



European General Practice Research Network (EGPRN)

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Abstracts

European General Practice Research Network (EGPRN)

Abstracts from the EGPRN meeting in Antwerp, Belgium, 18th – 21st October, 2012. Theme: ‘Research on Patient-centred Interprofessional Collaboration in Primary Care’

KEYNOTE LECTURES

Challenges for primary care research: innovation, transferability, interprofessionalism, social impact and partnership

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The ‘Research Agenda for General Practice/Family Medicine and Primary Health Care in Europe’ (2009) did not only summarize the evidence relating to the core competencies and characteristics of the Wonca Europe definition of GP/FM, but also highlighted related needs, challenges and implications for future research and policy.

Starting from this research agenda and the current landmarks in clinical research, five challenges and priorities to guide primary care research for the next decade will be addressed. First of all, research should guide innovation in medicine and health care. But what does that mean for primary care research? Dissemination of knowledge research should follow the translational pipeline; implementation of new knowledge and studying the effectiveness of different approaches, both diagnostic and therapeutic, are the primary goals.

Feedback from results of observational and interventional research into practice creates shared ownership and transferability of the research process and results. More integration with electronic health records and advanced computational infrastructure, such as developed in the European TRANSFoRM project, are highly needed to guarantee this transfer and integration.

Because the whole spectrum of research is essential, from basic through translational to patient-oriented research and backwards, and since many problems we face in primary health care are complex and multidisciplinary, there is high need for more interprofessional exchange and communication in medical research.

Additionally, there is the society challenge, with common transnational problems such as ageing, chronic illness, multimorbidity, migration and cultural diversity, environmental and lifestyle hazards. Policy should focus on providing effective healthcare with limited resources and with special attention to equity. The social impact of primary care research becomes an important criterion for good quality.

Finally, there is an urgent challenge to fully include citizens and patients into research, not just as subjects or

consumers, but as full partners in participatory research that leads to action research, if possible in cooperation with practice-based research networks. This also fits well in the competence of person-centredness and it is a logical extension of informed consent and shared decision-making. Although there are a lot of barriers to overcome such as lack of time and resources, full partnership has the potential to guide the research process, to facilitate recruitment and allow quick bidirectional translation of research questions and results, to put forward the research questions and outcomes deemed important by patients and clinicians such as human dignity, equity, solidarity, efficiency, transparency and self determination. Partnership of patients will also call for an end to all forms of waste in the production and reporting of research evidence, such as the biased under-reporting of clinical research, which will result in substantial preventable suffering and death.

Patient-centred professionalism: dilemmas IN general practice

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There has been much discussion within the medical education literature about inter-related aspects of the curriculum (formal, informal and hidden) and how these interplay with medical students’ learning. We know that students learn patient-centred professionalism, partly from what they are taught in the formal, often University-based, curriculum, but mostly from what they see in the medical workplace in terms of how clinicians talk about and talk to their patients. With the advent of formal professionalism curricula, students are commonly placed in professionalism dilemmas because what they are taught as part of the formal curriculum contradicts what they see as part of the informal and hidden curriculum. Drawing on a 6-year programme of research about the education of patient-centred professionalism, utilising both interview and observational studies, three key questions were discussed in this keynote: (i) What is patient-centred professionalism? (ii) What patient-centred professionalism dilemmas do students experience within general practice? (iii) How can we foster the learning of patient-centred professionalism in general practice?

Research into primary health care organization and performance

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European health care systems are facing a range of common challenges in demand and organization of care. In health policy, a strong primary care system is seen as key to dealing with these challenges. European countries differ in how strong their primary care systems are.

This raises two questions. The first is: what determines how strong primary care is and what policies have been used to strengthen primary care? In this presentation, an overview is given of general influences on primary care policy (political, economic resources, values) and of specific policies to strengthen primary care.

The second question is: do strong primary care systems indeed perform better? The existing literature shows some gaps and inconsistencies. These may be related to the selection of countries evaluated, as well as to the indicators for performance and strength of primary care. An analysis of European countries is presented, with an elaborate set of indicators for the strength of primary care, and a range of dependent variables (costs, health outcomes and inequity).

Finally, the design of a current European study into the quality and costs of primary care (the QUALICOPC study) is outlined.

PRIZE WINNING POSTER

Call handling in out-of-hours primary care in Belgium: what lessons can we learn from the transition of small-scale rota systems to large-scale cooperatives?

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Background: Out-of-hours (OOH) primary care is under pressure in many countries, all looking for ways to improve this service. We report on a baseline safety and efficiency measurement of telephone triage (TT) in the current Belgian OOH primary care organization in which a secretary answers the calls to a general practice cooperative (GPC).

Research question: How do GPC secretaries perform in terms of under- and overtriage in OOH primary care and what reasons for encounter (RFEs) are possibly unsafe and inefficiently handled?

Method: Secretaries were asked to assess the urgency and to record the RFE for all calls on weekends and public holidays between 8 a.m. and 21 p.m. to the GPC in 2010. General practitioners on call at the GPC were asked to assess the urgency as well after the patient contact. These urgency grades were compared, to calculate percentages of correct estimation, under-triage and over-triage, both in total and per specific RFE, respectively.

Results: Calls were correctly triaged in 77%, under-triaged in 10% and over-triaged in 13% by the GPC secretaries. Five RFE were most frequently under-triaged: 'Shortness of

breath,' 'skin cuts,' 'chest pain,' 'feeling unwell,' and 'syncope.' The five most frequently over-triaged RFE were 'Medication prescriptions, requests and renewals,' 'issuance of a medical certificate,' 'chest pain,' 'animal or human bite,' and 'syncope.'

Conclusion: 'Untrained' GPC secretaries do not optimally perform the TT in OOH primary care settings with limited organisation. Trained staff may be necessary, using clearly elaborated telephone guidelines or protocols, and focussing on the most frequently under-triaged RFE first.

THEME PRESENTATIONS on 'Patient-centred Interprofessional Collaboration'

Will this student be a patient-centred doctor? The development of a new questionnaire measuring patient-centred intentions during medical education

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Background: Professional organizations worldwide have emphasized the importance of students developing patient-centred attitudes and skills. By contrast, many papers have reported an attitude erosion as students progress through medical school, especially during clerkships. However, several criticisms arose in relation to the questionnaires used to prove this decline. Used scales often do not map the conceptual frameworks for patient-centredness. Moreover, they only address attitudes, while a combined measurement with other determinants would enable a better prediction of behaviour. Finally, a previous study indicated that the current expert-based scales do not take the students' frame of reference into account

Research Question: To develop a valid and reliable self-report questionnaire to measure patient-centred intentions in medical students with (some) clinical experience, with strong theoretical fundaments, embedded in the students' life world.

Method: First, a test instrument was constructed, underpinned by both the 5-dimensional framework of Mead & Bower and the determinants of the Attitude – Social influence – self-Efficacy-model. These theoretical foundations were embedded in the 'lived' context of the medical student with the aid of focus group data. Second, the internal structure and internal consistency of the test instrument was studied with exploratory factor analysis (EFA) with Varimax rotation.

Results: A sample of 601 Flemish year 6 and year 7 students completed the 314-item test instrument. EFA and Cronbach's alpha testing resulted into a 39-item, 8 dimensional questionnaire, with a strong internal structure and good internal consistency. The scales cover all conceptual dimensions of Mead & Bower, including the 'doctor-as-person,' and attitudes, social influences and self-perceived ability. It also takes the students' perspectives into account by using expressions that better fit their frames of reference.

Conclusion: The developed questionnaire promises to be an important contribution to research patient-centredness in medical students with clinical experience.

Accounting for context factors in communication assessment of general practitioners

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Background: Assessment of medical communication performance is usually focused at rating generic communication skills only. However, in daily practice, general practitioner (GP) communication is determined by specific context factors, such as acquaintance with the patient, or the presented problem. Merely valuing the presence of generic skills may therefore not do justice to the GP's proficiency. In a previous study, we found 20 contextual factors that could explain why generic communication skills were absent in daily GP practice. We developed a context-specific protocol to incorporate these factors into performance assessment of GPs.

In this study, we aimed to explore how assessment changes, when the context-specific protocol is applied.

Research Question: How does incorporating context factors influence the assessment of GP communication performance?

Method: We used a mixed method design to explore how performance ratings would change. A random sample of 40 everyday GP consultations was used to establish the presence of previously identified context factors. The sample was rated twice using a widely used assessment instrument (the MAAS-Global), first in the standard way, the second time after context factors were explicitly taken into account. Between standard and context-specific rating the presence of context factors was established. Item score differences were calculated using paired sample t-tests.

Results: In 38 out of 40 consultations, context factors prompted application of the context-specific rating protocol. Mean overall score on the 7-point MAAS-Global scale increased from 2.97 in standard to 3.44 in the context-specific rating ($p < 0.00$); the effect size was 0.84.

Conclusion: Incorporating context factors in communication assessment makes a substantial difference, and shows that context factors should be considered as 'signal' instead of 'noise' in GP communication assessment. Explicating context factors leads to a more deliberate and transparent rating of GP's communication performance in daily practice.

Adult obesity management in the North of France: interactions between the patient, the general practitioner and the community care network OSEAN

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Background: Obesity in adults is increasingly prevalent worldwide and its management in general practice (GP) alone usually fails. International guidelines recommend a specific multi-professional management. French guidelines specify that community care networks based in primary care should enable this management. However, GPs refer rarely to these networks.

Research Question: Which are the barriers and facilitators of interactions between patients, GPs and multi-professional network practitioners in obesity management?

Method: A qualitative study was performed using semi-structured interviews. Three groups were recruited in the North of France for purposeful samples: obese adults who followed an educational program of OSEAN network (combining dietary management, education to physical activity, behaviour therapy) in 2008–2009, GPs who had at least one patient who followed the programme, and finally professionals of OSEAN. The data collection has been triangulated by three GP registrars. The interviews were filmed and transcribed in verbatim. A grounded theory approach was used for the analysis. The Research Ethics Committee approved the design.

Results: Thirteen patients, 15 GPs and 15 network practitioners were interviewed. Consensus emerged on the central role of the GP, limited by a lack of time and specific knowledge. Multi-professional networks were unanimously considered useful with specific resources and group management, but limited by the access and shortness of the programme due to a lack of funding. Both GPs and network practitioners were restrained by patient motivation and their lack of consideration of obesity as a disease. Finally, both networks practitioners and GPs were unsatisfied with the communication and collaboration.

Conclusion: The role and training of the GP with regard to obesity care should be reconsidered. Pending a reorganization of the primary care system to improve chronic diseases management, regional multi-thematic platforms gathering all specific networks could ease multi-professional management.

Are primary health care professionals ready for inter-professional learning?

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Background: Interprofessional collaboration fosters interprofessional learning. In Belgium, palliative care is delivered by general practitioners (GPs) in collaboration with community nurses and specialized palliative home care teams. Attitudes of these health care professionals towards interprofessional learning are unknown. Exploring this could optimize collaboration to enhance learning.

Research Question: What are the attitudes of general practitioners, community nurses and nurses from palliative home care teams towards interprofessional learning?

Method: As part of a larger study on interprofessional collaboration in primary palliative care, participants completed the 'Readiness for Interprofessional Learning Scale' with dimensions: teamwork and collaboration, patient centredness and sense of professional identity. Linear regression analysis was used to evaluate psychometrics. The respondents' scores on the scale were compared with the learning that took place during collaboration and the perception of interaction style between professionals.

Results: The respondents were 133 GPs, 165 community nurses and 67 palliative care nurses. Linear regression analysis revealed significant effects on 'teamwork and

collaboration' (GPs and community nurses had lower scores) and of 'practice organisation' (solo workers had lower scores than group practices). Significant effects were seen on 'patient centredness' of practice organisation (solo workers lower scores) and of 'years in practice' for palliative care nurses (lower scores when more years in practice). Significant effect was seen on 'sense of professional identity' of profession (GPs and community nurses higher scores), of practice organisation (solo workers higher scores) and of age for palliative care nurses (lower scores for older nurses). Comparison with the learning effect of collaboration and perception of the interaction style will be calculated after data collection of the larger study (august 2012) has been completed.

Conclusion: Some results sound logic (solo versus non-solo, professional differences). The negative effect of working more years in palliative care on the patient centredness requires further investigation.

Potential benefit of patient input as collected by the practice nurse in assessing polypharmacy in primary care

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Background: Multifaceted interventions are necessary to optimize the medication profile of patients with polypharmacy. In the PIL-study (Polypharmacy Intervention Limburg), the practice nurse visits all polypharmacy patients at home to collect data on their actual medication use. We present the first analyses of the potential added value of patient input (as collected by the practice nurse), for the management of polypharmacy in primary care.

Research Question: 1. What self-care and prescribed medications are actually being used? 2. Do patients know the indications? 3. Do prescription data of general practitioner (GP) and pharmacist match with the actual use of prescribed medications by the patient?

Method: The PIL-study is a cluster randomised clinical trial (RCT) in 24 general practice centres and 17 associated pharmacies involving 823 patients. Baseline data - from the GPs' and pharmacies' information systems as well as the results of home visits - were analysed. Each - specifically trained - practice nurse used a standard check-list, including questions on actually used medications and patient's knowledge of the indications. Descriptive analyses were performed of self-care and prescribed medications, indications according to the patient, and agreement between prescription data of GP and pharmacist and actual use by the patients

Results: Currently, we have data on 666 patients, who used 686 different self-care and 6 059 prescribed medications. The indications of prescribed medications were known correctly by the patients in 65%. The actual use by the patient, and prescription data in the GP's and pharmacy's information systems respectively, matched completely in 20.4% of patients (n = 563).

Conclusion: An inventory of actual medication use at the patient's home might have added value in the management of polypharmacy.

Suggestions for improving continuity of medication between hospital and home in a local context of Wallonia

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Background: Unjustified modifications of the patient's usual medication during his hospitalisation induce various problems for the patient (confusion, additional costs) and for healthcare professionals (work overload, additional costs). The principle of favouring dialogue between local actors to reach commonly accepted solutions was used in the current study.

Research Question: Which local strategies could be implemented to improve continuity of drug therapy when the patient moves to hospital or back home?

Method: Participants were recruited in Liège (Wallonia), within four professional groups: general practitioners, hospital specialists, pharmacists and hospital stakeholders. First, a nominal group study was carried out for each professional group to obtain prioritized suggestions. Subsequently, in a Delphi study suggestions from the nominal group study were submitted to representatives of each profession (a total of 40) to evaluate relevance, acceptability and feasibility of each one.

Results: A total of 101 suggestions were evoked in the first phase, related to two main themes: (1) implication of well-defined actors, and (2) development of specific means. Five consensual suggestions emerged from the Delphi process: provision by the general practitioner of a complete list of medication on hospital admission; provision by the hospital specialist of a list of drugs at discharge; development of formal hospital processes to keep the patient's usual medication; centralisation of medication data; development and use of a unique medical record.

Conclusion: A link medium handled by the patient when he moves to the hospital and back home is the major idea mentioned and accepted by local actors.

Role of GP and Pharmacist in the way patients experience medicine prescribing: a qualitative study

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Background: Medicine consumption takes a large part in overall health care cost. Physicians and pharmacists act as agents for patients when they prescribe and deliver medication. Efficient medicine use contributes to patients' health and may avoid unnecessary costs. Our recent survey revealed that patients who said that they were well informed by their GP and pharmacist about the price they faced for their current medication, lacked information on cheaper alternatives.

Research Question: How are patients involved in the prescription and delivery of medication? More specifically, how do contacts with GPs and pharmacists affect the way patients experience medicine prescribing?

Method: In a series of semi-structured face-to-face interviews, we explored opinions of patients who were treated with one of three common groups of medication (cholesterol lowering medication, acid blocking agents and antidepressants). In addition, we investigated how patients were informed about medicine prices faced by patients and health care systems.

Results: Patients were satisfied about the relationship with their GP and pharmacist, although some expressed a shortage of information on adverse events. The pharmacist's role became more important when the complexity of treatment regimes increased (e.g., medicine interactions).

Patients generally expressed little need for information on the price they face for their medication, although those who were explicitly informed about prices during consultations, conceded that this increased the confidence in their physician.

Conclusion: Although most patients appreciated authoritative expertise of their GP in prescribing medication, they remained critical and preferred a certain level of involvement during interactions with GP and pharmacist alike. Patients clearly prioritized their own medicine budget above societies and only occasionally discussed prices.

Are pharmacists ready to deliver pharmaceutical care for patients with HIV?

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Background: Since the introduction of HAART, the life expectancy of well treated HIV-patients is comparable with HIV-negative persons. In Belgium, the number of hiv-patients is growing with an average of 3 new patients a day. Stabilized HIV-patients should have the option to consult primary health care for monitoring and advice.

Research Question: What is the role of the community pharmacist in the follow-up of hiv-patients? Are pharmacists ready to deliver pharmaceutical care for hiv-patients?

Method: To investigate specific knowledge regarding hiv and the related pharmaceutical care, three different parties involved in the HIV-care process were approached in a mixed-method design. The first approach was a questionnaire among 27 community pharmacists in an urban/suburban setting. In addition, 4 HIV-patients were questioned about their experiences concerning pharmaceutical care: communication, privacy, adherence, interactions, and treatment schedule. The third part consisted of interviews with stakeholders and key health care providers.

Results: The survey among pharmacists revealed insufficient communication with physicians and other health care providers in the ARC. Pharmacists also mentioned problems such as: taboo, shame and a lack of expertise. The same issues were mentioned during the interviews with patients, stakeholders and key health care providers. Three quart of the pharmacists did not feel well informed about interactions of retroviral products and the transmission of hiv.

Conclusion: Pharmacists do not feel prepared to take their responsibility for HIV-patients, even though they are the key health care providers concerning pharmaceutical care. A clear communication between medical staff and pharmacist can ameliorate the quality for hiv-patients. Specific education for pharmacists is necessary.

Chronic-Disease-Care Intervention managed by a clinic nurse to improve diabetes control

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Background: Chronic-Disease-Care Interventions (CDCI) are known to improve clinical outcome measures in patients with diabetes, and to reduce healthcare costs. The community nurse has much influence in patient self-management training and decision support. However, CDCI managed by the clinic nurse has not been investigated.

Research Question: Assessing diabetes management and control measures in a central primary care clinic, conducted by a nurse.

Method: Retrospective data of 100 randomly selected diabetes patients treated in a central, primary care clinic were collected. Data included demographics and diabetes control measures (LDL; HbA1c; microalbumin / creatinine ratio; blood pressure; weight; GP, ophthalmologist and dietician visits and hospitalizations). Diabetic patients with at least one year of follow up before their first visit to the clinic nurse were eligible for the study. Data was collected for three 6 months' periods: 1) six months before the nurse visit, 2) six months following the first nurse visit (the intervention) and 3) for patients who were followed up for at least one year after the intervention, the last 6 months follow-up. The data was analyzed using SPSS software to describe the patient characteristics in each period.

Results: Medical records of random 100 diabetes patients were reviewed, mean age 63.1years, 52% male. Average HbA1c was 8.31 ± 1.86 in period 1, 7.19 ± 1.11 in period 2 and 7.22 ± 1.41 in period 3 ($p < 0.01$). LDL values were 105.45 ± 36.88 , 90.99 ± 29.16 and 90.74 ± 25.85 , respectively, ($p < 0.05$). Systolic blood pressure 140.06 ± 18.85 , 134.33 ± 16.08 , 134.9 ± 19.15 , respectively, ($p < 0.01$). GP, Ophthalmologist and Dietician visits increased significantly during the study, whereas the rate of diabetes-related hospitalizations decreased. Foot examination rates increased from 26% to 94% during the intervention and 66% in period 3 ($p < 0.01$). Changes were also observed in weight loss.

Conclusion: Multidisciplinary intervention managed by a clinic nurse, improve diabetes management and control measures. Observed changes persisted after the intervention period.

Improvement of care for type 2 diabetes patients by partially substituting the physician's visit by a nurse. Pilot study in a primary care clinic

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Background: For the management of chronic diseases needing frequent monitoring, it is suggested that substitution of care may be an appropriate solution to safeguard high quality care. Nurses have longer visits, which feel more appropriate for accessing diabetes.

Research Question: Assessment of effects on quality of care and evaluation of patients and primary care provider's satisfaction, when tasks in the care for stable type 2 diabetes are transferred from physician to nurse.

Method: The diabetes patients were stimulated to visit the nurse every 3 months and their physician once a year. Content of each visit was determined by the guidelines for type 2 diabetes patients of the Belgian GP association. Education, bloodtests, BMI and vital checks, were the milestones of the nurse visit. Once known, a physician would discuss the results and recommendations (like earlier follow up) with the patient through the phone. With a European Practice Assessment Questionnaire the satisfaction of patients, nurses and physicians was measured before and 9 months after starting the substitution. To assess the quality of care, certain parameters were compared from both before and after.

Results: Only patients who paid a minimum 2 visits to the nurse were included, which meant 35 of the 69 selected patients. Patients evaluated the longer duration of the visit, and the extra education as a strong point, and had the impression they could reach their GP easier by phone. Concerning the quality of care, blood pressure and dyslipidemia were improved with the nurse visits.

Conclusion: In this small pilot study without control group, the substitution of care by the nurse, resulted in a higher satisfaction by patients and an increase in quality of care.

Perceptions that affect physician-nurse collaboration in the family practice centre

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Background: Family physician collaboration with the family practice nurse will improve patient outcome by providing good primary health service delivery. In this study, we intend to determine collaboration level toward realizing the full potential of collaborative care.

Research Question: To determine whether there were differences in the collaboration level of nurse and physician based on gender and length of experience in the family practice centre.

Method: In this descriptive study, four centres in Istanbul were chosen randomly by sampling. Nurses ($n = 246$) and physicians ($n = 246$) who were working in the family health centres (FHC) were invited to participate. The Jefferson scale of attitudes toward nurse-physician collaboration was adapted and translated into Turkish by the author and her colleagues.

Results: The nurse's mean total score was 49.01 ($SD = 3.30$) compared with the physician's mean total score 52.72 ($SD = 3.51$), ($t = 7.11$, $p = 0.00$), indicating that the physician's attitudes toward nurse-physician collaboration was more positive than the nurse's. Length of experience in the work revealed a more positive attitude toward collaboration by physicians (51.03; $SD = 1.9$), and demonstrated a less positive (47.02; $SD = 1.5$) attitude toward collaboration by nurses ($p = 0.000$) Gender differences in attitudes could not be determined.

Conclusion: Physicians' attitudes toward collaboration became more positive with increased years of experience, but nurses demonstrated a less positive attitude toward collaboration as years of experience increased.

Collaborative care in the management of addiction to alcohol, illegal drugs, hypnotics and tranquilizers.

A review

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Background: General practitioners (GPs) and occupational physicians (OPs) play an important role in detecting and managing substance abuse, but their interprofessional collaboration is critical in providing appropriate care. In Belgium, there is a lack of scientific data regarding best practice models of referral and collaboration by these two actors. To achieve better health outcomes, best practices for GPs and OPs in Belgium must be formulated.

Research Question: Which evidence exists for referral and collaboration in substance abuse management by GPs and OPs?

Method: This literature review is part of a large interuniversity project involving GPs and OPs and commissioned by the Belgian Science Policy. International high quality guidelines concerning collaborative care for alcohol abuse, illegal drug use and hypnotics and tranquilizers were identified by a detailed search performed in 2012, using Guidelines International Network (GIN) and National Guidelines Clearinghouse (NGC) databases.

Results: Our search identified 976 records. Ten guidelines were of sufficient methodological quality, based on criteria of the Appraisal of Guidelines for Research and Education (AGREE) II instrument. Recommendations and guidelines for referral and collaboration in substance abuse management are scarce. In relation to alcoholism, guidelines recommend GPs when to refer and a model of stepped care related to the level of dependence. No model for collaborative care between GPs and OPs for the management of alcoholism or illegal drugs, hypnotics and tranquilizers abuse was suggested. In case of detection at the workplace, one guideline recommends referral to or collaboration with experienced clinicians in alcohol abuse management.

Conclusion: To ensure adequate substance abuse management and provide collaborative models for primary care and occupational health, more work is needed. We recommend studying pros and cons for collaboration as well as the best way to achieve it if recommended.

FREESTANDING PRESENTATIONS

Is there gender bias in the Four-Dimensional Symptom Questionnaire (4DSQ)?

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Background: The 4DSQ consists of 4 symptom scales measuring distress, depression, anxiety and somatization. Gender bias occurs when men and women would obtain systematically different scale scores because of their gender and not necessarily because of differences in symptom levels. In the presence of gender bias, interpretation of mean scores across gender groups would become problematic.

Research Question: Is there any gender bias in the 4DSQ?

Method: This study was a secondary analysis of cross-sectional data from 6 studies of people (age 18–64) with and without mental health problems (1 093 women, 4 049 men). We used the Mantel-Haenszel method to perform a differential item functioning (DIF) analysis. This is a non-parametric method that detects items that 'function' differently in men and women relative to the way other items 'function' as evidenced by the scale score, which is used as a common metric across the gender groups. If DIF is found in some items, the common metric is based on the items without DIF. Finally, the impact of DIF on the scale score level was evaluated by comparing mean scale scores adjusted for DIF-free scores.

Results: DIF was found in only one item of the distress scale. Item 41 ('Did you easily become emotional?') appeared to be more 'easy' for women, i.e. women needed less distress to endorse this item than men. The impact of this DIF on the scale score was small, maximally 0.586 (95% CI 0.508 – 0.665) points on a 32-point scale. In terms of effect size, the DIF was negligible (0.062; 0.053 – 0.070).

Conclusion: There is practically no gender bias in the 4DSQ. When, in a study one finds that women have higher distress scores than men, the most likely reason is that women were indeed more distressed than men.

Feasibility and outcome of applying disease-specific antibiotic prescribing quality indicators

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Background: Antibiotic use drives antimicrobial resistance, and the largest volumes of antibiotic prescriptions are prescribed in primary care. The European Surveillance of Antimicrobial Consumption (ESAC) project published a set of disease-specific antibiotic prescribing quality indicators (APQI) to assess the quality of antibiotic prescribing in primary care.

Research Question: To assess feasibility to calculate values for these APQI using primary care databases linking information on diagnosis, age and gender with prescription data; and to assess outcome of this quality assessment in general practice and in out-of-hours service centre.

Method: Data linking International Classification of Primary Care (ICPC) labelled diagnoses with Anatomical Therapeutic Chemical (ATC) classification labelled antibiotic prescription data were extracted from the Intego database and the out-of-hours service Deurne-Borgerhout database. The values of each of the 21 APQI (3 indicators for each of 7 indications (ICPC: H71, R74, R75, R76, R78, R81 and U71)) were calculated and compared with the proposed ranges of acceptable use.

Results: Both databases allow calculation of APQI values. Only for U71 (cystitis/other urinary infection) the percentage of patients prescribed an antibiotic (indicator a) reached the target. Within the subgroup of patients prescribed an antibiotic the percentage of those prescribed the recommended antibiotic and those prescribed a quinolone, reached the target for none and at least 3 of the indications (H71 (acute otitis media/myringitis); R74 (acute upper respiratory infection); R76 (acute tonsillitis)), respectively. For R78 (acute bronchitis/bronchiolitis) and R81 (pneumonia), none of the three indicators reached the target.

Conclusion: Application of APQI is feasible for databases linking diagnosis and prescription data. Assessment of APQI revealed suboptimal quality of antibiotic prescribing in Flemish general practice, both during and outside office hours. In particular, the use of recommended antibiotics offers a huge opportunity for quality improvement.

Validity of outcome measures to assess trends of outpatient antibiotic use

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Background: In Belgium, a decreasing trend of outpatient antibiotic use expressed in the number of reimbursed packages, considered a good proxy for the number of antibiotic prescriptions, is contradicted by the trend using the internationally accepted number of defined daily doses (DDD) per 1 000 inhabitants per day (-ID; DID). These discrepancies continue to confuse policy makers, researchers and clinicians.

Research Question: Therefore we explored what outcome measure is most valid and reliable.

Method: Outpatient data on each dispensed and reimbursed medicinal package in Belgium from 2002 onwards was aggregated at the level of the active substance in accordance with the Anatomical Therapeutic Chemical classification and expressed in the number of DDD (WHO, version 2010), packages, treatments, and insured individuals, per 1 000 inhabitants, insured individuals and contacts, per day, and in July-June years, respectively.

Results: Detailed data on outpatient antibiotic use were available from 2002–2003 until 2008–2009. Expressed in DID use increased between 2002–2003 and 2008–2009, whereas in all other -ID outcome measures it decreased. The same is true for use expressed per 1000 insured individuals or when allowing for the decreasing number of contacts (with GPs). These discrepancies can be explained by increasing numbers of DDD per package, which are driven mainly by bigger pack size and increasing dose per unit of the penicillin amoxicillin and co-amoxiclav.

Conclusion: In Belgium, since the start of the national public antibiotic awareness campaigns there is less frequent treatment of fewer individuals with higher amounts of active substance. When only reimbursement (or sales) data in DDD and packages (or prescriptions) are available, the latter is the most valid and reliable outcome measure to survey outpatient antibiotic use.

How GPs manage patients with Medically Unexplained Symptoms. A focus group-based study from Poland

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Background: About 20–25 % of all symptoms presented in primary health care have no evidence for underlying physical disease and should be considered as Medically Unexplained Symptoms (MUS). Approximately 20% of all GPs' visits are because of MUS-related problems. There are **no** official guidelines as to how to treat these patients. A crucial strategy seems to be a long-term doctor-patient relationship based on trust and extreme patience.

Research Question: To explore what experiences Polish GPs have while dealing with MUS patients.

Method: Four focus groups (together 14 family doctors), building up sub-codes, codes and themes structure.

Results: Main themes that emerged were: negative emotions among GPs, insufficient GPs' training in managing patients with MUS, lack of guidelines and the influence of the changed health care environment on the management of patients with MUS.

Four factors of the changed health care environment were found: GPs' negative image as professionals, barriers to building a continuous doctor-patient relationship, limited resources and limited access to specialists and lack of a multidisciplinary primary care team.

Conclusion: Family Doctors should provide personal, long-term relationships to MUS patients. This could be achieved by additional training for under- and postgraduate medics, a better allocation of financial resources for primary care and facilitating access to psychotherapists.

Frequent attendees: a sample from 155 German general practices: identification, diagnoses and service demands

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Background: Frequent attendance in general practice has received considerable attention in recent years, but it is still debated whether or not frequent attendees (FAs) are a homogeneous group or can be identified from their consultation behaviour.

Research Question: To discriminate frequent attendees (FAs) from other patients, also persistent frequent attendees from occasional frequent attendees, and to study their diagnoses and service demands.

Method: 362 163 patients' electronic health records, holding over 4.8 mio face-to-face contacts with their GP from 1996 to 2006, were examined for consecutive interconsultation-intervals (CCI), measured in days. Also, successive CCI differences were calculated. A CCI of 1 to 5 days was defined 'frequent attendance,' a patient with 'frequent attendance' in more than 50% of his CCIs was considered FA. The half of FAs with smaller means of absolute CCI difference values was called persistent FAs, the other half occasional FAs. ICD diagnoses and four groups of GP's services derived from reimbursement data were related to FA status using logistic regression.

Results: 203 939 patients with at least two CCI were found.

Overall CCI frequency distribution is strongly 'left-shifted,' with peaks at days 1, 7, 14, 21, 28. Of these patients, 24 434 (12.0%) were identified as FAs. Male patients have a higher chance to be occasional FA than females (Odds Ratio 1.28, 99% confidence interval 1.22 – 1.34), but for being

persistent FA gender is of no significance (male: OR 1.01, 99%CI 0.97 – 1.06).

Conclusion: A new measure, the interval of 2 consecutive face-to-face contacts (CCI) in days, avoids arbitrarily defined periods of reference (e.g. quarter, year, 2-years), for identifying frequent attendees in general practice. This may be helpful to better define, find and examine a group of highly demanding patients, also for their diagnoses and requests.

Who consults the general practitioner for non-specific low back pain?

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Background: Non-specific low back pain (NSLBP) is one of the most frequent reasons for encounter in general practice. Although, it is often considered a benign condition, some patients with disabling symptoms consult their general practitioner (GP) regularly.

Research Question: To describe the characteristics of the patients visiting their GP for NSLBP and to determine which types of patients consult several times in relation to this problem.

Method: During a five month period, 44 GPs included all patients between 18 and 65 years who visited them for NSLBP. They systematically collected demographic, clinical, social and occupational data during the initial consultation, and recorded any new consultations during the following 30 days. After descriptive analysis, an agglomerative hierarchical clustering was undertaken.

Results: Included were 456 patients (sex ratio 1, mean age 43 years). Sixty-three % had recent NSLBP (less than 7 days), 90% had previous episodes of NSLBP, 14% were compensated for occupational disease, and 24% visited their GP again during the following 30 days. Ten groups of patients were constituted. Two of them had a higher rate of new consultations (44%): salaried workers with semi-recent symptoms and long-term sick leave; young men with recent symptoms and compensation for occupational disease (60%). Three other groups had a lower rate of new consultations: salaried men with recent symptoms and short-term sick leave (12%); young salaried workers with recent symptoms and no sick leave (7%); non salaried workers with rare previous episodes of NSLBP and no sick leave (5%). The other five groups were not characterized by their rate of new consultations.

Conclusion: Knowing more precisely who consults for NSLBP and, among them, who consults several times, can help GPs to pay more attention to patients who need it the most.

Long-term evolution of renal function in patients with Type 2 Diabetes Mellitus: a registry based retrospective cohort study

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Background: Type 2 Diabetes Mellitus (T2DM) is the leading cause of Chronic Kidney Disease (CKD) and Diabetes Kidney Disease is responsible for half of all new patients requiring renal replacement therapy. However, little is known about the evolution of renal function in patients with T2DM.

Research Question: How does renal function evolve (between 2000 and 2010) in patients with T2DM and what are associated risk factors for significant decline.

Method: In a primary care based morbidity registration network, we selected patients, at least 40 years old with Type 2 Diabetes Mellitus and at least two creatinin measurements in two different calendar years and an interval of at least 3 months. Patients were divided in stages of CKD using two eGFR calculated by the MDRD equation. Overall Severe Decline (OSD; decline of > 5 ml/min/year) and 'Sudden Significant Decline' (SSD; year to year decline > 10 ml/min) were calculated. Determinants of SOD and SSD were investigated with logistic regression respectively longitudinal logistic regression

Results: In total, 4 041 patients of whom 1980 women, were included. Mean age was 71 years, mean diabetes duration 7.7 years; 1524 (37%) suffered from CKD of whom 231 (15%) suffered from OSD; 18% of the patients with CKD presented with = 2 SSDs. Introduction of new drugs (statin, ace Inhibitor or anti-diabetic drugs) and appearance of co-morbidity (anemia, osteoporosis, anxio-depression, malignancy) were significantly associated with appearance of SSD ($p < 0.001$). Ace inhibition, Insulin therapy and mean HbA1c were significantly associated with presence of OSD ($p < 0.05$); statin therapy and oral anti-diabetic drugs were significantly associated with absence of OSD ($p < 0.001$).

Conclusion: CKD is highly prevalent in T2DM patients; a minority of patients evolve to severe decline, which is often a 'jerky' process with periods of stable eGFR interspersed with sudden declines.

Exercise prescription and practice in patients with type 2 diabetes

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Background: From a population of 126 primary health care centres in Quito, four were purposely chosen because of patient and doctor's reference. Good and bad patient compliance with exercise as well as private and public health care systems were intentionally looked for.

Research Question: What are the opportunities and barriers for exercise prescription and practice in diabetes type 2 patients?

Method: A phenomenological qualitative approach was used. Twelve interviews were carried out (three nurses, two registered dietitians, three internists, three general practitioners and two patients) as well as four focus groups, before saturation was attained. The transcripts were coded using a grounded theory approach by an anthropologist and general practitioner. They were later analyzed and grouped as opportunities and barriers for exercise prescription and selected according to frequency, extensiveness and intensity of the concepts. The conclusions were then presented to those interviewed to put the results into the original context.

Results: Continuity of health care, being a member of a sports club as well as self-educated patients and health care providers favoured exercise prescription and practice. The barriers for

the compliance with exercise prescription were: a dangerous environment, being a caregiver, the lack of diabetes symptoms, and a threat based relationship with health care providers

Conclusion: Health care providers should offer continuity in health care in an environment that fosters trust, help patients accept their diagnosis, motivate patients to learn about diabetes, and stimulate membership of a sports club.

Pressure to give up my normal life... Illness experiences of patients with type 2 diabetes

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Background: Much attention has been placed on identifying strategies to motivate diabetic patients to a healthy lifestyle. For general practitioners (GPs), a deeper understanding of their patients' illness experiences may be helpful to facilitate lifestyle changes.

Research Question: How do patients experience living with diabetes and pressure to adopt a healthy lifestyle?

Method: Narrative interviews conducted with type 2 diabetic patients for the German Website www.krankheitserfahrungen.de, part of DIPEX International, provided the material for this study. In an initial coding process, we detected 'pressure to give up my normal life' as an experience of utmost relevance for most interviewees. Using grounded theory we analyzed a theoretically selected sample of 14 interviews to reach a substantiated understanding of the interviewees' feeling of pressure.

Results: At the beginning of their illness and sometimes throughout their later life, many interviewees felt a persistent pressure to abstain from most former pleasures. Some considered a GPs advice, for example to lose weight, as a threat to their life and, therefore, legitimized non-adherence. In contrast, whenever they started to form their own, sometimes irrational rules what 'give up my normal life' meant, the pressure often decreased and sometimes even new ways to a more satisfying life opened up. The interviewees had the impression that GPs often underestimated their efforts on basis of measurable facts. Some felt judged as overindulgent only from their bodily appearance and by poor blood glucose values. In contrast, good lab values sometimes served as a positive orientation and even allowed some indulgence.

Conclusion: Guidelines and professional advice are often experienced as a pressure to give up normal life and to be abstinent of life's pleasures. Carefully considering the patient's illness experience when negotiating treatment recommendations may reduce pressure or even give pressure a positive denotation.

Support needs of general practitioners in academic teaching practices - A cross-sectional e-mail survey

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Background: In many European countries, general practitioners (GPs) are responsible not only for the medical care of their patients, but also for practice management.

Research Question: This explorative e-mail survey asked GPs from 180 academic primary care teaching practices, which support they need for their daily work.

Method: A one-page questionnaire containing four questions was e-mailed to all 180 academic teaching practices and lecturers of the institute of primary care medicine. The survey asked, which support a GP wished for 1) medical care, 2) practice organization, 3) personal management and 4) contract issues. In addition, physician and practice characteristics and their preferred information strategies were requested.

Results: The response rate was 31.1% (56/180). An average of 2.6 doctors was working per practice, supported in average by 6.5 medical staff (full- and part-time). The GPs expressed the following needs (descending order): medical issues (71.4%), practice organization (60.7%), personal management (50.0%), and contracts (41.1%). The most frequent support needs in each of the four areas were: specific questions around diagnosis and therapy (38.3%), time management (37.5%), personal recruitment and qualification (57.5%), GP contracts (54.8%). GPs tend to answer their questions using the internet (78.0%), journals (26.8%), and discussion among physician peers (22.0%).

Conclusion: Our exploratory study shows that GPs express needs in all four areas of their daily work. The internet is the most important source of information.

Association of asthma with breastfeeding and C-section in children aged 6–12 applying to tertiary healthcare units: case-control study

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Background: It is known that asthma affects about 300 million people all over the world. Breastfeeding has been revealed in some studies as a protective factor in childhood asthma. Studies have shown that Caesarean (C-)section births increase the risk of asthma in children. Above all, other studies also show that there is no association between the two, making this subject more valuable to study.

Research Question: Is there any association between asthma and breastfeeding duration, and between asthma and C-section? What is the combined effect of breastfeeding duration and C-section on asthma?

Method: In a case control study, cases and controls were collected from Süreyyapasa Thoracic Diseases Hospital and Dr. Lütfi Kırdar Kartal Training and Research Hospital Pediatric Polyclinics, respectively. A self-administered questionnaire, which was prepared by utilizing from ISAAC Tests, has been used face to face. Data was collected, 139 cases and 128 controls, selected according to specific inclusion and exclusion criteria. Data was analyzed by listing SPSS.

Results: The association between breastfeeding period and the frequency of asthma was not significant ($p = 0.831$). The C-Section rate was 38.8% in the case group, and 32.8% in the control group (p for difference 0.184).

Conclusion: In this study, no impact of breastfeeding and C-section has been found on asthma.

Cardiovascular risk factors, cardiovascular risk and quality of life in patients with severe mental illness

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Background: To determine cardiovascular risk factors (CVRF), stratifying cardiovascular risk (CVR) and analyse the relationship between CVR and quality of life in patients with severe mental illness (SMI).

Research Question: Is cardiovascular risk increased in patients with SMI? What is the relationship between cardiovascular risk and quality of life in these patients?

Method: Design: cross sectional study. Setting: Mental Health Service, Consorci Hospitalari de Vic (Vic, Barcelona). Subjects: Patients over 18 years diagnosed of SMI. Main measurements: Socio-demographic variables, toxic habits (tobacco and alcohol), previous pathologies and family history of premature cardiovascular disease. Psychiatric diagnoses. Physical activity. Physical parameters (weight, blood pressure, waist circumference) and laboratory findings (fasting glucose, glycosylated haemoglobin, plasma urea, creatinine, triglycerides, total cholesterol, HDL and LDL, glomerular filtration rate, microalbuminuria, creatinine and urine albumin / creatinine). SCORE and REGICOR. Euro-QOL and Seville Quality of Life Questionnaire's.

Results: Included were 137 patients with SMI, mean age 51.1 years (SD 12.9), 64.9% female. Major CVRF: 40.1% smoking, 37.9% hypertension, 56.2% dyslipidemia and 11.1% diabetes. A 37.9% met criteria for obesity and 48.4% of metabolic syndrome. The average number of major CVRF was 1.5. The CVR was high at 4.6% of the sample using SCORE and 5.4% using REGICOR. Neither the patients who accumulated more than average CVRF or those with high CVR scores showed lower quality of life.

Conclusion: The most prevalent CVRF in patients with SMI are smoking and dyslipidemia, with a prevalence exceeding of population-based studies. No relationships were found between the CVR and the quality of life.

Turkey: effect of smoking ban in closed public spaces on quitting status

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Background: Smoking is the most common preventable cause of death. 'Smoking ban in closed public spaces' went in effect in Turkey on the date of May 19 2008.

Research Question: Is there any change on status of smoking prior to and after this date?

Method: Descriptive study. Sample: the staff of Ankara University Faculty of Medicine İbn-i Sina Hospital. A questionnaire form with 3 open ended questions and 12 close-ended questions was used to elucidate smoking status, degree of influence

by smoking ban in closed spaces, and opinions of the subjects on this issue.

Results: Of the 60 subjects 68% were male, 32% were female. The mean age was 40.72 ± 7.25 . Half of the participants (50%, $n = 30$) were current smokers while 18.3% ($n = 11$) had quit smoking. Sixty four percent (7) of participants who quit smoking had done so before the smoking ban in closed spaces, whereas 36% (4) had stopped smoking after the ban. The first three reasons for participants quitting were desire for a healthier life, family pressure, and financial motives. Of the participants 55% stated a decrease, 7% stated an increase, and 37% reported no change in the number of the cigarettes smoked per day after the ban. Among current smokers, 55% did not consider quitting after the ban, whereas 44% did consider doing so.

Conclusion: This study was too small to draw conclusions.

Smoking characteristics and nicotine dependence scores of women who apply to the Community Oriented Health Centre in Üsküdar, Istanbul

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Background: Professional care and pharmacological agents are known to increase the rate of smoking cessation success by 15–30%. However, studies show that among women replacement therapies are not as effective as behavioural change. Therapeutic intervention tailored to the gender characteristics may be an important tool for primary care health professionals.

Research Question: What can be learned from the characteristics of Turkish women smokers to improve behavioural strategies?

Method: This cross sectional descriptive study was conducted in Üsküdar County (population over 500 000/2008) Women Health Centre, which is a community oriented unit focused on preventive health services. All women who apply to this unit for smoking cessation counselling receive structured therapies by two psychologists. Standard forms are used including questions about individual properties, smoking habits, triggers and motivation of the applicants. Descriptive statistics and chi-square test are used to analyse data.

Results: Between 01.01.2011 and 01.01.2012, 573 women attended the service. The average age was 43 years; 38% were high school graduates; 27% had elementary school, 54% were housewives; 22% started smoking under the age of 16 and 64% between the ages 16–25; 39% smoked more than 1 pack/day and 38% smoked 11–20 cigarettes/day. Overall, 63% mentioned that they had no reason to stop smoking, but 23% said it is for their health, 10% because they are pregnant. Desire to smoke after dinner was the main trigger. Fagerström Nicotine Dependency Test showed high scores in 14%, medium 30%, and low scores 56%. Of high dependent participants, 19% graduated from University, women who started smoking before 15 years of age had higher dependency rates.

Conclusion: Young and higher educated Turkish women should be target groups for smoking cessation counselling.

The effect of lung age feedback with brief smoking cessation advice during routine consultations on smoking habit – Know2quit multicenter randomized control trial

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Background: The lung age from formal spirometry has been shown to increase quit rate at 12 months. The use of spirometry for lung age in General Practice is neither practicable nor cost-effective.

Research Question: To evaluate the effect of the lung age feedback using the Vitalograph during routine GP consultations on smoking cessation intentions and quit rates.

Method: In total, 402 active smokers from 5 General Practices in the South East of Ireland were randomized into 193 control and 209 intervention arms. Allocation groups were concealed in sequentially numbered opaque sealed envelopes. Smoking behaviour and stage on Prochaska's wheel of change (progression) were evaluated before the consultation. All patients received standardized smoking cessation advice during routine consultations. Patients in the intervention arm received, in addition, lung age information derived from a portable Vitalograph. Self-reported quit rates and cessation intentions were assessed at 4 weeks post-intervention.

Results: Self-reported quit rates at 4 weeks in the control and intervention arms were 12.0% and 22.1% (difference 10.1%, $p = 0.01$, 95% CI 1.5% to 18.7%; NNT = 10), respectively. Net positive progression on the Wheel of Change in the control and intervention arms were 7.3% and 29.1% (difference 21.8%, $p = 0.02$, 95% CI 13.2% to 30.4%; NNT = 4.6), respectively. Telling smokers their lung age was equally effective in promoting quitting across all stages of the wheel of change. Smokers with poorer lung age values were just as likely to quit as those with normal lung ages. Smokers in the intervention group were more likely to request pharmacotherapy support ($p < 0.0001$). Cessation support interventions and lung age information had significant independent effects on quitting.

Conclusion: When promoting smoking cessation during clinical consultations, providing 'lung age' bio-feedback to patients using a Vitalograph is a clinically effective intervention to foster quitting and positive intentions towards quitting.

A descriptive study of blood glucose measurements and factors affecting diabetes on women from two different socio-economic profiles in Istanbul

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Background: Glucose metabolism disorders are based on multi-factorial causes. Socio-economic profile has an influence on the prevalence of diabetes.

Research Question: Is there an association between socio-economic profile and risk of diabetes mellitus type-2?

Method: Screening and measurement of metabolic and anthropometric parameters in two groups of women who were not diagnosed with diabetes and who applied to family health-care centres for any reason, which are on the different areas in

socioeconomic aspect. A total of 100 women between 18–50 years of age who have applied to the Gülsuyu (socio-economically poor) and Erenköy (socio-economical-rich) family health-care centres (FHCC), and not diagnosed with diabetes were included. Participants signed an informed consent form. Capillary blood glucose and anthropometric parameters were measured in these individuals. A face to face questionnaire was applied to assess the socioeconomic status. 'T-test' and 'Mann-Whitney U' tests were used in data analysis with SPSS program ($p < 0.05$).

Result: The difference between mean blood glucose levels of participants from two different family health care centres (FHCC) was statistically not significant ($p = 0.97$). Mean values of income, body fat levels, and BMI levels of two groups were statistically significant. ($p \leq 0.01$ for all of them). Fourteen percent ($n = 7$) of women from Erenköy FHCC have BMI levels above 30 kg/m², whereas this percentage is 28% for women from Gülsuyu FHCC.

Conclusion: Anthropometric measurements from Gülsuyu FHCC were higher than that of Erenköy FHCC and this difference is statistically significant. People with high socioeconomic status may have fewer risk factors of diabetes.

STOPP/ START criteria to identify inappropriate prescribing of drugs in elderly patients in primary care in Spain'

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Background: The STOPP (Screening Tool of Older Persons potentially inappropriate Prescriptions) and START (Screening Tool to Alert doctors to Right Treatments) criteria aim to identify potentially inappropriate (IP) drug therapies by defect or excess in older patients. Initially developed by Irish experts in pharmacology and geriatrics, it was demonstrated a significant association of STOPP criteria with avoidable adverse drug events in the elderly in three primary care centres.

Research Question: 1) Can STOPP/START criteria be applied in a primary health care (PHC) setting, and fit the local situation and/or possible changes in scientific evidence since its publication? 2) What is the prevalence of IP based on those criteria in the health region of Vigo?

Method: 1) Review of criteria STOPP/START with Delphi methodology by the Commission of Pharmacy in the area. 2) Audit of electronic medical records including prescription, diagnosis and laboratory results. Subjects and setting: Random sample with replacement (IP expected = 25%, $\alpha = 5\%$, $d = 5\%$), of 127 electronic medical records of patients over 65 with at least one prescription in the last three months in the Vigo Primary Care Region (50 PHC centres, 350 General/ Family Practitioners 139 309 population ≥ 65 years of age).

Results: Out of 87 criteria 85 were considered appropriate for PHC. Two START criteria were considered inappropriate (Bisphosphonates and oral corticosteroid therapy, and Antiplatelet therapy in diabetes mellitus with major cardiovascular risk factor). One new STOPP was suggested: 'Assessment of the use of proton pump inhibitors of the outside its approved indication.' Our prevalence of IP was $9.83\% \pm 1.06$, (70% IP by STOPP criteria and 30% by START). Most frequent IPs were STOPP

(PPI for peptic ulcer disease at full therapeutic dosage for > 8 weeks, and drug duplication).

Conclusion: Our results demonstrate applicability and feasibility of Stop/ Start criteria in PHC.

Adherence to bisphosphonates as registered in the General Practitioners' Information System

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Background: Bisphosphonates are the first choice medical treatment for osteoporosis and are proven effective, achieving 30–50% fracture reduction. However, as in many chronic, asymptomatic diseases, medication adherence is low. Studies based on pharmacy registration systems show that 50% of patients stop treatment within a year. There is no data on this issue from general practice yet.

Research Question: How is adherence to bisphosphonates as registered in the GP Information System? Is it influenced by age, gender, main prescriber (GP or specialist), comorbidity, polypharmacy or contact frequency with the GP?

Method: The database of the Academic Network of General Practitioners of VU medical centre was analysed for this purpose. This network holds anonymous information on all patients in the involved practices. Sixteen practices were selected because their Information System also registers prescriptions by specialists through pharmacy feedback.

For compliance, we measured yearly and overall Medication Possession Ratio (MPR). We measured persistence by calculating days between first and last prescription.

We analysed the data using regression techniques to determine influence on adherence by stated co-variables.

Results: Between 2003 and 2010, 1 678 bisphosphonate users were studied. Using Kaplan Meier analysis, the average persistence after 1 year was estimated at 75%, and 45% after 5 years. Multivariate Cox regression showed that the MPR during the first year and the main prescriber (specialist vs GP) are related to the persistence throughout the entire treatment period. Multivariate logistic regression showed that the OR on overall $MPR > 80\%$ is 100.371 if MPR in year 1 is $> 80\%$ (CI-95% 57.625-174.827). Main prescriber, specialist vs. GP, OR on overall $MPR > 80\%$: 0.423 (CI-95% 0.201 - 0.889) in favour of GP.

Conclusion: Persistence was found to be higher than shown in other studies.

GPs prescribing most recipes and good compliance in the first year of therapy both positively influenced persistence and overall compliance.

Different perspectives on the home-based work of Dutch triagists?

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Background: Around the millennium, the organization of out-of-hours primary care in the Netherlands changed radically.

Since then, general practitioners (GPs) deliver out-of-hour primary care in large scale cooperatives, which are called General Practitioner Posts (GP Posts). The existence of GP Posts in the Netherlands has led to a decrease in evening and night shifts for physicians, as well as to a task shift: triagists have taken over some of the tasks a GP did before. Triagists are specially trained nurses that receive, assess and manage telephone calls by advising patients or referring them to the general practitioner. The central aim of this research was to obtain insight into the (im) possibilities of home-based telephone triage by triagists working at the GP Posts.

Research Question: How do employees of Dutch GP Posts think about the possibility to offer home-based telephone triage?

Method: A Q methodological study was executed to obtain insight into the opinion of employees working at Dutch GP Posts. In a Q methodological study, persons have to rank-order a set of statements about a specific topic. The individual rankings were analyzed in a factor analysis

Results: Seventy-seven respondents executed a Q sort, leading to five distinct factors. Each factor represents a different perspective on the possibility to offer home-based triage: the availability perspective, the proximity perspective, the check ability perspective, the familiarity perspective and the dependency perspective.

Conclusions: The possibility to offer home-based triage as a reserve during unexpected busy hours was seen as positive. Nevertheless, home-based triage would lead to a new form of collaboration between triagists and GPs at Dutch GP Posts. Interesting is that GPs and triagists think differently about the possibility of home-based triage.

Cerumen impaction in Finish patients with schizophrenia

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Background: Cerumen impaction may cause hearing loss and pain. The prevalence of cerumen impaction is 2–6 % in the general population and previously it has been shown to be more common in the elderly living in nursing homes and in patients with mental retardation. Schizophrenia patients suffer from several somatic complaints. Lately research has mainly focused on life-threatening and metabolic diseases but less severe somatic conditions that may also have adverse effects on patients' well-being have been mostly overlooked.

Research Question: We investigated the prevalence of cerumen impaction in a population of outpatients with schizophrenia spectrum psychoses and studied factors contributing to it.

Method: As a part of our study 'The Living Conditions and Physical Health of Outpatients with Schizophrenia' we offered a thorough medical examination for all patients treated in the psychosis rehabilitation clinic of the community mental health centre in the municipality of Mäntsälä, Finland. A general practitioner performed a comprehensive physical examination including an otoscopy of the external auditory canal to determine the presence of cerumen impaction.

Results: Cerumen impaction in one or both ears was found in 12 of 61 patients (19.7 %). It was more common in men than women. Patients with cerumen impaction had lower GAF scores and were more likely to live in a group home. In the logistic regression model, cerumen impaction was significantly

predicted by living in a group home (OR 13.7, 95% confidence interval 3.0 - 64.0, $p < 0.001$), whereas the other variables were not statistically significantly associated with it.

Conclusion: Cerumen impaction is common in patients with schizophrenia, and is associated with low level of functioning.

Quality of life and loneliness in older cancer patients. Preliminary results of KLIMOP, a cohort study on the wellbeing of older cancer patients in Belgium and the Netherlands

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Background: In older cancer patients, additional endpoints such as quality of life might be considered equally relevant as overall survival. Furthermore, the confrontation with age and cancer related problems as functional impairment and loneliness might have an important impact on the patients' quality of life. However, these factors have been understudied and it remains unknown whether problems are due to ageing or cancer related factors.

Research Question: What is the impact of cancer and ageing on the quality of life and loneliness of older cancer patients, six months after cancer diagnosis?

Method: The Klimop-study is an ongoing observational cohort study consisting of three patient groups: older cancer patients (≥ 70 years), older patients (≥ 70 years) without a previous diagnosis of cancer, and younger cancer patients (50–69 years). Data collection takes place at inclusion, after six months, after one year and every second year until death or end of the study. Data collection consists of a personal interview (consisting of socio-demographic information, a comprehensive geriatric assessment, quality of life, and a loneliness scale), a handgrip test, assessment of medical records, two buccal swabs and a blood sample from cancer patients.

Results: Currently, baseline data are available for 499 patients. Quality of life after six months was better compared to baseline for a considerable group of younger cancer patients (46%), but declined in 56% of older cancer patients. Loneliness was a common problem in older patients; 27% of the older cancer patients and 35% of older patients without cancer reported loneliness. In all three groups, loneliness was significantly associated with worse quality of life.

Conclusion: Our results cause concern with respect to the high proportion of older patients with loneliness and the worsening in quality of life of older compared to younger patients six months after cancer diagnosis.

Managing family caregivers of Alzheimer's patients by general practitioners in France

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Background: In France, 40% of the Alzheimer's patients are institutionalized. The presence of family caregivers decreases this rate of institutionalization. But family caregivers may suffer from anxiety or depression, which can lead to somatic complaints: that is the caregivers' burden, which can be measured by the Zarit Burden Inventory. A high score is correlated with a high risk of patients' early institutionalization. The French Health Organization recommends a yearly dedicated consultation on the caregivers' burden by the general practitioner (GP). The GP has also to inform and coordinate different interventions and professionals that could help the family caregivers.

Research Question: What is the actual GPs' management of the family caregivers for Alzheimer's patients in France?

Method: Observational study. Questionnaires have been sent in February 2012 to GPs from the French Cher Department. Data have been gathered about doctors' profile, characteristics of family caregivers' consultation and information given about other professionals or helps.

Results: In total, 205 GPs have been contacted and 118 responded to the questionnaire, 20 of them had received a geriatric formation. The Zarit Burden Inventory was known by 21% of the practitioners. Of all practitioners, 96% talked about the caregiver's difficulties and psychological distress, and 25% talked about the somatic disease prevention. 24.8% proposed a dedicated consultation. The caregiver's burden was usually discussed in a consultation for the Alzheimer's patient (65.7%) or for the caregiver but initially planned for another reason (61.9%). Of all practitioners, 73% addressed the caregiver to an association, a psychologist or a formation group. The barriers met by the other practitioners were: their own limits (lack of time, knowledge), the setting (no structure, rural area) and the caregivers' limits (refusal, discouragement).

Conclusion: Inter-professional relationships' strengthening could be a way to improve the management of family caregivers for Alzheimer's patients, especially in rural areas.

COPD and Loneliness

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Background: In this study, the relationship between COPD grades and the loneliness degrees of the patients was investigated. It is known that treatment compliance is very important in COPD. The feeling of loneliness affects the mental status of patients, which is the decisive factor of treatment compliance. Thus, the relationship between loneliness and the severity of COPD will guide the clinician in the follow-up of the disease.

Research Question: Does the score of loneliness scale change with the COPD grade in COPD patients?

Method: This descriptive study was conducted in COPD polyclinics of Yedikule and Süreyyapaşa Pulmonary Diseases Training-Research Hospitals. 142 patients diagnosed with COPD included. UCLA-LS (UCLA Loneliness Scale) and self-administered Patient Identification Form were applied to patients by interviewing. Demographic-clinical information was obtained from patients' files. Patients were classified according to the GOLD 2011 Classification. Correlation and regression analysis were performed using SPSS.

Results: The study population consisted of 33 women and 109 men. The mean age was 64.46 (± 12.50). The mean score of UCLA-LS was 37.97 (± 10.83), of the patients in grade D was 40.5 (± 6.1) and in grade B was 36.2 (± 5.3). The asso-

ciation between the UCLA-LS score and grades of the cases was statistically significant ($p = 0.019$). Correlation analysis was performed between UCLA-LS score and gender, marital status, occupation and number of friends; association between UCLA-LS score and being widowed, being unemployed, or not having a friend was statistically significant ($p < 0.05$), but the association with gender was statistically not.

Conclusion: The score of loneliness scale changes with the COPD grade. Grade D patients, unemployed patients, widowed patients, and those who have no friend had higher UCLA-LS score.

Telescoping bias in a two-phase retrospective survey by questionnaire

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Background: Survey by questionnaire is a widely used method in research. Several biases are known. Fatigue implies the patient's withdrawal from the study or, to a lesser degree, to an underestimation of the reported events. Telescoping relates to a wrongly placed event in time. Few studies have tried to quantify those biases.

Research Question: What is the size of telescoping in a two-phase retrospective survey?

Method: A health survey by questionnaire was conducted in two communities near Liège in Belgium. Both phases were identical and separated by two months. Participants had to mention the health problems from which they suffered during the month preceding the interviewer's visit. Fatigue was evaluated by comparison between the two phases of declared health problems requiring a daily intake of drugs. Telescoping bias was measured comparing the number of isolated problems declared during the two phases.

Results: During summer 2009, 537 participants were interviewed twice. During the first visit 1522 health problems were recorded, and 1120 during the second one. The measured telescoping bias concludes of an overestimation of 33% of the declared number compared to the first visit (significant $p < 0.001$). Demographic factors have no significant effect. Fatigue bias was not significant either ($p < 0.001$) with a concordance of 78% of declarations.

Conclusion: Telescoping effect induces a large overestimation of the declared events during a defined period. Regular recording of the required events in a list might decrease this bias.

Appropriate prescribing for older people: a new tool for the GP

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Introduction: Inappropriate prescribing encompasses the problems of polypharmacy, under-treatment and incorrect prescribing. GPs are aware of their key position in relation to

prescribing practice, but they often feel powerless to deal with polypharmacy. Several tools have been developed to assess and support prescribing practice for older people. The use of such tools has not become common practice.

Research Question: Do the participating GPs consider that the AMO tool to assess the medication lists of nursing home residents is practically feasible and will result in more considered prescribing? What changes are observed in relation to medication lists and general well-being among patients after using the AMO tool?

Method: This exploratory study with an interventional design and without a control group was conducted over a period of six months.

Results: This study shows that from the perspective of GPs, applying the AMO tool to medication lists for nursing home residents is practically feasible and leads to more considered prescribing. Further, a slight reduction was recorded in the number of medications after six months. General well-being improved for patients and rose in parallel with the number of medication changes.

Conclusion: The AMO tool is capable of offering them the support GP's need.

Implementation of NICE 69 clinical guideline reduced inappropriate antibiotic prescriptions for upper respiratory tract infections, in an emergency department in Quito, Ecuador

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Background: Self-limiting upper respiratory tract infections (URTIs) are the first cause of morbidity in Ecuador. Inappropriate use of antibiotics for URTIs increases bacterial resistance, undesirable side effects, and health care costs. Implementation of relevant clinical practice guidelines could be helpful to address this problem.

Research Question: What are the effects on the antibiotic prescription patterns for URTIs of a multifaceted approach to implement a clinical guideline in an ambulatory emergency setting?

Method: Quasi-experimental before and after study conducted in the emergency department of a third level private hospital located in Quito, Ecuador. A multifaceted intervention was used for the implementation of the NICE69 guideline 'Prescribing of antibiotics for self-limiting respiratory tract infections in adults and children in primary care.' Information on antibiotic prescription patterns for RTIs was collected at random from 114 clinical records during the pre-implementation phase, and 114 records during the post-implementation phase. Main outcomes include the antibiotic prescriptions rate, and difference of proportions of appropriate and inappropriate prescriptions. During the three months implementation phase, emergency staff was instructed on the use of NICE69 and participate adapting the guide. Knowledge reinforcement and internalization was aided with educational materials, patient information sheets, SMS and e-mail reminders.

Results: At baseline, 43% of patients with URTI were prescribed antibiotics, 77.6% of these prescriptions were inappropriate. After the intervention, the rate of antibiotic prescriptions

dropped from 43% to 18.4% ($p < 0.001$) (95% CI 12.1% - 37%). Appropriate antibiotic prescription according to the NICE69 guideline increased from 22.4% to 66.7% ($p = 0.001$). Reported complications related to URTIs did not increase. After the trial period, hospital administration decided to adopt the NICE69 as hospital protocol.

Conclusion: A stepwise and multifaceted approach for the implementation of clinical guidelines significantly reduced the inappropriate use of antibiotics for URIs.

Teaching Clinical Reasoning by use of electronic Virtual Patients

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Background: In medical education, students and junior doctors have to learn how to make the right decisions while evaluating and treating patients. This skill is called clinical reasoning. After acquiring basic knowledge and learning facts about physiology and pathology, decision-making competencies have to be developed.

Research Question: Does learning with virtual patients (VPs) in general medicine improve the clinical reasoning skills of medical students in key feature tests?

Method: The study was performed in a general medicine course with 129 students, who were split into 6 parallel, weekly seminar-teaching groups. Randomly selected students of each group were given access to electronic VP cases via internet on the topic of the preceding seminary lesson. Later, a key feature test, as introduced by Page and Bordage, on the clinical reasoning skills of all students was conducted by questionnaire. The test results of the students with and without usage of VPs were compared with a Cochran-Armitage test for trend.

Results: After using virtual patients for a median time of less than one hour, students showed much better results in the key feature tests than their peers who had not used VPs for learning.

Conclusion: Using electronic VPs for learning is a possible method to teach clinical reasoning. Using this method as add-on to a face-to-face seminar-teaching course is an easy way to integrate it into a curriculum.

Associations between generic substitution and patient-related factors

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Background: Generic substitution means that chemically equivalent but less expensive drugs are dispensed in place of a brand name product. Although generic medicines by definition are bioequivalent to their brand name counterparts, there are concerns about whether generic substitution is always accompanied by clinical equivalence in terms of effectiveness

and that it may cause concerns and thereby causing some scepticism towards generic substitution. There is, however, a lack of knowledge about whether some groups of patients may be influenced by drug-switching.

Research Question: We want to identify characteristics that distinguish the two patient groups: one group that has experienced a generic switch and one that has not.

Method: A cross-sectional questionnaire was designed on beliefs about medicine, views on generic medicine and confidence in the health care system. The study comprised 2476 patients (736 users of antidepressants, 795 users of antiepileptics and 945 users of other substitutable drugs). For each patient, we focused on one purchase of a generically substitutable drug. Data were linked with a prescription database.

Results: We found no associations between generic substitution and, respectively, gender, age, drug group and polyparmacy. Earlier switches of the index drug are statistically significant associated with acceptance of generic substitution (adjusted OR 6.01 95% CI 4.77; 7.58). However, having switched more than 5 times with other prescribed medicine reduces the odds of receiving a generic switch of the index medicine (adjusted OR 0.70 95% CI 0.50;0.97). Negative views on generic medicines had a significant negative effect on switching generics in the antiepileptic and antidepressant groups (antiepileptics OR 0.37 and antidepressants OR 0.53).

Conclusion: We did not find any patient-related factors associated with generic substitution; however, patients who have once experienced a generic substitution with a specific drug are more likely to switch again despite scepticism towards generic substitution.

How do patients with uncontrolled diabetes in the Brussels-Capital Region seek and use information sources for their diet?

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Background: The purpose of this study was to understand how type 2 diabetic patients with unregulated blood glucose levels (HbA1c > .140 mg/dL) seek and use information sources for their diet.

Research Question: How do patients with uncontrolled diabetes in the Brussels-Capital Region seek and use information sources for their diet?

Method: A qualitative study using focus group interviews with individuals with type 2 diabetes. Each interview was recorded, transcribed literally, and analysed thematically.

Results: This study shows that GPs were the most important information source. Other important information sources included other healthcare professionals, family and friends, television, and the Internet. All patients received passive information about their diet at diagnosis. Patients who actively sought information used a variety of information sources and displayed the same search pattern over time. All patients desired to receive more information about their diet. They favoured written information and information that is readily available. The main problem was patients' perception of the

accessibility of information and the passive, 'non-participatory' role patients displayed towards their care.

Conclusion: The main problem is how patients perceived the accessibility of information.

A propensity-matched study of the effect of diabetes on the natural history of heart failure in Spain

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Background: Cardiovascular diseases have a significant impact on health care services. Congestive heart failure (CHF) is emerging as a major public health concern. The CHF problem is magnified in individuals with diabetes. To date, several prospective studies have provided estimates of CHF incidence in large populations, but specific information on the relationship between diabetes and CHF in Spain is very limited.

Research Question: The aim of this study is to estimate CHF incidence rate in patients with diabetes, compare it with a matched non-diabetic group, and describe risk factors for developing CHF in diabetic patients over 5 years of follow-up.

Method: Longitudinal study following a cohort of patients 50 years and over in an area of the city of Madrid using information extracted from electronic medical records from primary care. Propensity score for CHF was calculated for each patient using a non-parsimonious logistic regression model incorporating all measured baseline covariates, and was used to match diabetic patients with non-diabetic patients.

Results: Of a total of 115.288 patients included in the database in 2006, 20.453 (17.7%) had diabetes. Patients with diabetes were older than non-diabetics (67.54 vs 70.18 year). Risk of developing CHF was 4.3% in diabetics and 1.9% in non-diabetics. After propensity matching, the relative risk was 1.59. Other factors also associated with a significant risk for the development of CHF were arrhythmias (3.63), valve diseases (3.38), ischemic heart disease (2.12) obesity (1.51), stroke (1.40), and hypertension (1.29).

Conclusion: As compared to non-diabetic patients, diabetic patients have an RR of 1.6 to obesity CHF during five years of follow up.

Sensitivity and specificity of the screening tests for diabetic peripheral neuropathy

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Background: According to the guidelines, diabetic peripheral neuropathy (DPN), should be screened periodically. However, there is an ongoing discussion about the screening method of DPN, especially in primary care setting.

Research Question: Which screening test for DPN should be used in primary care?

Method: A prospective study. All diabetic patients, aged 18–65 years, who admitted to the family medicine outpatient clinics (FMOC) of Marmara Medical School, between March and July

2012 and accepted to participate in the study, were enrolled. Socio-demographic characteristics, diabetes history of the patients were recorded. For the evaluation of DPN, diabetic neuropathy score (DNS), vibration perception threshold (VPT) and Semmes-Weinstein Monofilament test (= 4 positive points was accepted as positive) were done in the FMOC. VPT was measured with diapason at 128 and 256 Herz. As gold standard test, electroneuromyography (ENMG) was applied to the same patients by a trained physician. The sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of each test were calculated.

Results: Hundred patients were included. Of these, 64% were women. Median age was 54 years (32–79), median diabetic duration was 6 years (1–27) and median HbA1C level was 6.6 (4.5–15.3). Sensitivity, specificity, PPV and NPV of VPT (128 Hz) were 27.0%, 95.2%, 76.9% and 69.0%, respectively. For VPT (256 Hz), the values were 67.6%, 71.4%, 58.1% and 78.9%. Sensitivity, specificity, PPV and NPV of DNS were 94.6%, 27.0%, 43.0% and 89.5%, respectively. Monofilament test's sensitivity, specificity, PPV and NPV were calculated as 43.2%, 84.1%, 61.5% and 71.6%, respectively. Mean diabetic duration of the patients who had neuropathy was significantly higher than the others (10.67 vs 6.58 years, $p = 0.006$).

Conclusions: VPT-128 Hz had best specificity and PPV, whereas DNS had best sensitivity and NPV.

Providing cardiovascular prevention for younger, healthy patients in family practice

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Background: Cardiovascular prevention is an important task of family physicians. Most activities are directed toward the population of high risk. The younger population is addressed mainly by public health activities.

Research Question: To explore the advice received and patient expectations in the group of younger, healthy patients. To find the determinants of realised preventive activities in this patient group.

Method: cross sectional study, random sample of 36 general practices, stratified according to the size and location participated in the study. Each practice included up to 40 patients from the patient list, aged 18–45 years, with no CVD. The instrument was a questionnaire asking about several patient characteristics (demographic, behavioural regarding use of medical services), their life style, received advice and opinion on advice received. Each practice completed the questionnaire on practice characteristics. We performed basic descriptive analysis and multilevel logistic regression to analyse the effect of predictors on received advice.

Results: In the analysis, 937 patients (response rate 65%) were included. Patients stated they received advice on physical exercise in 49%, smoking in 36%, bodyweight in 33%, consultation on several aspects of life style in 45%. The worst scores were for consultation on children's life-style (22%) and educational websites (20%). Most patients found the advice useful. Advice to quit smoking was perceived as least useful. Patient characteristics, such as self assessment of health, and hypertension, and practice characteristics, such as information system, were related to received preventive intervention.

Conclusion: The level of advice received in the group of younger healthy population was low, but the advice was perceived as useful. Patients with isolated risk factors get advice more often than those without them and those who are probably more interested in health (self assess their health better) receive more advice.

Evaluating the burden of COPD in patients undergoing a pulmonary rehabilitation programme in a primary care setting. A systematic review

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Background: Current evidence suggests that a pulmonary rehabilitation (PR) programme for less advanced COPD could be offered in a primary care setting to enhance or maintain daily physical activity (DPA). DPA is believed to play a role in patients with less advanced COPD in developing systemic consequences and co-morbidities, which contributes to the whole burden of COPD. Yet, it remains unclear if PR programmes in primary care have investigated the effect of their intervention on the whole burden of COPD.

Research Question: To investigate the effect of PR in individuals with COPD on human functioning, within the World Health Organization International Classification of Functioning, Disability, and Health (ICF) model, and its restrictions in everyday activities and social involvement.

Method: Pubmed, EMBASE and 'Physiotherapy Evidence Database' were systematically searched. Only randomised and controlled clinical trials were eligible for inclusion provided they investigated the effects of a PR program in primary care for patients with less advanced COPD ($FEV_1 > 50\%$ of pred.). Independent data extraction was performed by two authors using predefined data fields. Risk of bias was rated using standardized documents of the Dutch Cochrane Centre. Outcome measurements and instruments were classified using ICF as the frame of reference.

Results: Eleven studies were found, all of moderate methodological quality. The results show that all studies measured the effect of a PR programme by the ICF component 'Body function and structures.' Only six studies assessed the effect of the intervention on the component 'Activities and Participation,' where only one study objectively assessed the amount of daily physical activity by a pedometer.

Conclusion: Primary care PR programmes for patients with less advanced COPD are evaluated by clinical outcomes that assess body function and structures. It is recommended to assess objectively the daily physical activities as well.

Primary care staff vaccination for influenza is higher than university hospital staff

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Background: Influenza vaccination has proven clinical and epidemiological benefits. However, its uptake is still suboptimal amongst the health staff.

Research Question: Is vaccination for influenza higher in primary care staff than university hospital staff?

Method: The study was performed following a campaign of the Ministry of Health of Turkey for the influenza vaccination of healthcare workers. Primary care health professionals of Kayseri and Erciyes University hospital staff were enrolled in the study. Of the 672 primary care health professionals in Kayseri, 552 (82%) completed a questionnaire comprised of 19 questions. The university hospital staffs who were involved in the study were 731.

Results: Overall, 420 (76.1%) of the Family Health Centre (FHC) staff and 364 (49.7%) of the university hospital staff were vaccinated ($p < 0.001$). Of the FHC professionals, 275 (74.3%) of women and 145 (79.7%) of men were vaccinated, both were statistically significant as compared to the university hospital staff ($p < 0.001$). Vaccination rates were higher in FHC staff both for married and single staff ($p < 0.001$), and at all jobs other than clerks and x-ray technicians. Of the staff with no chronic disease, vaccination was higher in FHC staff ($p < 0.001$). The rate of being previously vaccinated was higher in FHC staff (22.7% vs. 8.5%) ($p < 0.001$). Adverse effects, fever, headache and weakness were reported significantly higher at university hospital staff (38.5 vs. 25.3%, 41.1 vs. 27.0% and 39.7% vs. 27.7%, respectively) ($p < 0.05$).

Conclusion: The FHC staff in our study group has been vaccinated with influenza vaccine significantly higher than university hospital staff.

Relationship between upper respiratory infection frequency, asthma like symptoms and cigarette smoking

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Background: The aim of this study is to evaluate the relationship between upper respiratory infection frequency over a one year period and allergic symptoms and cigarette smoking in a primary care population.

Research Question: Is there a relation between upper respiratory infection frequency, asthma like symptoms and cigarette smoking.

Method: ECHRS (European Community Respiratory Health Survey) questionnaire was applied and cigarette smoking history was evaluated in a primary care population. Patients' history of upper respiratory tract infection in a year was evaluated retrospectively. A median of URTI frequency and risks of URTI in a year were calculated statistically. All statistical analyzes were performed using SPSS 20 software. Binary Logistic Regression Analysis was performed and Odds Ratios were calculated for each group.

Results: Total of 140 adult patients (64 men, 76 women, aged (median \pm std. dev) 46.2 ± 15.5) were included in the study. The overall prevalence of rhinitis, current asthma, asthma like symptoms were 37.9%, 8.6%, 49.3%, respectively. URTI risk was found 4.2 fold (OR = 4.2, CI (1.8 \pm 9.9) $p = 0.001$) in smokers compared with non-smokers. URTI risk was found 2.6 fold (OR = 2.6, CI (1.2 \pm 5.5) $p = 0.10$) in patients with asthma like symptoms.

Conclusion: Findings support the evidence that having asthma-like symptoms and cigarette smoking are risk factors for upper respiratory infections.

'When women victims of intimate partner violence start talking....' Qualitative study including of eleven female intimate partner violence victims in Rhône, France

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Background: Intimate partner violence is a real public health problem in France and one out of ten women suffer from this. Violence has severe consequences on the victims' mental and physical health. As a result, women victims of intimate partner violence consult primary care doctors twice as often as non-victims. However, the disclosure of the abuse is rare and the practitioner ignores the evidence of a violent situation 75% of the time.

Research Question: Identify barriers to disclosing the abuse in front of doctors and women's expectations in matter of health care.

Method: Qualitative study including eleven semi-directed interviews of women in Rhône, France, who have been victims of intimate partner violence and who wish to start talking about it today.

Results: Barriers to disclosure that may be linked to the women include the fear of being judged, the fear the practitioner will doubt the existence of violence or the belief that he is helpless regarding the situation. Barriers can also be linked to the practitioner, such as lack of attention, lack of information displayed or the fact that the consult takes place within the spouse's presence.

The women seek a doctor knowing how to be a good listener, empathetic and who acts on what they confide. Furthermore, they seek a doctor knowing 'what to do:' question, inform and have efficient referrals.

Conclusion: Empathy is fundamental to the doctor-patient relationship, and might permit doctors to more easily discover situations of domestic violence.

Sex education among adolescents in rural areas in France

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Background: Adolescence is a landmark in life during which sexual identity and adult sexuality are thought out. Sex education is rarely fully implemented although it is a legal obligation. Lack of sex education has important implications for public health regarding STDs and unwanted pregnancies.

Research Question: As sex education among adolescents in rural areas is rarely studied, our study aimed to explore the matching of needs (possibly specific to this environment) and available resources. Among all parties, these aspects were

particularly explored for adolescents and general practitioners in rural areas.

Method: Surveys of institutions, caregivers, adolescents and general practitioners on the specific involvement of rural areas (ie. the Bocage Virois) in the needs of adolescents of an easy access to resources for sexuality and sex education. Through interviews and questionnaires, these surveys were simultaneous to an inventory of available resources and particularly of the contribution of general practitioners and caregivers to adolescent sexuality.

Results: Institutions seemed to fulfil their centralized missions but accurate data were complicated to collect. Adolescents living in rural areas felt wrongly informed about sexuality with risky behaviours similar to those of other adolescents. General practitioners, like other professionals in direct contact with teenagers were not properly informed and did not have the capacity each in their field to put as much effort as necessary in sex education.

Conclusion: As part of the paradigm shift to reduce care consumption by developing primary prevention, it seems essential to actually implement sex education by professionals well trained on the subject.

Medical Education in Ecuador: challenges to improve obstetrical skills for rural practice

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Background: Obstetrical outcomes in Ecuador are a problem. Maternal mortality ratio is 78% and the first cause is postpartum bleeding. Medical education is hospital based and provided in the larger cities. Students have little or no contact with rural areas until they do a compulsory rural health service after their final year. Rural practitioners provide more obstetrical care and perform more procedures than their urban counterparts. There is little information on quality training obstetrical needs.

Research Question: Which are the obstetrical skills necessary for rural practice in Ecuador? What is the performance of final year Universidad Técnica Particular de Loja (UTPL) students for obstetrical skills?

Method: A survey, based on inventory of obstetrical skills, was sent to UTPL students from 4th to 6th year ($n = 220$) and their teachers ($n = 15$), students from 6th year ($n = 68$), teachers ($n = 23$) and residents ($n = 37$) from the Family Residence program at Pontificia Universidad Católica del Ecuador (PUCE) and rural doctors in southern Ecuador ($n = 90$). An Objective Structured Clinical Evaluation (OSCE) for the current taught skills in UTPL was performed among 39 final year students.

Results: A total of 392 answers from 453 people define the major obstetrical skills: taking blood pressure, pelvic examination and pap smear, episiotomy and repair, control of labour, management of postpartum hemorrhagic problems and new born resuscitation. Most students do not pass the OSCE for the current taught skills in the traditional curriculum. According to the identified inventory of major obstetric skills, the OSCE shows that medical students do not have the necessary skills.

Conclusion: This study identifies the necessary obstetrical skills for rural doctors in Ecuador. Results show that final year students are not prepared for obstetrical care in rural areas.

STUDY IDEAS

Task delegation in general practice. A study from Denmark

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Background: In the developed world general practice is experiencing an increasing workload due to the shortage of general practitioners (GPs) and demographic and political developments. A solution to this problem could be non-physician clinicians substituting GPs, especially in the treatment of chronically ill patients. However, further research is needed on the possible implications for the patients and the working environment in the clinics.

Research Question: What tasks do GPs delegate to non-physician clinicians in general practice? How does this task delegation correlate to job satisfaction, patient satisfaction and quality of care?

Method: This cross-sectional study performed in the Region of Southern Denmark will partly be based on data from questionnaires and partly on data from registers.

To explore the satisfaction of the patients we use a validated questionnaire, DanPEP (Danish Patients Evaluate General Practice). We will develop our own questionnaire to provide insight into job satisfaction amongst doctors and personnel. Quality of care, according to the recommendations in clinical guidelines, will be analysed based on data from the Danish National Health Service Register on the services provided by the GPs. Finally, we will analyse the correlations between the above mentioned outcomes and a categorisation of the current task delegation in general practice. All general practices in the region are invited to take part in the study ($n = 809$).

Expected Results: We expect the study will provide valuable insight into the current task delegation in general practice and that there will be a significant correlation between this and the outcomes of interest. Results may be used in the future organisation of general practice regarding treatment of chronically ill patients.

Implementation of new knowledge in general practice - association of organisational structure, motivation and quality of care

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Background: We know that, despite many efforts, there is still a substantial variation in the quality of care in general practice. One of the efforts has been development of evidence-based clinical guidelines. Yet, it has proven difficult to change the clinical behaviour accordingly. This means that new knowledge created through research does not benefit the patients.

Research Question: How do general practitioners implement new knowledge?

How does the structure of implementation correlate to quality of care for chronically ill patients? What motivates general practitioners to change their clinical behaviour?

Method: To investigate the structure in which general practitioners (GPs) implement new knowledge and what motivates them to do so, we are developing a questionnaire to be sent out to all GPs in Denmark (approximately 3600). The questionnaire will be based partly on a systematic literature review and partly on semi-structured interviews with GPs who are strategically selected to obtain maximum variation. The quality of care will be assessed using data from the Danish Health Service registers on the services provided on an individual practice level. These measures will be chosen according to evidence-based recommendations from clinical guidelines, and will hence be a measure of professional quality.

Expected Results: We expect that the study will not only show, whether there is any significant association between the structures in which implementation takes place and the delivery of evidence-based quality of care. It will also add valuable insight into how new knowledge is implemented in general practice, and what motivates GPs to change their clinical behaviour. We believe that results obtained in this study will help reduce the gap between research and practice. Also, it will provide new knowledge that can be used to include implementation as an element in GPs' further educational programmes.

Local coordination between levels of care: opportunities and threats

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Background: Coordination between levels of care is not compulsory in the Belgian health system. Patients have direct access to specialists. Hence, competition between professionals and fragmentation of care do occur. A strategy that improves communication and coordination between actors and stakeholders at a local scale represents a solution to develop integrative care oriented to people and community. The Local Health System (LHS), launched 15 years ago with some success in specific settings in Belgium, is the model used for this experience.

Research Question: What could be the opportunities and threats to improve coordination between levels of care in various local contexts?

Method: The research is carried out in the Walloon region of Belgium simultaneously in 3 different areas, each one being centered on one hospital. It consists in developing contacts with stakeholders of the first two levels of care to gain their confidence and to obtain their agreement on the project before going on with the operational phase of a further Action Research. An external research team conducts a 3-step approach: 1. Raising local professionals' awareness on advantages of coordination; 2. Presenting the existing LHS experience; 3. Analyzing the opportunities and threats in the local context.

Expected Results: Creation of a mixed team of the first and second levels of health care professionals and stakeholders in each area; Analysis of the opportunities and threats to LHS implementation in different contexts; Increased empowerment and confidence in each others of health care professionals and stakeholders; Initiation of an Action research process

aiming at implementing and adapting the model to the local context. The follow-up of concrete local experiences allows the identification of the conditions to be taken into account to develop functional local health systems.

Intersectoral collaboration solving Primary Health Care problems in social risk families: an ongoing research project

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Background: Holistic health care should focus not only on the medical services - disease prevention, treatment, rehabilitation – but also on social services especially for social risk families. Considering current Lithuanian Primary Health Care (PHC) problems such as insufficient orientation towards family care, lack of understanding of team work and intersectoral collaboration principles, solutions searching for new effective health and social care collaboration models.

Research Question: The aim of the project is to reflect current cooperation between PHC providers (family physicians and community nurses) and their cooperation with social institutions solving PHC problems in social risk families.

Method: Current situation of collaboration between social and health care institutions will be assessed using triangulation technique (i.e. qualitative and quantitative interview of social and health care providers, as well innovative vignettes method to evaluate the cooperation between PHC providers). Based on the results and international experience, it is planned to provide and present a new collaboration model of good practice. The case - control study of the efficiency of the new collaboration model will be performed in the families with increased social risk in the experimental PHC settings during year 2013.

Expected Results: The findings of the project will be a background for a further successful intersectoral and multidisciplinary collaboration implementation in National level. In addition, practical recommendations will be prepared for family physicians, community nurses and social workers.

Interprofessional education: how do students perceive an interprofessional course?

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Background: Collaborative practice in health care is essential for the provision of patient-centred, responsive and high-quality care. Interprofessional education is necessary to promote this practice, to define common values between professionals and clarify their roles. However, students in health education programs learn with no exposure to students in other health programmes. Since 2009, a 6 days long multi-professional course has been implemented

in Rennes (Britanny). Every year, 106 students gather from eight health vocational fields as dieticians, ergotherapists, nurses, physiotherapists, GPs, podiatrists, chemists and midwives.

Research Question: After this course, how do students perceive collaborative practice? What is their feeling towards the multi-professional course?

Method: A qualitative descriptive interpretative study is on going, conducted by semi-structured interviews. The targeted population is participants of the first seminar in 2009 – 2010, who are now practicing. Students from different healthcare professions will be interviewed until data saturation. After a fully retranscription and a hand-coding, data will be treated by a thematic cross-case analysis.

Expected Results: Analysis is still in progress. Healthcare professionals should learn how to work together, respectfully of everyone's knowledge, skills and abilities.

Inter-professional collaboration and communication in nursing homes: a qualitative exploration of problems in medical care for nursing home residents and development of improvement strategies (INTERPROF)

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Background: In Germany, the importance of high-quality nursing and medical care in nursing homes is increasingly recognized. Due to demographic changes, the number of people needing care is growing. Nursing home residents are increasingly frail and multimorbid. For a high quality medical care, mutual understanding between nurses and general practitioners (GPs), as well as nursing home residents and their relatives is fundamental.

Research Question: What is the current 'status quo' of collaboration and communication between the professional groups in nursing homes (from the perspective of the professional groups)? What are the needs and expectations of the professional groups, nursing home residents and their families?

Method: At first, the respective needs and problems will be explored in face to face interviews with GPs, nurses, residents and their relatives for example covering the process of the GPs' visits or the inter-professional disclosure of information. Simultaneously, GPs' visits in nursing homes will be observed directly. With the direct observation we get a genuine insight into the daily lives (the workday) of participants. Findings as well as possible solutions will be discussed in mono- and inter-professional focus groups. Based on all the results, we will develop a model of communication.

Expected Results: We expect a profound insight into inter-professional collaboration and communication processes, barriers, problems, difficulties, hidden agendas, possibilities, and prospects and their impact on the quality of medical care delivered to nursing home residents. We also expect to gain new knowledge about patients' and families' perspectives, needs and expectations later in the project. Perceivable new organizational models as case conferences, family visits and special

nursing home physician meetings will be assessed yielding valuable information for health care politics.

An assessment tool of communication to improve physician - patient therapeutic alliance

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Background: The physician - patient therapeutic relationship is central for patient management. It should be done with the intention of improving the therapeutic alliance. This is of high importance for medical students in learning the core competence of communication.

Research Question: What is the most effective, reliable and feasible assessment tool of communication to improve the therapeutic alliance between physicians and patients? Secondary objectives are to translate and promote it for the training of medical students.

Method: The study will be conducted in four stages. (1) Systematic review of literature, according PRISMA guidelines, to select the existing tools. (2) Realization of a Rand Uccia Method (RAM) with 30 medical expert teachers to select the most effective, reliable and feasible tool. A Delphi procedure will be conducted to rank tools by level of efficiency and reliability. Only the first 3 will be kept for the further. Then a panel meeting with experts will be undertaken to discuss the feasibility of these tools. A second and last Delphi procedure will be done to rank those three tools by feasibility. At the end of that step, one assessment tool will be selected. (3) Forward/backward translation of the selected tool using a Delphi consensus procedure with 30 bilingual medical expert teachers. (4) Evaluation of the selected tool for medical education using a quantitative method.

Results: Not yet.

Which cognitive test correlates best with Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL) in the primary care setting? A collaborative study between Sweden and Italy in patients over 80

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Background: With the growth in elderly populations, it is important to find objective measures that can be used by primary care physicians to assess not only cognitive impairments but also to predict objectively the level of self-autonomy. The Mini mental state examination (MMSE), A Quick Test of Cognitive Speed (AQT), the General Practitioner Assessment of Cognition ((GPCOG), the Mini -Cognitive Assessment Instrument

(Mini-Cog) and the Montreal Cognitive Assessment (MoCa), are popular tests in the Primary Care setting are going to consider for our study.

Research Question: Which of cognitive tests (MMSE, AQT, GPCOG, Mini-Cog, and MoCa) correlates best with ADL and IADL in the Primary care setting?

Method: The setting of our collaborative studies is several practices in Sweden and Italy. The study will start in March 2013. Inclusion criteria will be: patients aged > 80 who for any reasons come to the attention of their GPs. Exclusion criteria: patients affected by severe mental disorder and/or unable to sign the informed consent.

About 100 patients in Sweden and 100 in Italy will be enrolled in this project. These patients will be tested with the cognitive tests described above. Data related to ADL and IADL will be obtained by interviewing caregivers. Spearman's rank correlation will be used as non parametric test as measure of statistical dependence between ADL/ IADL and the cognitive tests. The time it takes to perform the different tests will also be measured.

Expected Results: This study will help GPs to choose the tool, which best predict patients self-autonomy. Afterwards a qualitative survey will probably be needed to find out more about the feasibility, asking the GPs and the GP's staff what they think of the different tests. A Pilot study with 15 participants in each country will test the feasibility of the study.

Risky drinkers in primary care: effectiveness of facilitated access to an alcohol reduction website

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Background: Although screening and brief interventions have been proven to be effective in reducing alcohol consumption, at-risk drinkers are rarely identified in primary care and only few of them receive brief interventions eventually. Scarce evidence exists regarding their implementation in primary care in Italy. An alcohol reduction website could be an attractive alternative to the face-to-face brief intervention.

Research Question: The study aims at evaluating whether facilitated access to an alcohol reduction website for at-risk drinkers is effective as much or more than a face-to-face brief intervention conducted by GPs.

Method: Practices in a region of northern Italy will be invited to participate in the trial. Patients aged 16 and over will be eligible for the online screening based on the three-question Alcohol Use Disorders Identification Test (AUDIT-C). Those scoring positive will be requested online to participate in the trial. After baseline assessment with the ten-question AUDIT and EQ-5D questionnaires, they will be randomly assigned to receive either online facilitated access to the alcohol reduction website (intervention) or face-to-face intervention based on the brief motivational interview by their GPs (control). Follow-up will take place at three, six and twelve months after randomisation by requesting participants to complete the AUDIT-10 questionnaire online. Particular attention will be given to the website design to maximise engagement and optimise response rates; each GP will have the opportunity to create a tailored experience for their patients, and games features and an online alcohol diary will be provided.

Expected Results: The outcome will be calculated based on the proportion of risky drinkers in each group according to the AUDIT-10. This study aims to determine whether an online, alcohol reduction facility is a viable alternative to face-to-face brief intervention. This could have major implications for the future delivery of behavioural change in general practice.

ACHIL: Methodology of the evaluation of the national care trajectories diabetes and chronic kidney disease

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Background: To improve quality of care for chronic conditions, in 2009 the National Institute for Health and Disability Insurance created Care Trajectories (CTs) for diabetes mellitus type 2 (T2DM) and chronic kidney disease (CKD). A CT, formalised by a contract between patient, GP and specialist, aims to ensure integrated, evidence-based, multidisciplinary and structured care for chronic diseases in primary care.

The ACHIL study assesses the effect of CTs on quality of care improvement, defined as adherence to guidelines, based on quality parameters of processes and outcomes.

Research Question: Does inclusion in a CT lead to better quality of care for chronic disease, both over time and in comparison with other clinically comparable patients?

Method: Design: cohort study and cross-sectional study. Setting: Belgium, primary care. Respondents: Belgian patients who started a care trajectory between 01/06/2009 and 31/12/2011. Data sources: 1) limited outcome data on all CT patients, provided by all Belgian GPs, 2) reimbursement process data on all CT patients and a control group of diabetic patients, 3) data from a sample of CT patients and a control group from an electronic registration network of GPs and 4) data from a sample of CT patients and a control group from a paper based national sentinel GP network. Analyses: By logistic multilevel analysis of cross-sectional and longitudinal data, the effect of the main predictor (inclusion in the CT) on the outcome (evolution in obtaining a target of a quality indicator for diabetes or CKD between 2006 and 2011) will be estimated, taking into account potential confounders.

Expected Results: Aim of the CT is to be a significant predictor in obtaining targets of quality indicators in several domains of care for T2DM and CKD. Results will be available from May 2013 on.

Statins and risk of incident diabetes: a retrospective observational study project in a large primary care database in Italy

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Background: An original investigation of Culver et al. observed an increased risk of diabetes in women treated with statins. Although several metaanalysis have put forward the hypothesis of a possible diabetogenic effect of statins, this finding is far from being accepted by the entire scientific community and other studies are needed to confirm this hypothesis.

Research Question: Does statin therapy increase the risk of diabetes mellitus? Can it be evaluated in General Practice?

Method: Data source will be the database of Tuscany Region (3.638.211 inhabitants). Inclusion criteria: Patients randomly selected among those at high risk of a first major cardiovascular event. Proposed exposure variable: continuous use of statins according to the DDD (Defined Daily Dose) for at least 1 year, outcome variable onset of diabetes. Assuming from previous studies that the prevalence of diabetes mellitus in this selected high risk population is about 7.5% we have calculated that for a power of 80% a CI of 95%, with a proposed OR of 1.2, we need a sample of 90 600 patients (45 300 cases and 45 300 controls). We will propose three Cox proportional hazard models to examine the association between statin use and diabetes mellitus development: with unadjusted Hazard Ratio; with sex, age and ethnicity HR; with all potential confounding variables at the baseline HR (BMI, smoking, comorbidities etcetera).

Expected Results: This study will help to confirm or not the hypothesis of a diabetogenic effect of the statins.

What do our patients need? - A qualitative study for the development of a patient-centered health educational model for high cardiovascular risk - patient education

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Background: Patient education is a crucial element in the treatment and care of patients with high cardiovascular risk. It includes the education about healthy lifestyles (diet, exercise), moderate alcohol consumption, smoking cessation and therapeutic compliance.

Despite its importance, most models for patient education are based on a professional or theoretical understanding of patients' needs for learning rather than on a patient perspective. Patient education programmes thereby risk neglecting themes and issues that are important to patients, which may limit their effectiveness.

Research Question: The aim of the present study is to explore the needs and perceptions of patients with high cardiovascular risk relating to education for risk reduction.

Method: We will explore the perceptions, needs and experiences on risk reduction education of patients with high cardiovascular risk (SCORE > 5%). Four focus groups will be conducted with 10 adult patients between September and December 2012. Additional focus groups will be conducted if needed, until saturation is reached. For the focus groups customized

tools will be used to generate a dialogue about specific themes: diet, exercise, alcohol consumption, smoking cessation and therapeutic compliance. The sessions will be video recorded and the analysis will be based on the constant comparative method. The results from the sessions will be presented to a group of 6 health care professionals who will then be asked to translate them into 5 priorities for patient education at the Primary Care level, using a Delphi approach.

Expected Results: A better understanding on the needs and perceptions of patients with high cardiovascular risk relating will allow us to implement a patient-centered approach in what concerns their education for risk reduction.

Efficacy and security of Gabapentine versus placebo in the prevention of post-herpetic neuralgia in Primary Care: A protocol randomized double-blinded controlled trial

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Background: Postherpetic neuralgia (PHN) is the most common complication of Herpes Zoster (HZ). Severe pain during the acute phase of HZ is a known risk factor for development of PHN, because of the central hyper excitability caused by nociceptors during the acute phase, accompanied by axonal injury. Several meta analyses indicate that the use of a systemic antiviral within 72 hours could reduce the incidence of PHN. However, for patients treated with systemic antiviral drugs who still suffer from moderate or severe pain, gabapentin could reduce incidence of PHN by the attenuation of central sensitization. The result of a recently published experimental study with no control group to evaluate the effect of treatment with gabapentin is promising because of the low incidence. We propose an RTC to evaluate the efficacy of gabapentin treatment in the acute phase of HZ and its effect on the incidence of PHN.

Research Question: To evaluate the efficacy of optimal doses of gabapentin for five weeks in the acute phase of HZ added to the usual treatment, in reducing the percentage of patients without PHN at six and 12 weeks of the onset, quality of life improvement and benefit/risk ratio in patients > 50 years with moderate/severe pain.

Method: In a multicenter, double-blind, randomized, parallel clinical trial 190 patients will be recruited. A 25% reduction in the incidence of PHN is expected (VAS score > 0) at 12 weeks. Primary care physicians will include incident cases of HZ with moderate/ severe pain and aged > 50 years old. After randomization to each treatment, arm patients will receive standard treatment against HZ (Valaciclovir, more analgesic treatment) and gabapentin or placebo during the first five weeks. The final evaluation is performed by an assessor blinded to treatment arm using the Visual Analogue Scale (VAS).