focus on risk factors and average causal effects.

The *mechanistic approach* is based in the analysis of individual heterogeneity around averages and measures of discriminatory accuracy. The interest focuses on diagnostic accuracy and individualized treatments.

These two approaches are however contradictory and originate a conflict in medical practice as, for instance, most pharmacological treatment guidelines are based on the *probabilistic approach* without considering the existence of false positives/negatives as the *mechanistic approach* would do.

To overcome this conflict, I suggest an innovative conceptual approach base on *multilevel analysis of individual heterogeneity and discriminatory accuracy (MAIHDA)*

**Method:** Essay summarizing and developing a number of ideas discussed in previous publications:

Merlo J. Invited commentary: multilevel analysis of individual heterogeneity-a fundamental critique of the current probabilistic risk factor epidemiology. Am J Epidemiol. 2014;180(2):208-12; discussion 13-4.

Merlo J. Multilevel analysis of individual heterogeneity and discriminatory accuracy (MAIHDA) within an intersectional framework. *Soc Sci Med* 2017;10.1016/j.socscimed.2017.12.026.  
Merlo J, Mulinari S, Wemrell M, Subramanian S V, Hedblad B. The tyranny of the averages and the indiscriminate use of risk factors in Public Health: The case of coronary heart disease. *SSM - Population Health* 2017;3:684-98.

**Results:** In contrast to the mechanistic approach, the probabilistic approach raises ethical concerns related to risk communication and the perils of both unwarranted medicalization and stigmatization of exposed individuals. I suggest a solution to this conflict and propose a conceptual approach based on multilevel analysis of individual heterogeneity and discriminatory accuracy (MAIHDA). The concept of MAIHDA converges with the current movement of precision (i.e., individualized, personalized, stratified) medicine, and its efforts toward understanding individual heterogeneity. However, a radical conceptual difference exists: rather than only focusing on individual susceptibilities, MAIHDA considers the distribution of individual heterogeneity as a continuous variable that can be decomposed at different levels and tries to identify the share of the individual heterogeneity that is at each specific level (e.g., individual, diagnostic/treatment group).

**Conclusions:** The MAIHDA approach and related measures of multilevel variance and discriminatory accuracy need to be more extensively used in clinical medicine, epidemiology and public health, in order to obtain a correct interpretation of the information provided by observational studies, randomized clinical trials, meta-analysis and treatment guidelines.

## POSTER BOARD - 32

### **Overtesting and potential overdiagnosis associated with inaccurate ICU blood gas and electrolyte analysis**

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**Objectives:** In our study of the accuracy of blood gas / electrolyte analyzers, we have re-discovered that the anion gap calculation ( $\text{Na} - \text{Cl} - \text{HCO}_3$ ) is an excellent indicator of electrolyte measurement inaccuracy. Calculations that incorporate component measurements will exhibit propagation of errors; inaccurate systems will demonstrate increased divergence of anion gap. While zero and negative anion gaps are usually attributed to laboratory error, such gaps may indicate significant pathophysiology. Astute clinicians will investigate these outlying gaps with tests for paraproteinemia and confirmation of calcium, albumin, potassium, magnesium and lithium levels. We compared the prevalence of zero/negative anion gaps of 3 different blood gas/electrolyte analyzers operated over 2 years in 3 different ICUs. Analyzers demonstrating high prevalence of zero and negative anion gaps predispose to overtesting and overdiagnosis.

**Method:** Laboratory data repositories provided all the arterial blood gas, electrolyte and metabolite results generated by 1) two GEM 4000s on ICU patients in 2012 and 2013 at Calgary's Foothills University Hospital, 2) two Radiometer ABL800 systems on ICU patients in 2012-2013 at Edmonton's University of Alberta Hospital and 3) two Siemens Rapid 500 systems on ICU patients in October 2015-October 2017 at Dartmouth-Hitchcock Medical Center. At the two Alberta ICUs operating two different analyzers, we determined the cost of replicate

central laboratory testing that was ordered within one hour of the ICU electrolyte measurements.

**Results:** 935 (4.0 %) of 23212 GEM gaps; 548 (1.3%) of the 42690 Radiometer gaps and 116 (0.9%) of 12951 Siemens gaps were zero/negative. The relative incidence of zero/negative gaps is higher for the GEM compared to the Radiometer (P

**Conclusions:** Because of imprecise Na, Cl and HCO<sub>3</sub>, the GEM analyzer tends to produce larger and more artefactual zero and negative gaps than the Radiometer and Siemens. These gaps are associated with increased testing to confirm the electrolyte concentrations as well as other tests that are used to rule out serious pathophysiology. The costs of the increased testing and any overdiagnosis (including the discovery of incidental paraproteinemia) probably exceeds the savings achieved by acquiring the less accurate, lower cost system. J

## POSTER BOARD - 35

### **Audiologic monitoring of cisplatin ototoxicity in cancer treatment of adults: A balance between overdiagnosis and patient safety?**

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**Objectives:** Cisplatin, despite its effectiveness against various malignancies, can lead to serious side effects such as ototoxicity. However, ototoxicity monitoring has been shown inconsistent during drug treatment for adults. Over the last few years, a protocol on systematic audiologic monitoring for ototoxicity in adults receiving chemotherapeutic treatments has been developed by the audiology department of our hospital. Due to limited resources to manage a high volume of patients, the audiology department was unable to fully implement the protocol. The main objective of this project was to evaluate the most suitable approach to manage audiologic monitoring in adults receiving cisplatin.

**Method:** Literature searches were conducted in several databases and grey literature to retrieve data on audiologic monitoring and cisplatin ototoxicity in adults including systematic reviews, guidelines and primary studies. Two review authors (MB and SL) independently performed document selection, methodological quality assessment and data extraction. A web-based survey was carried out in 2017 to document the clinical practice of audiologists in Québec for cisplatin ototoxicity management. A local survey in our institution was also performed to describe roles and involvement of pharmacists, hematologist-oncologists and specialized oncology nurses relative to cisplatin ototoxicity monitoring. Data extraction from Electronic Patient Record (EPR) were performed to review local practice regarding cisplatin ototoxicity monitoring in 125 adults treated from 2015 to 2017. Evidence-based review and local perspective were shared with an interdisciplinary group including oncologists, audiologists, pharmacists, oncology nurses and hospital managers.

**Results;** Six publications specific to cisplatin ototoxicity monitoring in adults were retrieved. Clinical practice guidelines suggested that an audiologic monitoring program should be available for all patients including repeated audiologic tests. Results from literature and Quebec web-based survey showed that audiologic monitoring programs are often unknown and not always enforced in clinical practice. In our hospital, data from the EPR suggested that audiologic consultation before starting, during or after stopping chemotherapeutic treatments was performed in 35 patients (28%), mainly for head and neck cancer, and high cisplatin dose. Results from the local survey highlighted concerns about the chemotherapy treatment decision making process when ototoxicity is diagnosed and the importance of

communication between audiologists, oncologists, pharmacists, nurses and patients. Threshold level to interpret audiologic tests was also among the concerns because of the risk of overestimating patients having nonsignificant hearing loss, and the consequences of less effective anticancer treatment options.

**Conclusions:** Results suggest that audiologic monitoring in adults under cisplatin cannot rely only on audiometric testing by audiologists. An adapted approach based on an interdisciplinary collaboration, patient's individual preferences as well as therapeutic alternatives should be the preferred way to promote share-decision making on cisplatin ototoxicity risks, preventive measures and auditory rehabilitation available.

## POSTER BOARD - 36

### **Overdiagnosis via Computer Suggestions for Follow up Testing: Time to hit Restart**

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**Objectives:** Not infrequently, patient laboratory printouts suggest followup tests. In reviewing the report of a 46 year old British Columbia female's ferritin of 86 ug/L, we were puzzled by the comment: "Possible Iron Deficiency" for ferritins between 50 and 100 ug/L based on 2010 guidelines. This comment medicalizes the patient and she thinks she has iron deficiency; the comment also initiates the cycle of further testing with the end result being the over-ordering of iron-related tests in an individual presumably without a "low" ferritin. To diminish this type of overtesting and overdiagnosis, we will use this presentation to communicate with decision-makers in the Canadian and British Columbia health care systems, starting at the level of the ministers of health down to the clinical laboratory owners and medical directors. We need a curtailment of these automated comments followed by a medical economics study of the utility of such algorithmic testing.

**Method:** In the neighboring province of Alberta, which lacks such ferritin guidelines, we collected 4 months of ferritin and iron results generated in a large urban referral laboratory. We then derived the prevalence of low, normal and high iron for varying ferritins and age groups of female and male patients.

**Results:** The association of ferritin to low iron levels is only evident in Albertan women and men with low ferritins. For women, the highest risk of low iron stores is associated with ferritins less than 15 ug/L (26% incidence). For males, increased risks of reduced iron stores are associated with ferritin levels less than 50 ug/L (between 9 to 44% incidence of iron deficiency). For higher ferritins, there appears to be little relationship between higher ferritin and low iron stores (between 3 and 5% incidence).

**Conclusions:** The interpretative comment for ferritins of 50 to 100 ug/L is misleading as these normal ferritin levels are not diagnostic of decreased iron. The British Columbia guidelines state that screening for iron deficiency is not indicated in the general population. The interpretive comment implies that regardless of the ferritin value, low iron levels should be ruled out. Such interpretive comments do not make sense and result in increased profitability for today's highly efficient referral laboratories. Similar "diagnostic aids" exist in many clinical information systems and induce overtesting and overdiagnosis. In the spirit of patient-centric medicine and cost reduction, it is incumbent on the laboratorian to search for, and eliminate such non-value added interpretive comments.

## POSTER BOARD - 37

### **How accurate are Argentine main on-line newspapers when they inform about breast cancer screening? Cross-sectional study.**

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**Introduction:** Mass media have a key role in the communication of breast cancer screening strategy to the population. Misinformation and erroneous information, as well as the spreading of medical publications that are outdated or fail to be supported by any scientific evidence, serve as a barrier and prevent the implementation of adequate preventive practices from being carried out by the population. In furtherance of its early detection, the National Cancer Institute of Argentina ("Instituto Nacional del Cáncer de Argentina" -INC-, by its Spanish acronym), an agency of the Argentine Ministry of Health, following the recommendations issued by the U.S. Preventive Services Task Force (2016) and the Canadian Task Force on Preventive Health Care (2011), recommends healthy women to have a mammography once every two years after they turn 50, until they turn 70 years old.

**Key words:** Breast neoplasms, breast cancer screening, mammography, self-examination, Communications Media.

#### **Objectives**

- 1) To document the agreement between the breast cancer prevention information published on the Internet sites of the main Argentine newspapers and the INC recommendations.
- 2) To describe and quantify the main messages that fail to agree with the recommendations of the INC.

**Method Design:** A cross-sectional documentary study was carried out.

**Context:** Two researchers looked for news articles related to breast cancer that were published between 01/Jan/2015 and 31/Dec/2015, on the websites of the five newspapers with the most digital traffic in the country -*Clarín*, *Infobae*, *La Nación*, *Página/12* and *Perfil*.  
**Inclusion criteria:** Digital content promoting secondary preventive strategies for breast cancer in women.

**Variables:** Two independent researchers determined whether such contents had information which followed the recommendations of the INC regarding secondary preventive strategies for breast cancer. Whenever there was disagreement between them, a third researcher studied the disagreeing contents, not knowing the findings of the other two researchers. All contents which recommended healthy women between 50 and 70 years old (with no personal or family breast cancer history) to have a mammography every two years were considered concordant with the recommendations of the INC.

**Results:** 135 news articles were identified, 95 of them were excluded because they failed to meet the inclusion criteria. 40 articles were included in the analysis. 95 % of them (38/40) disagree with the INC recommendations on breast cancer screening in low risk general population (with no personal or family breast cancer history). Among the recommendations which failed to agree with those of the INC, the most frequently identified (33/40; 82.5%) was the one related to having a mammography once a year after turning 40; followed by the ones related to the promotion of periodical breast self-examinations (20/40; 50%) and the promotion of other periodical tests, such as breast scans or magnetic resonance imaging (6/40; 15%).

**Conclusions:** During the term under analysis, the mass media, which can create and consolidate conducts, beliefs and values in the population, as well as provide information that is taken into consideration for health-related decisions, provided incomplete, confusing information which failed to agree with the recommendations made by the INC. This may probably result in the population being confused and in the demand for studies, such as mammographies, being performed at younger ages or at inappropriate intervals, with all the risks involved. In order to prevent or minimize the damage caused by health activities, it is necessary to make current scientifically supported recommendations on this issue even more visible, which will help dispel erroneous beliefs in relation to breast cancer and clarify information on the benefits, risks, and effectiveness of the different breast cancer tests, thus improving health outcomes, and at the same time minimizing harm and unnecessary interventions.

## POSTER BOARD - 38

### **Oral iron supplementation in pregnancy in Austria: haphazard usage**

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<sup>4</sup>Institute of General Practice, Goethe University Frankfurt am Main, Germany, Frankfurt am Main, Germany

**Objectives:** Iron-deficiency anemia is common in pregnancy, with a prevalence of about 16% in Austria. International guideline recommendations on regular anemia screening (none/once/twice) and treatment with iron preparations are inconsistent. Regardless of anemia screening guideline, recommendations for pregnant women might vary from routine intake with different daily dosages to no routine iron supplementation. The aim of our study was to identify how often pregnant women take iron or iron-containing multivitamin supplements, and to find out when they started and who recommended they do so.

**Method:** This cross-sectional study was conducted at the Mother-Child-Booklet (MCB) service center of the Styrian Health Insurance Fund in Graz, Austria. A questionnaire with 7 questions was developed and piloted by our study team, a psychologist, and an expert from the MCB service center. The 7 questions covered existing anemia diagnoses, current intake of iron-containing supplements, details on who recommended taking them, dosages, brand names, and socioeconomic data. The sample size calculation was based on a pre-examination of 70 pregnant women that indicated that, assuming a dropout rate of 10%, 322 pregnant women would have to be included to reach the targeted sample size of 289. Absolute and relative numbers and corresponding 95% confidence intervals were calculated using bootstrapping techniques. The study was approved by the Medical University of Graz ethics committee.

**Results:** 325 women completed the questionnaire. 62.1% were over 30 years of age, and for 51.7% it was their first pregnancy. 10.8% (n=35) were diagnosed with anemia before becoming pregnant. 72.9% (237/325, 95%CI: 67.7% - 77.8%) reported taking an iron or multivitamin supplement during pregnancy. 45 different products were taken, but 61% of women took one of three different supplements. Of the 185 women that were not diagnosed with anemia before becoming pregnant but reported taking an iron containing supplement, 78.4% (n=145) took it regularly and 28.1% (n=52) started before they knew they were pregnant. 88.6% (n=164) took supplements on the recommendation of their doctor. 11.9%

(n=22) on the recommendation of family or friends and 4.9% (n=9) on the advice of a pharmacist.

**Conclusions:** Overall, 67% of pregnant women in our cohort were taking iron-containing compounds, irrespective of whether they were deficient in iron or not. Doctors were predominantly responsible for advising them to take it. No standardized procedure is available on which to base the decision to take iron during pregnancy, even in guidelines. Much more information on the harms and benefits of iron supplements should be provided to health care professionals, pharmacists and pregnant women, so they can make an informed decision on whether to take them.

## POSTER BOARD - 39

### **Combating Overdiagnosis- too much medicine. Turning Citizens into Patients Unnecessarily**

Ebtisam Elghblawi

Private practice, Tripoli, Libya

**Abstract in Full:** Sickness, pain and death, are all component of any living human beings. All cultures have adopted a different means to help people cope with all the three realities. Sometimes we come across many general practitioners who just send patients for unnecessary screening of asymptomatic findings, with over testing of those with symptoms, too much reliance on some well-known biomarkers, which incur consequently on over diagnosis, yielding over treatment, causing cost-ineffectiveness, boosting the marketing medicines intake who will grow rich on the medicalisation of risk, lots of unnecessary side effects, questioning compliance and reliability, leading to meaningless follow ups. Ultimately causing more harm than benefit.

It's easy to create new diseases with new treatments. The harmful consequences of over diagnosis could have important physical, psychological, social, and financial consequences.

#### **Objectives -**

To draw boundaries around what is over diagnosis is and to exclude what it is not.

To avoid expensive treatments that achieves marginal benefits.

To advocate and implement simple measures.

**Method:** We need to weigh the costs and benefits of the "medicalisation" of our patient lives, and to be armed with enhanced information about the natural course of common conditions.

Emphasis the importance of the internet searching and looking for needed data and patients' empowerment.

**Results:** Over diagnosis is not a false-positive result. False positives are abnormalities that turn out not to be diseases after further investigation. In over diagnosis, the abnormality meets the currently agreed criteria for pathological disease (eg, microscopic criteria for cancer), but the disease detected is not destined to cause symptoms or death per se.

**Conclusions:** Over diagnosis is one of the most harmful and costly problems in any modern healthcare settings. It often triggers a cascade of overtreatment with unnecessary follow ups, although the two are not identical. We need to ensure that new disease definitions are based on evidence and not merely of any financial interests. Medicine after all meant to produce more good than harm. There is however no clear answers, but we need to weighing the costs and benefits of the "medicalisation accordingly and according to that

we can reach a definitive solution.

## POSTER BOARD – 40

### **The Surveillance Interval of Follow-up Colonoscopy after an Initial Colonoscopy: A Retrospective Study**

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**Background:** More and more people have undergone colonoscopy for colorectal cancer screening. The surveillance interval is up to the patients with low- or high-risk polyps at the first screening. According to the guideline of US Multi-Society Task Force on Colorectal Cancer, they recommend that the surveillance intervals for patients with the low-risk polyps are 5 to 10 years, and for high-risk are 3 years.

**Aims:** We would like to investigate what is the time of follow-up interval in the patients (low- and high-risk) at present.

**Methods:** We retrospectively study individuals who had undergone surveillance colonoscopy during 2011 through 2017 in a community hospital. Each time colonoscopic findings were divided to two groups: (1) low-risk polyps (2) high-risk polyps. No polyps or small (< 10 mm) hyperplastic polyps detected were inclusive to low-risk polyps.

**Results:** A total of 55 patients were collected. 40 patients (72.7%) were in low-risk polyps group and 15 (27.3%) were in high-risk polyps group according to their first colonoscopy result. In low-risk group, the average years of follow-up intervals are 3.68 years (SD 2.09), and 27 of 40 patients (67.5%) are less than 5 years (range 1-4 years). Positive fecal occult blood test (29.6%), bloody stool passage (22.2%) and colonic polyps' history (25.5%) are the common reasons why these patients practiced next screening colonoscopy in advance. In high-risk group, the average years of follow-up intervals are 2.38 years (SD 1.45), and 10 of 15 patients (67.5%) are less than 3 years (range 1-2 years). Colonic polyps' history (70%) is the most frequent reasons why the patients practiced next screening colonoscopy in advance. Another issue is for age older than 75 years old, 2 of 5 patients had high-risk polyps at first time colonoscopy, however, they all had low risk polyps at follow-up colonoscopy surveillance.

**Conclusions:** This study reveals the discrepancy between practitioner recommendations and current guidelines for colonoscopy surveillance in the time of follow-up colonoscopy. It might be caused by frequent fecal occult blood test (biennial), bowel cleansing preparation, and continuing education for practitioners. The Ministry of Health and Welfare must conduct a broader assessment of screening schedule.

## POSTER BOARD 41

### **Onsite Care Coordination in a private healthcare sector**

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**Objective:** Bupa is committed to being the most loved health care company by helping customers live longer, healthier, happier lives. We're passionate about making a difference through the way health and care is delivered to our customers, taking global best practice from our work in 190 countries. Bupa's Onsite Care Coordination (OCC) is a patient



centered, team based activity that is designed to assess and meet the needs of patients, helping them receive the most appropriate care and preventing over treatment. The objective of the initiative is to improve the patient outcomes and experiences while optimising the cost of care through it being delivered at the most clinically appropriate level.

**Methods:** The initiative started in August 2015 at one of the largest London hospitals and at a second London hospital in January 2016. Within these two hospitals on average over 2,000 Bupa patients are treated in an inpatient setting each year, this accounts for 12-13% of all Bupa inpatient patients treated in London.

To help achieve the objectives of the initiative an OCC nurse assesses Bupa patients against evidence based guidelines, combined with their clinical knowledge and liaison with hospital staff. Using this method they can determine if an inpatient admission, level of care or extension of stay are clinically appropriate. Other activities include working with the hospital staff to highlight, facilitate and support discharge planning.

Since the start of the initiative OCC nurses have performed over 5,500 reviews on 1,300 patients.

**Results:** The impact of the initiative is being continuously measured by identifying and monitoring behavioural change in the two hospitals. Changes have been observed and evaluated in two areas. Firstly, the reduction in inpatient average length of stay and secondly through the decrease in overall level of care. Ultimately this results in patients receiving the most appropriate care and remaining in hospital for only the necessary amount of time. Hence also reducing the risk of patients contracting hospital related infections or complications linked to extended stays.

The hospitals have confirmed they have observed increases in efficiency via the increased availability of bed spaces and staff time, alongside improvements in key care quality indicators

## POSTER BOARD - 42

### **Personalized illness? How self-monitoring and measuring can turn otherwise well people into patients. A study protocol.**

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**Objectives:** Among lay people, notions of personalized medicine create underlying assumptions of individually targeted treatments and promises of detecting and thus curing severe illnesses, according to a previous pilot study. However, there is currently only sparse knowledge as to the dimensions and impact of personalized medicine in lay people's perception of well-being and illness and how notions of personalized medicine affect patients' relations to the primary health provider, in Denmark the general practitioners (GPs). The hypothesis of this study is that general practice experiences a growing tendency of otherwise healthy patients seeking medical advice based on self-monitoring, measuring and testing, which create risk of overdiagnosis.

**Method:** The study will be carried out as a combination of a survey targeting GPs and an ethnographic qualitative study among GPs and apparently healthy patients in Denmark. The survey study will map out GPs' perceptions of, experiences with and notions of personalized medicine and how they expect personalized medicine to affect the roles in general practice

in years to come. Following the analyses of the questionnaire a qualitative study is designed to observe and individually interview selected GPs in order to get a deeper understanding of their experiences. In addition, an ethnographic study of 20 apparently healthy patients in general practice, using various forms of self-monitoring will be observed, followed and interviewed for a period of one year. This will uncover lay perceptions of personalized medicine and how, when and why these people chose to self-monitor and measure bodily functions and how it affect their relation to the GP.

**Results:** A pilot study of short individual interviews with 12 GPs conducted in September 2017 showed that especially GPs in urban areas experience a growing interest from patients in personalized medicine. The majority of these GPs expressed negative associations with this development. One said "There are no regulations in this area, it's the wild west", stressing the lack of control with for instance self-monitoring apps. Another GP felt that personalized medicine was creating overdiagnosis. She said: "This [self-monitoring, DNA mapping etc] turns healthy people into patients. If it continues this way, I'm quitting as a GP". This study is expected to gain a deeper and more nuanced understanding of both GPs and healthy patients' perceptions of and experiences with personalized medicine. It will uncover the spreading of experiences with, but also challenges as well as benefits relating to personalized medicine.

**Conclusions:** The study is expected to provide novel data and understandings of personalized medicine in a societal perspective. The findings are expected to uncover possible paths of overdiagnosis in general practice as well as knowledge, which can guide the future adaption of patients' use of self-monitoring and the like aspects of personalized medicine.

## POSTER BOARD - 43

### Choosing Wisely Brazil: the Family Medicine Experience

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**Objectives:** To elect the Brazilian family medicine list of recommendations

**Method:** In the first list of recommendations were elected from recommendations of family medicine / general practice of Canada, Australia, United States and England. Family doctors were asked to include more items totaling 26 alternatives. Then they were invited to choose up to three recommendations and the 5 most voted were published with an explanatory text aimed at the lay public.

The second list followed the methodology recommended by the managing committee of Choosing Wisely Brazil. The list of recommendations that were not elected in the first round served as the basis for the second. Again family doctors could add other recommendations. Each professional can score each recommendation on a scale of 0 to 10. The top 5 recommendations in terms of points will enter the second list.

**Results:** The first five recommendations were: 1. Do not do routine PSA or rectal touch to screen prostate cancer 2. Do not prescribe proton pump inhibitor continuously 3. Do not request vitamin D testing to low risk adults 4. Do not request a routine annual blood test unless indicated by individual risk 5. Do not prescribe antibiotics for upper respiratory infections that are highly likely to be viral. The second list is in the process of voting

**Conclusions:** The dissemination of lists of recommendations of what not to do has the potential to disseminate the discussion of the risks of unnecessary interventions