

# The vital aspects of human capital for health-care professionals in the communication process with clients during the value creation in the extramural health-care in the Netherlands

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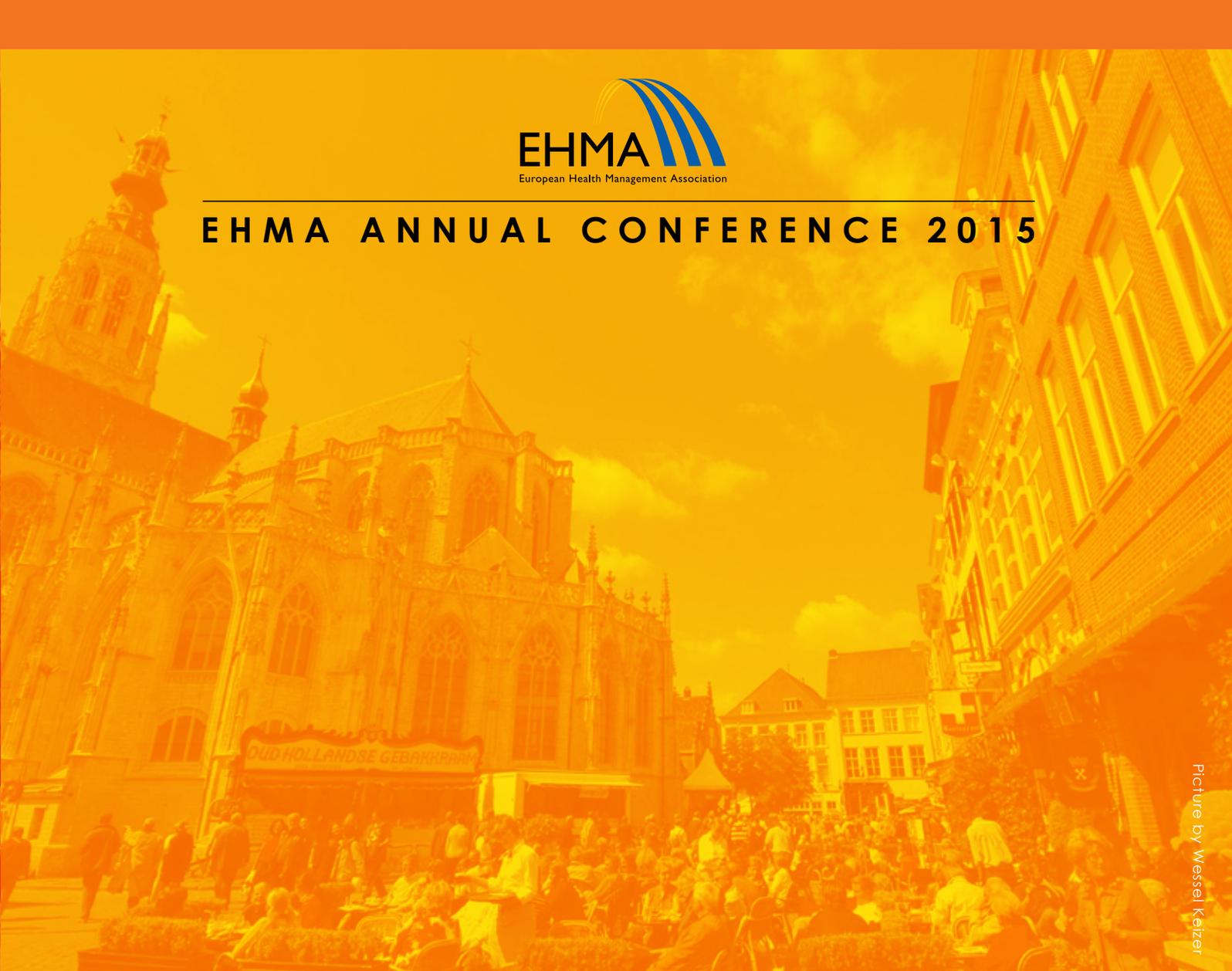
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Picture by Wessel Kelzer

## EVIDENCE-BASED MANAGEMENT: BETTER DECISIONS, BETTER HEALTHCARE

15-17 June 2015

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# ABSTRACT BOOK

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Monday 15 June

10.00-12.00

Special Interest Group (SIG) on Best Practice in Management

## Selecting the best practices from innovative experiences: The Observatory of Innovation in Healthcare Management in Catalonia

Montse Moharra

Agency for Healthcare Quality and Assessment of Catalonia, Spain

### **Context**

The aims of the Observatory of Innovation in Healthcare Management in Catalonia are to collect, validate, organize and value, mainly, the knowledge of the Catalan health system, from many innovative experiences that are being developed today. The Observatory brings together the efforts made by the organisations in innovating in several spheres of management. It provides a forum for compiling some of the best practices observed in the system, drawn up based on the identification of innovative initiatives. It offers an innovation community web page fostering interaction among 400 professionals who exchange their experiences.

### **Methods**

The process to register an innovative experience starts first with the signing up in the Innovation community. Innovative experiences should meet criteria on implementation, bringing a change, impact on resources and scalability. Secondly, organisations may submit a self-assessment of their experiences. Then, the review and the self-assessment evaluation of the innovative management experiences constitutes the third context in which the Observatory operates, conducting a quality analysis that goes far beyond a mere compilation of experiences solely based on mandatory criteria. Finally, the identification of innovative experiences allows compiling some of the best practices observed in the system. The purpose of the Best Practices process is to identify the distinguishing characteristics and the outcomes of the best experiences carried out in the healthcare system to propagate and scale.

### **Results**

Currently there are three best practices that have been identified: Adequacy of prescription in primary and community healthcare consisting of the planned and standardised withdrawal of chronic medication in elderly and poly-medicated patients; The Online pre-op which consists of a virtual appointment where the professional anaesthetist gathers information from the patient's different data sources; The Teledermatology practice which starts when the primary healthcare physician photographs a skin condition and schedules a virtual visit with the dermatologist. The three best practices offer advantages for patients and professionals in terms of greater satisfaction for patients (improvement in quality of life, reduction of risk of side effects) and for professionals (prioritisation of time and optimisation of primary health care resources). Concerning savings, the three experiences reported estimated savings resulting from the withdrawal of medications from patients, savings per scheduled procedure or a reduction in the waiting list for specialist care among others.

### **Discussion**

The Observatory of Innovation in Healthcare Management in Catalonia offers also a public forum for posting and showcasing innovative management experiences and therefore constitutes a display cabinet for organisations to publish their experiences and it also forges ties with other institutions and creates synergies and joint projects. Key drivers to identify the best practices are not only based on the reduction of costs of healthcare but also on the benefits of innovation in terms of improvement access and scalability to other settings.

## Using a risk management framework to address the concept of a “boundaryless hospital”: A case study of the A&E department in Malta

[Sandra C. Buttigieg](#)<sup>1,2</sup>, Dorothy Gauci<sup>1</sup>, Prasanta K. Dey<sup>2</sup>

<sup>1</sup>University of Malta, Msida, Malta, <sup>2</sup>Aston Business School, Aston University, Birmingham, UK

### **Context**

The 2008 global financial crisis has had an impact on health systems' performance (Karanikolos et al., 2013). Amongst the top priorities, the most costly, and with the highest risk in any health system are the Accident and Emergency (A&E) services. The main aim of this research is to improve quality of care in accident and emergency (A&E) unit of a Maltese tertiary-level hospital by adopting a risk management framework to identify risk factors that affect the quality of care, analyse their likelihood and impact, and develop responses to mitigate those risks.

### **Methods**

This study uses a case study method and through involvement of focus group, first a risk management framework is formulated. Second, risk factors are identified with respect to processes, human and materials resources, and infrastructures using cause and effect diagram. Third, the likelihood and impact of risks are determined using risk map / grid. Fourth, mitigating measures are derived through brainstorming among the participating health professionals.

### **Results**

This study bridges the gaps through identification of risk factors, analysing them and developing risk responses with the involvement of healthcare professionals. This helps the health professionals to make decisions on implementing quality improvement projects through appropriate analysis of service level and efficiency. Additionally, this allows practising preventive approaches in quality of care.

### **Discussion**

To avoid constraint by inertia, any organisation or department, like A&E, should constantly evaluate itself with performance measurements and risk assessment. This helps to keep the momentum to improve the value drivers of the organisation towards a fully efficient and 'no risk state'. Healthcare organisations, including A&E, are considered as professional complex adaptive systems (Chassin and Loeb, 2013) leading to insights for improving the service from within. If the risks of non-achievement of quality in A&E are studied and appropriate mitigating measures are undertaken, not only one can improve A&E performance but this improvement will cascade to the rest of the hospital so that the overall hospital performance would be substantially enhanced. The proposed framework could be adopted in any healthcare system for achieving superior quality of care through risk management principles.

## Free choice of provider - an evaluation of a new policy in Stockholm county council

Marianne Hanning<sup>1</sup>, Mats Lundström<sup>2</sup>, Michael Högberg<sup>3</sup>

<sup>1</sup>Dept of Public Health and Caring Sciences, Faculty of Medicine, Uppsala University, Uppsala, Sweden,

<sup>2</sup>Dept of Clinical Sciences, Ophthalmology, Faculty of Medicine, Lund University, Lund, Sweden, <sup>3</sup>Public Healthcare Services Committee Administration, Stockholm County Council, Stockholm, Sweden

### Context

To strengthen the patients position a market reform for Cataract surgery was introduced in Stockholm County Council (SCC) in 2009. The previous system with procurement of providers was changed into a system with authorization of providers. The new terms allows free establishment and competition between providers and freedom of choice of providers for citizens. Providers are publicly financed with a fixed price per episode containing assessment, operation and a check-up visit afterwards. We evaluate the impact of the reform on resource use, organization and volumes of surgical procedures, as well as indication for care, prioritization and outcome quality.

### Methods

Effects of the reform are analyzed through comparative descriptive statistical analysis before (years 2006 and 2008) and after the introduction of the reform (years 2009 and 2013). The situation in SCC is also compared to the rest of Sweden. Data comes from the Swedish national cataract registry SNCR, which covers more than 95 % of all procedures in the country. Indicators of quality and prioritization of patients are waiting times-, patient's self-reported quality and indication for care.

From the SNCR was also obtained number of units and physicians at each unit, volume of procedures and the patient's views on the result after operation.

From the SCC we obtained data of costs and reimbursement to providers and documents describing the content of the reform.

Data were age standardized before comparison. To analyze the importance of different patientmix between SCC and the rest of Sweden a logistic regression analysis was performed.

### Results

The number of units performing cataract surgery in SCC has increased from 5 to 10, all privately owned, after implementation of the reform and 34 surgeons have been recruited during the study period. Number of operations increased with 43 % in SCC 2008-2009 but a lower price per operation kept down the increase in total cost to 18 %. Majority of patients were women, 60 % in 2013. Mean age were approximately one year older in rest of Sweden, 74 years compared to 73 in SCC in 2013. The quality indicators improved from 2009 in SCC compared to the rest of Sweden. Access to care improved and waiting time to operation has decreased in SCC as well as in Sweden in total.

### Discussion

The "free choice reform" for cataract surgery led to an allocation of resources to private providers and a huge increase in production. With a fixed price productivity has improved and waiting times been reduced. Neither patient selection nor fear of capacity surplus after operation of initial bulk of waiting patients seems to be a problem so far whilst indications for operation have been maintained within allowed limits. The reform also had a positive effect on quality. SCC showed better results than the rest of Sweden. Introduction of market competition and the use of public reporting on the internet in SCC where clinics are compared with validated indicators from SNCR are believed to have had strong impact on quality improvement. Overall results of the reform seem to be cost-effective. The increase in total cost for cataract surgery could however lead to a shortage in the financing of other healthcare areas.

## Evidence-informed Management of Chronic and Age-related Conditions in Europe

[Lucinda Cash-Gibson](#), [Magdalene Rosenmöller](#), [Olena Tigova](#)  
IESE Business School, Barcelona, Spain

### Context

While there is agreement on potential benefits of integrated care to respond to changing demand for care (ageing, increased chronicity and multi-morbidity), there is limited ability to translate learnings from integrated care experiences into practical lessons for large scale adoption and effective management. The complex nature of integrated care, its multifaceted interactions and range of professionals, often lacks a clear link to impact on outcomes.

FP7- EU Project INTEGRATE: Benchmarking Integrated Care for better Management of Chronic and Age-related Conditions in Europe' aims to gain valuable insights into management of integrated care practices, convert them into policy and managerial recommendations.

### Methods

Project INTEGRATE is organised in three phases:

- Phase I: Study four EU case studies on established integrated care practices - COPD, Diabetes, Geriatrics and Mental Health - applying a common methodological framework to all to analyse and identify key components seen as main contributors for integrated care success.
- Phase II: Building on Phase I findings, these key components are to be analysed with respect to their relevance to the following five horizontal/cross cutting themes: care process design, human resources management/skill mix, financial flows, patient involvement and ICT management. Due to the specificity of each area, the analyses use different methodological processes, but the emphasis is to differentiate the generalizable aspects from the context dependent aspects, across/within each of these five themes.
- (Future Phase III will review findings from Phase I and II will be contrasted with international evidence and lessons will feed into the managerial/operational and policy recommendations).

### Results

So far Project INTEGRATE has contributed to the integrated care evidence based by publishing Phase 1: findings from the four EU case studies on established integrated care practices, and the common methodological framework (mixed methods approach) used to allow for the extraction of key transferable learning from the four cases, taking into account context-dependency.

We will also present first ideas on the horizontal/cross-cutting themes (care process design, human resources management/skill mix, financial flows, patient involvement and ICT management) findings and on future policy and operational recommendations.

### Discussion

Project INTEGRATE aim to identify important elements for the successful management and delivery of integrated care at various levels, to support better health outcomes and well-being, patient and professional satisfaction and cost- effectiveness. In order to do so, Project INTEGRATE aims to strengthen the evidence base for integrated care by facilitating international cross-context comparisons and the in-depth consideration of the horizontal crossing cutting themes), and increase the transferability of findings from highly context-specific findings to other settings, and aims to develop concrete practical policy and operational recommendations.

*We gratefully acknowledge the financial support of the European Commission (GA.305821- Project INTEGRATE).*

## Long-term Impacts of Disasters - Implications for European Public Health Systems

Margit Raich<sup>1</sup>, [Nina Lorenzoni](#)<sup>1</sup>, Christine Adler<sup>2</sup>, Stefan Duschek<sup>1</sup>

<sup>1</sup>UMIT – Private University of Health Sciences, Medical Informatics and Technology, Hall, Austria,

<sup>2</sup>LMU – Ludwig-Maximilians-University of Munich, Munich, Germany

### Context

For European countries it is essential to collect information about long-term effects of disasters (e.g., flood, terror attack) on the public health system in order to answer in an adequate way to the needs of the people affected. The objective of this study is to identify long-term impacts on health system performance, security and health protection by analysing five selected European case studies. The study is part of the international multi-disciplinary project PsyCris (PSYcho-social Support in CRISIS Management) that is funded by the European Union with the overall objective to improve psycho-social support in crisis management.

### Methods

A case study approach was chosen for the identification of long-term impacts. Five different European disasters served as base for the data collection. The disasters happened at least 10 years ago in order to measure long-term impacts. Based on the results of the literature review, the research team developed a questionnaire that served as assessment tool for the chosen disasters. The collected information consists of existing studies, reports and other sources (e.g., photos, interviews, film documentations). Additionally, interviews with stakeholders who have participated at the disaster provided the research team with further insights concerning the long-term effects of the disasters.

### Results

Many long-term impact variables with regard to health system performance, security and health protection were identified in conjunction with different time frames. The impact variables and time frames strongly depend on the nature and extent of the disaster, affected people, existing infrastructure etc. The identified long-term impacts are the result of collected experiences and reflective analysis of operations and results from each disaster (e.g., which implications can be drawn because of operations that lead to the adaption of emergency plans, communication structures, laws, infrastructure, etc.). The detailed analysis of each case study has shown, that new structural, procedural, and legal concepts have been developed and implemented in elements of public health systems.

### Discussion

Our chosen holistic approach gave deep insights into each case study. Especially the understanding about undertaken or missing reactions supported the process in identifying long-term impacts. Many identified long-term impacts on health care systems are the result of a learning process because of inadequate outputs in the past. Each disaster is characterized by event specific conditions, pre-impact conditions, the existing physical and social vulnerability of the people affected and the standard of the emergency system. The public health care has to react differently, depending on the recovery needs of the people affected. Based on the learning experiences of each disaster we are able to evaluate key strategies and measures from a public health care system perspective.

## Disruptive Innovations in Health Care Systems: A Comparison of their Potential in the US and the German System

[Stefanie Steinhauser](#)

University of Regensburg, Regensburg, Germany

### Context

The theory of disruptive innovation (Christensen 1997) explains how disruption substantially changes industries and makes their products and services cheaper and more accessible. The health care systems of developed countries are only beginning to be affected by disruptive innovations. At the same time, they are faced with continually rising costs that will no longer be tenable. Against this backdrop, Christensen, Grossman, and Hwang (2009) proposed a concept to solve the problems of mature health care systems by applying the theory of disruptive innovation. They identified three components of disruptive innovations: technological enablers, business model innovations, and a coherent value network.

### Methods

In order to examine the potential feasibility and impact of disruptive innovation in the context of the US and the German health care systems, a review is conducted based on the concept for the disruption of health care systems by Christensen, Grossman, and Hwang (2009). Since the authors focus their illustrations primarily on the system of the United States and build their concept on its existing structures, the question arises as to which extent the concept can be transferred to the German system. Therefore, a comparative analysis is conducted in order to apply their approach to both health care systems and identify best practices with disruptive characteristics in both the American and German contexts.

### Results

Similar to HMOs, disruptive integrated providers incorporate their own insurance, physicians, and hospitals. HMOs are already leading to significant cost savings in the US. The integration of care in Germany is far less developed. Nevertheless, its impact can be analyzed by investigating the pre-existing schemes for the integration of health care (Integrierte Versorgung). These schemes have shown potential for reducing costs. Beyond this, new business models such as retail clinics can treat simple illnesses more cheaply than previously in physicians' offices and therefore offer care for patients who cannot afford established providers. While retail clinics proliferate in the US, the premises for their implementation are not favorable in Germany as of yet. Furthermore, mHealth technologies can be employed in order to utilize decentralized care that is cheaper, convenient, faster, and more accessible. This way, the treatment of chronic diseases in particular can be improved in both health care systems.

### Discussion

In summary, the prerequisites for the implementation of disruptive best practices seem more favorable in the US than in Germany since there are already more structures in the US health care system that can be developed into components of a disruptive value network. The penetration of the German health care system would require larger changes in culture, regulation, and reimbursement than in the US.

Monday 15 June

10.00-12.00

Evidence on the capability approach: better perspective on sustainable employability and disability

## Sustainable employability as capability

[Jac van der Klink](#)<sup>1,2</sup>, [Ute Bültmann](#)<sup>2</sup>, [Alex Burdorf](#)<sup>3</sup>, [Wilmar Schaufeli](#)<sup>4,5</sup>, [Fred Zijlstra](#)<sup>6</sup>, [Sandra Bouwer](#)<sup>2</sup>, [Gert Jan van der Wilt](#)<sup>7</sup>

<sup>1</sup>Tilburg University, Tilburg School of Social and Behavioral Sciences, Tranzo, Tilburg, The Netherlands, <sup>2</sup>Department of Health Sciences, Community and Occupational Medicine, University Medical Center Groningen, University of Groningen, Groningen, The Netherlands, <sup>3</sup>Department of Public Health Erasmus Medical Centre, Rotterdam, The Netherlands, <sup>4</sup>Research Unit Occupational & Organizational Psychology and Professional Learning University of Leuven, Leuven, Belgium, <sup>5</sup>Department of Social & Organizational Psychology Utrecht University, Utrecht, The Netherlands, <sup>6</sup>Department of Work & Social Psychology Maastricht University, Maastricht, The Netherlands, <sup>7</sup>Radboud Institute for Health Sciences, Radboud University Medical Centre, Nijmegen, The Netherlands

### Context

In all European countries more and prolonged labour force participation throughout a worker's life is necessary to face the social and economic realities and challenges of an ageing society. This requires renewed attention for the relation between work and health, with a special focus on sustainable employability. In the meantime, our concepts and appreciation of health and work are rapidly changing. The position of health shifted from an outcome in the classical WHO definition to a determinant in the WHO-ICF framework. Work and the valuation of work changed substantially in recent decades too.

### Methods

Evaluating existing models of work and health, we concluded that prevailing models are lagging behind by the dynamic changes in work. In the context of our current society work needs to create value, not only for the work organisation but also for the individual worker. So, for sustainable employability in the current work setting it is crucial that workers can attain significant goals in their work that are concordant with their core values. The capability concept of Amartya Sen provides a framework that can meet the complexity of sustainable employability in relation with the new concepts of work and health. In the Capability approach (CA), the emphasis is on the concept of 'capability': valuable potentials that an individual should be able to realise in the real environment; in other words: the set of opportunities that are valuable and important for people, and that are actually within their range of possibilities.

### Results

The CA has added value because it gives direction to existing models that are largely balance and FIT-models, but from which it cannot be determined where the looked-for equilibrium or fit lies. The CA has as starting point the value that work should create for the organisation as well as for the worker and the responsibilities that both the context and the individual have in realising this. The combination of value, being enabled and being able constitutes a (work) capability.

Based on the CA a definition and a model of sustainable employability were developed. The model can serve as starting point for an assessment tool to operationalise sustainable employability. Moreover, it can give direction to interventions to enhance sustainable employability.

### Discussion

The added value of the CA is that it challenges researchers, policy makers and practitioners to look for what is important and valuable for people to realise in a given (work) context and whether people are able and enabled to do so. Because it is an explicitly normative model, the CA is, better than prevailing models, able to reflect the dynamics in and the challenges of present day's work. It depicts a valuable - and obligatory - goal, i.e. a set of capabilities that constitute valuable work, rather than merely describing relationships between variables, as existing descriptive models do. The CA can give direction to (and within) the balance and fit models: what aspects of a fit are important, where is the motivation aimed at, what resources are needed and what aspects of work are rewarding and contribute positively to the effort-reward-balance of a worker.

## Development of a capability set for sustainable employability

[Femke Abma](#)<sup>1</sup>, [Sandra Brouwer](#)<sup>1</sup>, [Ute Bültmann](#)<sup>1</sup>, [Iris Arends](#)<sup>1</sup>, [Gert Jan van der Wilt](#)<sup>2</sup>, [Jac van der Klink](#)<sup>3,1</sup>

<sup>1</sup>Department of Health Sciences, Community and Occupational Medicine, University Medical Center Groningen, University of Groningen, Groningen, The Netherlands, <sup>2</sup>Radboud Institute for Health Sciences, Radboud University Medical Centre, Nijmegen, The Netherlands, <sup>3</sup>Tilburg University, Tilburg School of Social and Behavioral Sciences, Tilburg, The Netherlands

### Context

Studies show that individual capabilities, work-related factors, and health status profoundly impact workers' abilities to be actively engaged in paid employment and to prolong their meaningful contribution to a productive society. Instruments are needed to identify an individuals' capability set that allows him/her to achieve valuable work functionings. Therefore, the aim of this study is to develop a capability set for sustainable employability.

### Methods

Various methods were used to develop the capability items. First a literature search was conducted to identify existing capability instruments or items in other areas besides sustainable employability, providing insight in different ways to operationalize capability items. Second, interviews with workers were conducted to explore what is needed for workers to value their work and what is needed to continue working. Additionally, a second literature search was conducted to identify valued aspects of work.

### Results

The input from the literature and the interviews, together with a group discussion in the consortium led to the content of 7 capability items important for sustainable employability. For all items it is asked if A) people think this aspect is important, B) their work offers them sufficient opportunities to do it, and C) they are able to succeed in realising it. Analyses showed significant relations between the capabilities and the three outcome measures work ability, work productivity and future work participation (i.e. how many years do participants expect to continue working). Different capabilities were more relevant for different outcome measures.

### Discussion

A new questionnaire was developed to measure people's capability for work based on Sen's capability approach. The development was based on interviews with workers and literature on work values. Seven capability items were operationalized to assess a workers capability set for sustainable employability. It was shown that the larger the capability set i.e. a synchrony between what is valued in work and what can be realized, the better scores on most (work) outcomes, e.g. work ability, work performance and work functioning. The new capability for work questionnaire is unique because the items go beyond the valued aspects of work by incorporating whether a worker is able to achieve what he/she values in his/her work. The results show that the capability for work questionnaire can serve as a proxy measure of sustainable employability.

## How Capability Mediates the Impact of Job, Organizational, and Personal Resources on Work Outcomes

Wilmar Schaufeli <sup>1,2</sup>, [Maarten Cuijpers](#) <sup>3</sup>, Alex Burdorf <sup>4</sup>, Gert Jan van der Wilt <sup>5</sup>, Fred Zijlstra <sup>3</sup>, Jac van der Klink <sup>6,7</sup>

<sup>1</sup>Research Unit Occupational & Organizational Psychology and Professional Learning University of Leuven, Leuven, Belgium, <sup>2</sup>Department of Social & Organizational Psychology Utrecht University, Utrecht, The Netherlands, <sup>3</sup>Department of Work & Social Psychology Maastricht University, Maastricht, The Netherlands, <sup>4</sup>Department of Public Health Erasmus Medical Centre, Rotterdam, The Netherlands, <sup>5</sup>Radboud Institute for Health Sciences, Radboud University Medical Centre, Nijmegen, The Netherlands, <sup>6</sup>Tilburg University, Tilburg School of Social and Behavioral Sciences, Tilburg, The Netherlands, <sup>7</sup>Department of Health Sciences, Community and Occupational Medicine, University Medical Center Groningen, University of Groningen, Groningen, The Netherlands

### Context

Due to demographic and economic changes retirement age has been increased. Simultaneously, globalization and competition created a more flexible labor market with volatile and more demanding jobs. Also our conceptualization of health has changed over the years, which now also includes its psychosocial aspects. These developments call for a renewed attention for the relation between work and health and, hence, for sustainable employability. Drawing on the notion of capability of Amartya Sen, the role is investigated that a worker's capability-set (the opportunities at work that are actually realized, or can be realized in the near future) plays in sustainable employment.

### Methods

An online survey was completed by a sample of 1,157 employees that is fairly representative for the Dutch working population, aged between 16 and 65. Three work outcomes were assessed as proxies of sustainable employability; workability, work performance and work engagement, which refer to its health, behavioral, and motivational components, respectively. Moreover, job demands, job resources, person-job-fit, personal resources, and organizational climate, were included as potential antecedents of the capability set. The employee's capability-set was assessed using a novel scale, whereby a high score indicated that valued aspects of work are present in the current job and/or can be realized.

### Results

It was hypothesized and found in a series of regression analyses that the employee's capability-set indeed plays a mediating role between job characteristics (job demands, job resources, person-job-fit), psychological climate and personal resources (psychological capital) on the one hand and three work outcomes that act as proxies for sustainable employability (workability, work-performance, and work engagement). As far as the effect sizes are concerned, the indirect effect sizes of the antecedents, via capability, on the three outcome measures can be interpreted as (being close to) medium. Only emotional demands did not have an indirect effect.

### Discussion

It seems that the combination of opportunities that are present in the employee's jobs and can be realized by them and a work context that is conducive in realizing these opportunities is crucial for attaining desired work outcomes that are both relevant for the organization as well as for the individual workers (i.e. workability, work performance, and work engagement). That means that an employee's capability-set constitutes a core element of his or her sustainable employability. The fact that employees have a set of values options from which they can choose makes them less vulnerable to changes in their work environment and thus contributes to their sustained employability.

## A Capability Perspective on Disability

[Patricia Saleeby](#)

[Southern Illinois University, Carbondale Illinois, USA](#)

### Context

As disability rates increase, there is a greater need for professionals to be effectively prepared to practice among individuals with disabilities. Disability has become increasingly recognized as the dynamic interaction of the individual and his/her environment - specifically, the demands of an impairment, society's interpretation of it, and the broader societal context of disability. Sen's capability approach enables a better understanding of the impact of impairment on individual functioning regardless of the setting. Rather than focusing solely on individual capacity measured in clinical settings, capabilities represent real opportunities - the combination of individual ability, environment factors, and one's real-life situation.

### Methods

This study operationalized the Welch Saleeby schematic representation of the capability approach using the WHO's International Classification of Functioning, Disability and Health. The ICF provides a comprehensive classification of body structures and functions, activities and participation, and the environment. Students in social work used the ICF to code various case studies that addressed functioning in major life areas (e.g. education and employment) both pre and post interventions. First, participants used the ICF and ICF Checklist (Clinician Form for ICF) to code their own case. Secondly, they completed A Comprehensive Service Plan (O'Hare, 2007) - a multi-dimensional functional assessment - using their same clinical case. Subsequently, students were given a follow-up to the same cases ("a second encounter") that reflected changes in the functional status and environmental/personal factors for their respective case. Participants used this information to re-code their cases and indicate changes in any qualifiers including environmental barriers and facilitators.

### Results

The clinical cases involved in this study provided information articulating individual goals (rehabilitation, treatment) so coders were able to determine both potential (capabilities) and actualized (functioning) outcomes in various major life areas including home, work, and community. Student participants were able to effectively use the ICF framework, ICF classification, and the ICF codes (Body Structures and Functions, Activities and Participation, and the Environment) in their coding assignments. Moreover, participants were able to make more realistic and informed decisions involving their cases as a result of evidence provided. Qualifiers were slightly problematic to most students since these were considered too subjective. Qualifiers like environmental barriers and facilitators were easier to both understand and implement for social workers, but qualifiers like capacity and performance were more problematic due to their greater subjectivity. Participants did consider them relevant since they practice in varied clinical settings such as home, school, work, and community.

### Discussion

Preliminary findings indicate the utility of the capability approach and the ICF for improving workforce training of social workers in the area of disability and health. Specifically, a capability approach as operationalized through ICF facilitated participants in better addressing interventions and outcomes as well as emphasized the importance of moving beyond functioning to address capabilities as a more effective measure of disability. Overall, evaluation of ICF training demonstrated the utility of the ICF for addressing treatment and intervention planning as well as determining functional outcomes. Using the ICF to operationalize a capability approach can contribute to improved understanding of health, mental health, disability and functioning.

Monday 15 June

11.00-14.00

## Evidence-Based Treatment within Mental Health

## Do guidelines in psychiatry lead to better clinical practice?

[Anton van Balkom](#)

Dept. of Psychiatry VU-University Medical Centre and GGZinGeest, Amsterdam, the Netherlands

### Context

It appears from a review of the literature that a considerable number of psychiatric patients are being deprived of evidence-based treatments. However, Australian model-based studies have shown that if patients were treated entirely in accordance with evidence-based guidelines they would derive considerably more benefit from their treatment. This conclusion has been corroborated with various Randomized Controlled Trials in which the effect of guideline adherent treatment is compared to treatment as usual. The literature stresses the difficulty in improving the quality of care. Studies on the implementation of guidelines show that carefully constructed tailor-made interventions are necessary to ensure that professionals adhere to guidelines. Up till now no research has been done in the anxiety disorders.

### Methods

To examine the effect of implementing anxiety disorders guidelines on guideline adherence and patient outcomes in specialised mental health care, a treatment setting in which guidelines were implemented (intervention condition) was compared to one in which guidelines were only disseminated (control condition).

### Results

61.7% of 81 intervention-condition patients received treatment according to the guidelines vs. 40.6% of 69 control-condition patients ( $p=.01$ ). At 1-year follow-up, intervention-condition patients showed a greater decrease in anxiety symptoms ( $d=.48, p<.05$ ); higher percentages (of response 52.6% vs. 33.8%;  $p=.025$ ) and remission (33.3% vs. 16.9%;  $p=.026$ ); and a greater decrease in the rate of phobic avoidance ( $d=.34, p<.05$ ). At 2-year follow-up, control-condition patients had experienced a longer period of treatment, which had eroded most of these differences, except for phobic avoidance.

### Discussion

In anxiety disorders, systematic guideline implementation results in earlier gains and shorter treatment times.

## The operation of a mobile psychiatric unit in a remote and rural area of Greece: Main principles and types of services provided

[Bochtsou Valentini](#), Lampropoulou Eleftheria, Fragkouli Athena, Sakellaropoulos Panagiotis  
Society of Social Psychiatry and Mental Health, Greece

### **Context**

The Greek psychiatric reform began in the early '80s. One of the types of services proposed for the decentralization and sectorization of services in Greece is the Mobile Psychiatric Unit model. Society for Social Psychiatry and Mental Health operates a mobile psychiatric unit in North-Eastern Greece (Thrace) which was established in 1989 and covers the needs for community mental health services in the Mental Health Sector of the Prefecture of Evros.

### **Methods**

The aim of the presentation is to illustrate this Mobile Unit's operation and the types of services provided to the public. An attempt to record the differences in morbidity correlated to demographic characteristics will also be made. According to the Mobile Unit's database, 5.228 patients have been examined since 2001 and 603 individuals sought help for the first time during 2014. A view of the sample's characteristics according to sex, diagnosis and religion will be presented.

### **Results**

The Mobile Unit offered services to a total of 1425 individuals during 2014 (889 women and 535 men). More than 50.5% of the sample suffered from a mood disorder and 20.3% suffered from a psychotic disorder. Emphasis is also given in supporting the patients to the management of their practical needs and the attendance of their compliance.

### **Discussion**

In general, affective disorders seem to be ascending, which is mainly attributed to the general financial instability in the country.

Monday 15 June

13.00-15.00

Special Interest Group (SIG) on Primary Care

## Evaluating an Acute Visiting Scheme in Primary Care

[Axel Kaehne](#)<sup>1</sup>, [Rob Hirst](#)<sup>2</sup>

<sup>1</sup>IEPRC, EHU, Ormskirk, UK, <sup>2</sup>St Helens CCG, St Helens, UK

### Context

Primary care services are a key player in reducing unplanned hospital admissions. Recently, some primary care providers have tested so-called acute visiting schemes (AVS) which consists of GPs visiting patients at home to assess the need for hospital admissions. The evaluation obtained and analysed data from an acute visiting scheme in the North West of England.

### Methods

Data from the AVS was analysed to assess the effectiveness of the service to reduce hospital admissions. Various indicators for an intervention and a control arm patient cohort was compared for a three month period. Indicators assessed included hospital admissions for 'frequent flyers' (patients frequently attending A+E), and descriptive statistics of the service itself.

### Results

The service appears to reduce hospital admissions significantly yet trends appear to be sensitive to extraneous factors and seasonal fluctuations. Consistent implementation of the service across staff of the provider remains a challenge which may reduce its effectiveness for the patient population as a whole.

### Discussion

Acute visiting schemes appear to be a promising way to reduce unplanned hospital admissions. Yet services like AVS operate in a complex context with many compounding factors. Consistent implementation is key to demonstrating the potential effects of AVS. Future research also needs to compare different models of AVS and assess the differential effects on unplanned hospital admissions.

## Nurse services in the management of unscheduled patients with acute health problems

[Isabel Casado](#), [Àlex Giner](#), [Laura Sancho](#), [Montse Tapia](#), [M<sup>a</sup> Antònia Noguera](#), [Agustina Malo](#)  
Consorci Castelldefels Agents de Salut d'Atenció Primària (CASAP), Castelldefels, Spain

### Context

Primary health care systems structure and services they deliver vary a lot across countries. In Spain, many of the public primary care centers employ family doctors, pediatricians, nurses, dentists, social workers, and administrative staff providing broad health care. Our center serves of population of 28.000 inhabitants and has as one of main objectives to solve most health related problems by increasing accessibility and speeding the assistance process. In order to achieve this, the center started a major change in the way it meets the demands of our population by nurses managing the acute health demands for unscheduled visits.

### Methods

We started by making available close to the main entrance two consultation rooms, where nurses could visit the walk-in patients. To reach a high resolution of the patients visited, nurses went through a training process with doctors from the reference hospital and from within the clinic. Clerks were also trained for proper referral of the patients based on their symptoms. To standardize the visits, internal pathways were created and a guidebook called "Nurse Intervention Guidebook" was designed. The guideline was elaborated by team work and includes the twenty-three most common reasons for unscheduled demand and eighteen emergency situations. Problems to be solved autonomously by nurses had been selected from the most frequent ones according to previous literature. The guideline has three parts: the protocols section, divided by acute and urgent health problems, the recommended drugs section, and the addendum section, including pain assessment scales, X-ray projections and neurological assessment.

### Results

In 2013, we evaluated the outcomes of nurse services for walk-in visits, sampling 594 patients attended during a period of 6 months. The most common consultation was for upper respiratory symptoms (13%), followed by vomiting or diarrhea (12%) and sore throat (11%). The overall nurse autonomous resolution was in 74% of the total patients, the rest being referred to the doctor for evaluation. The average waiting time was 9 minutes. We also conducted a telephone survey to measure the degree of satisfaction with this new attending approach with the results being 8 over 10 on a Likert scale.

### Discussion

This organizational change puts nurses at the gatekeeping of the primary care system, allowing us as a team to attend more patients in less time and allowing doctors to dedicate more time for complex tasks. It also leads to an increase of professional capabilities of our nurses. The success of this change led us to the implementation of the same system in the pediatrics department of the center.

## Target-setting in primary care commissioning in Portugal: getting more by demanding better

[Luís Lapão](#) <sup>4,5</sup>, [António Pereira](#) <sup>1</sup>, [Matilde Rosa](#) <sup>2</sup>, [Paulo Nogueira](#) <sup>2,3</sup>, [Sílvia Machaqueiro](#) <sup>4,5</sup>, [André Biscaia](#) <sup>6,5</sup>

<sup>1</sup>Unidade de Saúde Familiar Prelada, ACES Porto Ocidental, Porto, Portugal, <sup>2</sup>Direcção-Geral da Saúde, Lisboa, Portugal, <sup>3</sup>Instituto de Medicina Preventiva e Saúde Pública - Faculdade de Medicina de Lisboa, Lisboa, Portugal, <sup>4</sup>Instituto de Higiene e Medicina Tropical – Universidade Nova de Lisboa, Lisboa, Portugal, <sup>5</sup>Associação para a Cooperação e Desenvolvimento Garcia de Orta, Lisboa, Portugal, <sup>6</sup>Unidade de Saúde Familiar Marginal, ACES Cascais, Lisboa, Portugal

### Context

The primary health care (PHC) commissioning objective is to improve results by combining optimal performance goal-setting with negotiation and an incentive scheme. However, performance goal-setting has hitherto been somewhat inequitable, aiming uncritically at higher results disregarding context determinants. This study aimed at introducing an evidence-based goal-setting rationale for PHC considering each practice's context, benchmarking among practices, equity and validated scientific criteria. Following a validated method used in the United Kingdom's Quality and Outcomes Framework (QOF), the introduction of an upper threshold for targets was recommended. It was acknowledged and tentatively implemented by health authorities in the 2015 PHC commissioning process.

### Methods

A literature search and review were conducted to scan existing international evidence on methods for setting targets for health care performance indicators. Several approaches were shortlisted and their validity and feasibility for implementation in Portuguese PHC were analysed for guiding policy recommendations.

A database with 2009-2014 results of all performance indicators for all PHC practices in Portugal allowed an analysis of trends in the evolution of these indicators. Practices were then grouped into clusters according to selected context variables (number of physicians and practice maturity).

A sample of 100 practices was used for statistical simulations where possible scenarios were tested considering the implementation of threshold 75% for performance targets (recommended in a former stage of the study). Hypothetical results were defined assuming that 1) practices whose results are above threshold 75% don't need to improve their performance; and 2) the worst-performing 75% practices achieve improvements in the year following implementation.

### Results

Two possible scenarios were considered: a) all practices sharing a similar context have the same overall production capacity; b) the worst 75% practices can only reach their own performance level.

In either scenario there is an improvement in performance results, showing either a faster (scenario A) or a lengthier (scenario B) evolution. It is expected that actual results will occur somewhere between both scenarios.

The introduction of threshold 75% seems to lead to better quality care through a gradual increase in average results of performance indicators, as well as potentially greater equity due to a narrower range of results among practices.

### Discussion

The introduction of a new target-setting rationale in PHC commissioning shows health authorities are sensitive to evidence and the need to improve the commissioning process to enable better performance, while maintaining motivation. Implementing a 75% upper threshold instead of a yearly clear-cut 10% increase for all performance targets will set higher standards for areas where each practice is currently under-performing with reference to threshold 75%. Teams will be able to allocate resources and effort into improving those areas rather than continually striving to improve already high targets. While best-performing PHC practices will likely achieve their performance targets with decreasing effort, 75% lower-performing practices will need a greater improvement effort. A linear incentive scheme will allow motivation upkeep for the latter.

The implementation of threshold 75% as a national reference further implies a progressive increase in the threshold itself as national results improve over time, and variability among practice results lessens.

## The clinical follow up quality's assessment at the patients with coronary heart disease after surgical treatment

Zhanagul Bekbergenova<sup>1</sup>, Gulmira Derbissalina<sup>1,2</sup>, [Vitaliy Koikov](#)<sup>2</sup>

<sup>1</sup>Astana Medical University, Astana, Kazakhstan, <sup>2</sup>Republican Centre for Health Development, Astana, Kazakhstan

### Context

Cardiovascular diseases (CVD) are a leader in the structure of mortality in the Republic of Kazakhstan (RK). In order to reduce morbidity and mortality from a specific disease clinical monitoring of patients is carried out in the Republic of Kazakhstan. This article describes the results of a retrospective analysis of follow up's quality in Astana's polyclinics after patients with coronary heart disease (CHD) who underwent stenting and coronary artery bypass grafting (CABG).

### Methods

One of the important factors to reduce mortality from CVD is including timely and complete medical care to needy patients. However, the success of the treatment and full rehabilitation of the patient is not only interventional cardiac surgery, but in the future the full observation of patients for outpatient, providing adequate clinical supervision, timely correction of the treatment, detection of progression and complications of diseases. To evaluate the quality of follow-up of patients with coronary heart disease (CHD) who underwent myocardial revascularization by stent placement, or coronary artery bypass grafting (CABG) we have carried out a retrospective analysis of medical records of patients with coronary artery disease who underwent stenting and coronary artery bypass grafting.

### Results

The medical records of 53 patients who were under medical supervision in the period from April 2012 to April 2014 were analyzed. All patients had comorbidities or background pathology: 33 people (63%) with hypertension, 6 patients (12%) with cardiac arrhythmias, chronic obstructive pulmonary disease (COPD) - 4 patients (8%), heart failure was diagnosed in 16 patients (31%), diabetes mellitus in 7 patients (14%), chronic pyelonephritis with chronic renal failure (CRF) - 4 people (8%). According to the regulatory act of MOH all patients after myocardial revascularization should be kept under medical supervision at the GP or cardiologist and examined after 1, 2, 3 and 6 months after surgery. The analysis showed that, only 27 patients (51%) were inspected in accordance with the inspection standards for the year of observation.

### Discussion

Timely intervention treatment for patients with ACS can improve the prognosis in this group of patients, improves quality of life, reduces the incidence of temporary disability. General practitioners and cardiologists are working on rehabilitation of patients with coronary artery disease who underwent myocardial revascularization by stent placement, or CABG, continuity between hospitals and primary care organizations under the supervision and treatment of patients is observed. Long way in improving a favorable prognosis in this group of patients has a regular intake of drugs, at the same time it should be noted that irregular visits to the doctor questioning the compliance of patients to treatment. Due to lack of control on the part of health professionals examination of patients not fully carried out, 74% of patients visited a doctor 3-4 times a year, but only 42% of control was conducted ECG, indicating the reduction in monitoring the health of patients.

Monday 15 June

13.00-15.00

Special Interest Group (SIG) on Healthcare Workforce Management

## The impact of nurses' professional subculture on the adoption of flexible scheduling: A balanced fit perspective

[Lizette Engelen](#)<sup>1,2</sup>, [Pascale Peters](#)<sup>1</sup>, [Beate vanderHeijden](#)<sup>1,3</sup>, [Ria Nijhuis-vandersanden](#)<sup>2</sup>

<sup>1</sup>Radboud University, Nijmegen, The Netherlands, <sup>2</sup>Radboud Medical Center, Nijmegen, The Netherlands, <sup>3</sup>Open University, Heerlen, The Netherlands, <sup>4</sup>University of Twente, Enschede, The Netherlands

### Context

This study analyses nurses and other stakeholders' perceptions of fit towards flexible scheduling, viewed as a social work innovation in health care settings. Taking a multi-stakeholder perspective, the study also contributes to the balanced approach towards HRM by identifying the strategic fit, the institutional fit, the internal fit, and the organizational fit of flexible scheduling with healthcare settings.

### Methods

Our study was conducted within a neonatology department in a Dutch academic hospital facing labour-market shortages. The main research question in this study therefore is: What are the perceptions of nurses and other stakeholders towards flexible scheduling in an academic healthcare setting? To answer this question, a qualitative case study is used.

Interviews have been held among nurses (N = 25) and other stakeholders (N = 15).

### Results

The results indicate that the above mentioned types of fit are indeed perceived by various stakeholders of the neonatology department. Yet, these fits do not guarantee a successful adoption of the social innovation among nurses. In order to understand the incongruence in adoption responses among nurses (cognitive, emotional and intentional responses), the study looks into the personal-environment fit (PE-fit), in particular the strong professional norms and values characterizing the nurses' subculture, and related to that, the nurses' psychological contract terms regarding autonomy and responsibility.

### Discussion

First, nurses appear to be resistant towards the adoption of flexible scheduling due to their strong, dedicated patient-oriented culture. Flexible scheduling is believed to negatively affect the quality of care. Secondly, although the department's culture can be characterized as collegial commitment, their professional subculture does not imply that nurses are willing to take up the responsibility associated with flexible scheduling with regard to the scheduling problems of the department. Thirdly, although the organization views flexible scheduling a means to attract and retain nurses and to improve work-life balance, these hardly appear to be essential terms in the nurses' psychological contract. These results show that the adoption of social innovations in health care goes beyond looking at it as an ICT issue, but rather require a cultural change process.

## Bridging the divide: Strategies adopted by managers to engage healthcare professionals in HRM implementation processes

[Judith van den Broek](#)

Erasmus University Rotterdam, Rotterdam, The Netherlands

### Context

It is demonstrated that in healthcare organizations physicians and nurses often act in accordance with a professional logic that emphasizes the quality of care, while managers and directors take on a more business-like logic, which is mainly occupied with efficiency (e.g. Ruef and Scott, 1998; Van den Broek, Boselie, & Paauwe, 2014). Healthcare managers responsible for implementing new HR practices by creating support and commitment among healthcare professionals need to bridge the divide between professional logics and business-like logics (institutional complexity). The role of evidence for the effectiveness of new HR practices appears to be important here.

### Methods

A comparative case study method is adopted in order to enhance our understanding of the ways managers cope with institutional complexity during HRM implementation.

Six Dutch top-clinical hospitals participated in this study. In each hospital, line-managers (direct supervisors of professionals), middle managers (supervisors of line-managers) and top managers (Board of Directors) were included. Data was collected by conducting 59 semi-structured interviews. In addition, relevant documents were collected and analyzed. NVIVO 10 (QSR International) was used for the data analysis. In order to be able to reduce the data and focus on these aspects of the interviews, Qualitative Content Analysis (QCA, Schreier, 2012) was adopted. In addition, we followed aspects of cross-case analysis (Miles & Huberman, 1994) in order to compare the findings across different managers and across the different hospitals. In particular, we used NVIVO 10 in order to develop matrices to display the findings across cases.

### Results

Four different strategies were identified. First of all, managers tried to appeal to the professional logic of nurses. Secondly, managers often used enthusiastic nurses in order to engage other nurses. The third strategy entails the involvement of nurses at an early stage of the implementation processes and allowing the nurses to participate in this process. Finally, the fourth dominant strategy was to create a pilot where the new practice is tried. This appeared to be an effective strategy to create evidence for the usefulness of the practice and take away hesitations among the nursing population.

Underlying aims of these strategies appeared to be providing nurses with evidence that the practice renders positive results and being able to explain as a manager what the added value of the practices is by taking into account belief systems of nurses. Cross-case analyses show differences in the strategies adopted by different types of managers.

### Discussion

In sum, four strategies adopted by healthcare managers to engage nurses in HR practice implementation are identified and differences across different types of managers are analyzed. These strategies help managers to bridge the divide that exists between managers and professionals. Creating an evidence base for these HR practices appeared an important factor in the internalization of a practice by nurses.

From a scientific perspective, this study sheds more light on the role of managers in HR implementation processes and the way these managers might bridge the divide with professionals. From a practical perspective, the strategies identified might help managers to implement HR practices more effectively and might foster the sustainability of these practices through the enhancement of the degree of internalization.

## Managing a globalised nursing workforce to enhance collaborative decision-making and practice in healthcare organisations

[Margaret Brunton](#), Catherine Cook, Lynn Jeffrey  
Massey University, Auckland, New Zealand

### Context

A sustainable healthcare service is increasingly reliant on an internationalised workforce. Healthcare systems throughout the OECD are under pressure from a shortage of locally qualified staff in the midst of a global undersupply of health professionals. New Zealand is typical of other Westernised countries, as approximately 25% of its nursing workforce and 46% of medical staff are migrant practitioners who qualified in other countries. As registered nurses (RNs) comprise the largest occupational group of health professionals in the sector, the context of a worldwide shortage means that both recruitment and retention become key issues in sustaining a functional health service.

### Methods

The goal of this research is to identify key factors that influence workplace interaction between registered nurses of diverse ethnic cultures in the public health sector, and the subsequent impact on clinical services.

This qualitative study entails interviews with 17 New Zealand registered nurses and 36 internationally qualified nurses (IQNs). The recorded interviews were transcribed. Thematic analysis resulted in evidence of culturally-inflected challenges between local RNs and IQNs. Significantly, managers reported uncertainty and unfamiliarity in how to display effective leadership in their responses. The subsequent resistance to accommodation of difference by the host RNs and disillusionment of the IQNs creates mistrust that adversely affects retention of IQNs.

### Results

The research highlights that, in multicultural workplaces, ideally, nurse managers and clinical leaders play a key role in facilitating the cultural interface. However, the evidence indicates that managers commonly do not have the skill-set needed to effectively ameliorate culturally sensitive interactions between staff. Although healthcare institutions are reliant on highly functioning teamwork for the delivery of safe patient care, the limited investment in ensuring culturally competent management of inter and intra-professional relationships is resulting in negative outcomes, costly in both human and financial terms.

These interview results will be used to inform the development of an online quantitative and qualitative survey tool to survey both IQNs and NZRNs nationwide. The purpose is to provide a national measure of the influence of cultural competencies and skills on workplace interaction and performance between diverse cultural groups of RNs. Parallel studies are currently in progress in Australia, Dubai, Israel and the UK.

### Discussion

Although much research has focussed on the experience of migrant health professionals entering the NZ public health sector, we are not aware of any study which also incorporates the collective perceptions of interaction with the host culture and influence on clinical practice.

Effective interprofessional teamwork relies on shared understanding of how daily work activities in healthcare are managed. Effective collaboration is grounded in underlying value-based judgements. However, although nurses are socialised into organisations' preferred modes of behaviour and work activity, they view this through their own ethnic cultural lens. These results illustrate the ways in which a multicultural workforce can be disrupted by contestations about practice rationales, due to competing world views.

Cultural understanding needs to be a compelling agenda for healthcare organisations in the 21st century. Organisational investment in a cultural competency framework to aid managerial training and development will help facilitate optimal management decisions, thus better healthcare services.

## Health professional migration and system integration in Europe: an explorative case study of Spanish nurses in Germany

[Ellen Kuhlmann](#)<sup>1</sup>, [Tania Jensen](#)<sup>2</sup>

<sup>1</sup>Karolinska Institutet MMC, Stockholm, Sweden, <sup>2</sup>TU University Dortmund, Dortmund, Germany

### Context

Europe labour market and austerity politics have created new migration and mobility flows of highly qualified health professionals which, in turn, are increasingly used strategically as a resource to reduce local shortages. However, there is an overall lack of data and we do not know as to whether and how trans-European recruitment contributes to sustainable health workforce management. In this paper we introduce a systems-based European integrative approach and contribute new knowledge by using the integration of Spanish nurses in Germany's healthcare system as a case study.

### Methods

The study is explorative in nature. A case study is applied comprising expert interviews and focus groups with Spanish nurses that are designed to grasp two distinct points of decision-making and experience in the nurse workforce. First, three focus groups with nurses in their third year of university studies were carried out in an economically weak region in Spain with overproduction in the education of nurses (one at a private, two at a public university); second, expert interviews with HR-managers and integration officers in large scale organisations of elder care and hospitals as well as with representatives of trade unions were collected in economically strong urban areas of western Germany. Finally, drawing on these findings, focus groups with Spanish nurses working in Germany in elder care and hospitals are currently arranged to gather in-depth information on both the reasons to leave and conditions of integration.

### Results

Spanish nurses not only face language problems but also lack of knowledge on Germany's healthcare system. While intention to migration is low and Germany not the country of choice, high unemployment in Spain and shortage of nurses in Germany together with a 'pink' picture of work conditions create strong market powers. In this situation, institutional and individual barriers combine to counteract integration. German nurses' status is lower and tasks include basic care provided by nursing aids in Spain. Differences in the healthcare systems and gaps between expectations and work conditions are most serious in elder care, where foreign recruitment is strongest in Germany. Spanish nurses perceive elder care as deprofessionalisation and devaluation of their skills that may only be tolerated temporarily as springboard into hospital care. Approximately 30% nurses leave the provider organisation after less than two years even if they enjoy individual support.

### Discussion

There is no evidence that migration and EU mobility strategies are efficient and contribute to sustainable health human resources management. Our data highlight the pitfalls of austerity politics and lack of coherent EU health professional education that push highly qualified health professionals into dead-end migration tracks. The drop-out rate, therefore, cannot be solved by integration policies on the level of the organisation; instead action needs to be taken better connect health care and education policies and to create more evidence-based local-national as well trans-European planning and management systems. The findings highlight a need for developing systems-based health human resources policy in Europe that is sensitive to the impact of austerity politics and better able to respond to individual and organisational needs. The findings cannot be generalised as the study is explorative in nature, but they point out pathways for future research and highlight the importance of evidence-based health workforce management.

## Health workforce retention in Romania: a review of recent policies and practices

[Marius-Ionut Ungureanu](#)<sup>2,3</sup>, [Ligia Paina](#)<sup>1</sup>, [Victor Olsavszky](#)<sup>4</sup>

<sup>1</sup>Health Systems Program, Department of International Health Johns Hopkins University School of Public Health, Baltimore, MD, USA, <sup>2</sup>Iuliu Hațieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania, <sup>3</sup>Cluj School of Public Health, Babeș-Bolyai University, Cluj-Napoca, Romania, <sup>4</sup>World Health Organization Country Office, Romania

### Context

Romania is an important source country for health workers migrating to Western Europe, and, to a lesser extent, a destination country for health workers from Eastern countries. As a consequence of the imbalance created, it struggles with providing basic health services for rural, underserved, and marginalized populations. We explore how Romania's policy environment incentivizes or disincentivizes retention in rural and underserved areas. Furthermore, we reflect on the role of the implementation of recent WHO policy recommendations, including the WHO Global Code of Practice on International Recruitment of Health Personnel, and propose simple policy recommendations.

### Methods

Our work is based on the analysis of secondary data and a literature search. Both peer-reviewed and grey literature (such as policies and policy reports, reports from international organizations) were included. Additional secondary data was also extracted from the websites of Romania's principal medical universities. The analysis of available information was guided by the recommendations' framework proposed by the WHO, in their recent Global Policy Recommendations for retaining health personnel. This framework included policy recommendations in the following areas: education, regulatory, financial incentives, and professional and personal support.

### Results

Health workforce migration affects the government's ability to recruit and retain health workers in rural and underserved areas. Almost no data is available on this subject. In education, Romanian medical schools are all located in urban areas and it is not evident how the curriculum reflects rural issues. No clinical rural rotations were identified and few students have rural or minority backgrounds. We found some reforms for encouraging rural service during residency, however, their effectiveness is unclear. Romania signed 11 bilateral agreements and participates in EU-wide policies and efforts, however, no policy evaluations have been conducted. It is not clear how the WHO Code on International Recruitment is currently implemented in Romania. The financial incentives against rural practice remain high and are complicated by civil service salary cuts and hiring freezes instated as a result of the economic crisis. Few efforts were identified for health workers' professional and personal support.

### Discussion

The lack of data, as well as of a clear and cohesive policy approach to the management of the health workforce, particularly to the equitable re-distribution, make it difficult to explore Romania's strategy for rural recruitment and retention of health personnel. Furthermore, the contribution of migration - a key contributor to rural retention issues - is difficult to capture. In the absence of increased resources for competitive pay and more concerted efforts for health workers' professional and personal support, retention will continue to be difficult. In the European Union context, some migration will also continue. In response, Romania needs a policy for human resources for health, to set a strategic vision for the health workforce, to provide a framework for addressing current shortfalls, and to guide planning, monitoring, and evaluation of health workforce policy interventions. In addition, more data needs to be collected to monitor and evaluate retention strategies.

Tuesday 16 June

11.00-12.30

PhD Students Session: Karolinska Medical Management Centre/EHMA  
Research Award

## A mixed-method study of the impact of the operating system on hospital efficiency

Melissa De Regge<sup>1</sup>, Paul Gemmel<sup>1</sup>, Philippe Duyck<sup>2</sup>

<sup>1</sup>Ghent University, Ghent, Belgium, <sup>2</sup>AZ Zeno, Knokke, Belgium

### Context

Hospitals worldwide face challenging times and are consistently under pressure to control costs and improve quality of care. Research into improving healthcare should deal with seeking and defining the best methods of organizing and delivering services. In healthcare, there are two types care processes: sequential and iterative. These are very different, but both types could benefit if their organization were aligned with a tailored configuration of the operating system adjusted to the specific characteristics of both types of processes. The main purpose of this dissertation is to assess how the design of the operating system impacts efficiency in hospitals.

### Methods

In the first part, an exploratory database analysis of four hospitals was performed. We investigated whether hospital care processes can be assigned to different groups, resulting in better alignment of type and organization of care.[1] The second part presents a systematic literature review of the effects of specialized hospitals, considering these as focused factories.[2] In the third part, an empirical study of how the design of the operating system impacts efficiency in hospitals was conducted. Firstly, a multilevel analysis was performed to distinguish factors that influence flow efficiency in a standardized process (i.e. the cataract surgery process), focusing on the role of the organizations, physicians, and case-mix variables of patients.[3] Secondly, a comparative benchmark study of mixed-method design was conducted to compare sequential processes between hospitals. We examined how the cataract surgery process operates in hospitals and which design of the operating system is preferable.[4].

### Results

Hospital care processes are sequential or iterative. There are groups of patients with inherently different degrees of variation in length-of-stay due to illness and treatment patterns. Deliberate choices in the design of the operating system should be considered.

Considering the effects of specialized facilities as a strategy for standalone facilities that excel, we found no compelling evidence demonstrating the added value of these specialized facilities in terms of quality or cost. In addition, their corresponding impact on full-service general hospitals remains unclear.

Investigating a sequential care process (cataract surgery) in hospitals, we found (1) controllable and uncontrollable factors influencing flow efficiency and (2) that treating sequential care processes in an operational setting specifically dedicated to such processes enhanced flow-, resource-, and cost-efficiency. In these settings, we not only found higher capacity use, but also shorter turnover times and significantly lower staffing levels, without affecting efficiency and resulting in lower costs.

### Discussion

The importance of differentiating distinct processes for health-care problem-solving lies in the added value of different approaches to their design and management. Thus, different services and processes require different operating systems. Our results demonstrate that aligning structure and process components with the design of the operating system positively influences operational performance. The sequential care process (e.g., cataract surgery) is designed in line with a standardized process; however, significant differences between hospitals impact operational performance. We must emphasize the importance of differentiating the types of variation and noting the presence of “artificial” special-cause variation, as the goal must be to eliminate “bad” variation and manage “good” variation.

This dissertation provides practitioners and academics with a fresh perspective on the practices of sequential care processes and the factors limiting them. It also serves as a foundation for future initiatives aimed at improving operational performance in hospitals.

## Strategic market orientation (SMO) in mental healthcare: the application of SMO instruments to strengthen evidence-based decision making

Joyce Bierbooms<sup>1</sup>, Inge Bongers<sup>1,2</sup>, Hans Van Oers<sup>3,2</sup>

<sup>1</sup>Stichting Geestelijke Gezondheidszorg Eindhoven en de Kempen, Eindhoven, The Netherlands,

<sup>2</sup>Tilburg University, Tilburg, The Netherlands, <sup>3</sup>Rijksinstituut Volksgezondheid en Milieu, Bilthoven, The Netherlands

### Context

Mental healthcare in the Netherlands is subject to budget cuts and deregulation, leading to more market forces. For a mental healthcare provider this increasingly requires knowledge on strategic market orientation (SMO). In this PhD research the possibilities to develop and apply instruments for SMO in a mental healthcare organization were studied. The overarching aim of the research was to stimulate evidence-based management in mental healthcare, by using these SMO instruments and forthcoming knowledge for strategic choices in market positioning, as an integral part of strategic policy development.

### Methods

For the purpose of this research an exploratory study into the possible instruments for SMO was performed at Stichting Geestelijke Gezondheidszorg Eindhoven en de Kempen (GGzE), a mental healthcare provider in the southern part of the Netherlands, based on two research questions:

1. Which instruments can be used to perform SMO in mental healthcare?
2. To what extent are these instruments applicable in the practice of mental healthcare providers?

A knowledge synthesis by means of a literature study and field exploration (interviews) was conducted to establish a framework for SMO at a mental healthcare provider. This framework was further explored at GGzE, in a multiple case study design, using both quantitative and qualitative research methods. These case studies addressed two aims:

1. providing specific information about a topic GGzE is facing, using SMO instruments, and 2. assessing the practical applicability of the instruments for SMO in mental healthcare.

### Results

The knowledge synthesis brought forward a framework with four domains of SMO: mental healthcare demand, mental healthcare supply, stakeholders and the external environment. Each domain was further explored in the case studies which led to a set of instruments – audience segmentation, portfolio analysis, stakeholder analysis, and scenario analysis – that mental healthcare providers can apply for SMO. The instruments showed to be effective in all of the case studies to develop knowledge about the positioning of a mental healthcare provider, and can contribute to more evidence-based management. The practical use of the instruments however, is highly subject to the willingness and possibilities of a mental healthcare provider to invest time and resources. Furthermore, the practical use of the instruments differs at several points from the initial framework, contributing to new scientific knowledge. This finding illustrates that ‘evidence-based’ in this context means a synthesis of both theoretical and practical knowledge.

### Discussion

To be able to effectively use SMO in mental healthcare it is important to understand the ‘sum of all parts’ and to integrate knowledge that is developed in each of the domains. The efficacy of using this knowledge for more evidence-based management is dependent on an understanding of the transitions in the knowledge hierarchy: from data to information, from information to knowledge, and from knowledge to wisdom. In this study, data was gathered and interpreted to find information on specific topics in the case studies at GGzE. This information is used to assess the applicability of instruments of SMO in mental healthcare (knowledge). This knowledge addresses a ‘how’- question regarding SMO for mental healthcare providers. Evidence-based management (wisdom), based on this knowledge, is dependent on the capability to answer the question ‘why’ SMO is important for a mental healthcare provider, and to actively translate this into policy.

## Hospital Quality Systems - working mechanisms unraveled

[Steffie van Schoten](#)<sup>1</sup>, [Peter Groenewegen](#)<sup>1,2</sup>, [Cordula Wagner](#)<sup>1,3</sup>

<sup>1</sup>NIVEL, Utrecht, The Netherlands, <sup>2</sup>Utrecht University, Utrecht, The Netherlands, <sup>3</sup>VU University, Amsterdam, The Netherlands

### Context

Quality systems were implemented in healthcare institutions to assure and improve the quality of care. Despite the fact that all Dutch hospitals have implemented a quality system, incidents persist to surface. How could this be explained? The current research was set out to gain thorough insights in the working mechanisms underlying the structure-process-outcome relationships of quality improvement within hospital quality systems and to understand the conditions under which a quality system lead to higher quality of care. The main research question of this research was: 'What are working mechanisms of hospital quality systems that lead to high quality of care?'

### Methods

This research was based on a combination of several research methods. Quantitative as well as qualitative data were used to address the research question. We have used triangulation of data sources such as longitudinal survey data on quality systems in hospitals between 1995 and 2011, data of the evaluation of a national Patient Safety Program, two measurements with a questionnaire that maps elements of organizational process control, observations of compliance with a surgical checklist and interview data on the attitudes of healthcare professionals towards quality protocols. Data were measured at the structure, process and outcome level in order to get insight in all the levels that are involved in quality improvement. Advanced multilevel statistical techniques were used to analyze the results.

### Results

Results of this research showed that 45% of Dutch hospitals reached a stage of development of their quality system in which all the elements of a quality system are in place and this is used for continuous improvement. Results showed that a higher stage of development of a quality system is related to higher perceived organizational outcomes and that the outcomes are used to improve the quality system. A higher stage of development of a quality system was not associated with higher scores on process indicators measured at the hospital department level. Analysis of risk assesment at department level showed large differences between hospital departments on the perceived risks in several organizational domains. Especially in the domain 'procedures', and a further investigation of attitudes of healthcare professionals towards procedures showed low compliance, general acceptance of deviations and a wide variety of strategies to communicate about deviations.

### Discussion

The results of this research show the complexity of the relation between hospital quality systems and high quality of care. In order to obtain the desired high quality of care and a cycle of continuous improvement, hospitals will need to use the data and results from the system to improve their quality system as well as their processes. It is not only important to focus on the effect of the quality system on the organizational outcomes but also to focus on the effect of the system on the processes. When processes are being neglected in quality improvement, it is unlikely that the effects of the quality system will reach its intended effects: improvement of the quality of patient care. A key aspect is to keep healthcare professionals involved in quality improvement, only with their committment to quality and valuable input to quality improvement can the quality system function optimally.

## Making Franchising in Healthcare Work

[Karlijn Nijmeijer](#)<sup>2,1</sup>, [Isabelle Fabbrocetti](#)<sup>1</sup>, [Robbert Huijsman](#)<sup>1</sup>

<sup>1</sup>Institute of Health Policy and Management, Erasmus University Rotterdam, Rotterdam, The Netherlands, <sup>2</sup>The Rotterdam Eye Hospital, Rotterdam, The Netherlands

### Context

Franchising is an innovative organizational form in healthcare to improve strategic, organizational, professional and client-related results. However, there is little scientific evidence to support practitioners in effectively designing and operating their healthcare franchise. The franchisor may wonder how strict he must standardize the business format and how much support he should provide. Franchisees want to benefit from the support, standards and marketing (examples of structural design), but do not want to lose autonomy (example of process dynamics). This thesis aimed to produce the first comprehensive overview of how the structural design and process dynamics of healthcare franchises relate to results.

### Methods

Given the lack of research about healthcare franchising, an exploratory sequential mixed methods study was conducted. First, a theoretical framework was developed that proposes which structural design elements and process dynamics relate to results, and how. Two systematic literature reviews were conducted of findings within healthcare (15 articles included) and across all other industries (126 articles included). Second, a qualitative multiple embedded case study was conducted in the Netherlands to refine and adapt the framework to healthcare. Three cases in hospital care, mental healthcare and care for the intellectually disabled were investigated through document analyses, observations and 96 interviews. Third, a cross-sectional survey was developed to quantitatively investigate the framework. 19 healthcare franchises in 5 different healthcare sectors were surveyed. In the entire study data were sampled from both the franchisor and actors operating units to obtain a comprehensive understanding of how healthcare franchises can be designed and operated successfully.

### Results

Strong cooperation (e.g., open communication, trust, space for professionals to voice ideas), appropriate support, and a solid collective basis (e.g., standardization of information leaflets) are helpful to achieve positive results from the perspective of both the franchisor and unit actors (i.e., franchisees, managers, professionals). Through these characteristics they yield benefits from accelerated, efficient innovation and implementation and certain uniformity on the one hand, while leaving some space for local fit and professional ideas on the other hand. From the perspective of unit actors, the type of ownership structure, franchise type, reasonableness of payments, and appropriate attitudes and skills are also important. The thesis also shows that the desirable designs and dynamics partially differ across different types of healthcare, results types, markets and customer needs. Moreover, to make franchising work one should use an holistic approach; fitting the individual design elements and dynamics to each other within the context.

### Discussion

There is no blue print to make franchising in healthcare work; it requires situational fit. In each situation one needs to choose the most appropriate combination of process dynamics and structural design elements. Three ideal-configurations were distinguished to make franchising work in different situations: soft/loosely coupled franchise, back-office franchise, and full care franchise. Practitioners can use these configurations as a starting point to configure their own franchise. Healthcare professionals for example need ample space (as in loosely coupled or back-office franchise) when significant customization to the clients' needs is required. Significant support and control (as in full care franchise) is beneficial when clients or healthcare insurers desire certainty about quality and costs. In all situations strong cooperation is important to ensure synergy and local fit and alleviate professional resistance. Further research is invited to extend the findings from this first study about how to make franchising in healthcare work.

## A case study on the implementation of integrated care for diabetes mellitus type 2 by two Dutch best practices

[Loraine Busetto](#)<sup>1</sup>, [Katrien Ger Luijkx](#)<sup>1</sup>, [Anna Huzing](#)<sup>2,3</sup>, [Hubertus Johannes Maria Vrijhoef](#)<sup>1,4</sup>

<sup>1</sup>Tilburg University, Tilburg, The Netherlands, <sup>2</sup>ZIO Zorg In Ontwikkeling, Maastricht, The Netherlands, <sup>3</sup>Maastricht University, Maastricht, The Netherlands, <sup>4</sup>National University of Singapore, Singapore, Singapore

### Context

Integrated care can lead to improved processes and patient outcomes. However, this is not always the case and there is a lack of evidence regarding the reasons why and in which cases integrated care works. This study contributes to filling this knowledge gap by examining the implementation of integrated care for type 2 diabetes by two Dutch care groups. Care groups are legal entities that establish contracts with health insurers and health professionals in order to coordinate the so-called 'care chain' of chronic care from diagnosis to after care.

### Methods

An embedded single case study with two units of analysis was conducted, including 26 interviews with care group managers and staff as well as health care professionals such as general practitioners, internists, diabetes nurse specialists, practice nurses, dieticians, optometrists, podiatrists, pedicurists, pharmacists and care purchasers. Relationships between context factors (as categorised by the Implementation Model), mechanisms (as defined by the Chronic Care Model) and outcomes (operationalised as aspects of quality of care) were studied.

### Results

Dutch integrated care involves components relating to the health system, self-management support, delivery system design, decision support, and clinical information system. Barriers included disease-specific care management, insufficient database integration, decreased earnings, patients' insufficient expertise, resistance by general practitioners, too much care provided by practice nurses, yearly changes in insurance policies, and the funding system incentivising the provision of care exactly as described in the care protocols. Facilitators included increased earnings, increased focus on self-management, innovators in primary and secondary care, tradition of transmutal cooperation, care group management and support, practice nurses and diabetes nurse specialists acting as integrators, and financial incentives for guideline adherence. Integrated care has led to perceived improvements in certain aspects of quality of care such as improved communication and cooperation but also to perceived deteriorations in others such as insufficient and unnecessary care provision and the preconditions for person-centred care.

### Discussion

Dutch integrated care includes many different components constituting a complex intervention. However, this means that efforts are generally divided over several focal points and are often not implemented equally well in all areas. The many and diverse barriers and facilitators encountered show that implementing a complex intervention is in itself complex, too: various factors impact in different ways on different outcomes. All of this confirms that Dutch integrated care is still in development and its implementation has not realised its full potential yet. Future efforts should therefore focus on further developing all areas, but the most problematic, such as financial and health IT issues, or those that have not received enough or any attention yet, such as patient and community involvement, seem to warrant the most urgent attention. In doing so, future efforts should focus specifically on the interplay of the context, mechanisms and outcomes of integrated care interventions.

## Organization of hospital nursing, provision of nursing care, and patient assessments of care in Europe

[Luk Bruyneel](#)<sup>1</sup>, Baoyue Li<sup>2</sup>, Irina Dumitrescu<sup>1</sup>, Dietmar Ausserhofer<sup>3</sup>, Emmanuel Lesaffre<sup>1,2</sup>, Herbert Smith<sup>4</sup>, Douglas Sloane<sup>4</sup>, Linda Aiken<sup>4</sup>, Walter Sermeus<sup>1</sup>

<sup>1</sup>KU Leuven, Leuven, Belgium, <sup>2</sup>Erasmus Medical Centre, Rotterdam, The Netherlands, <sup>3</sup>University of Basel, Basel, Switzerland, <sup>4</sup>University of Pennsylvania, Pennsylvania, USA

### Context

High-quality care inheres in the interaction of nurses with patients. Hospital work environments that are supportive of nursing practice are those in which well-trained nurses have the autonomy and time to exercise maximally their professional competences in service to patient care. Although the patient safety movement has emphasized systems for avoiding errors of commission in the delivery of health care, low quality nursing care also inheres in the omission of beneficial care. This study proposes an explanatory framework in which omission of care and nurse education levels are of key importance in explaining patient experiences with care.

### Methods

A multilevel moderated mediation analysis of survey data from 11549 patients and 10733 nurses in 217 hospitals in eight European countries (Belgium, Finland, Germany, Greece, Ireland, Poland, Spain and Switzerland). Patients rated the quality of their care (i.e. scoring and recommending the hospital). Nurses provided information on nursing care in their hospital, omission of care, and staff characteristics. Omission of care held two dimensions: clinical care left undone, and planning and communication activities left undone. We evaluate the extent to which these dimensions mediate the relationship between the organization of hospital nursing and patient assessments of the quality of their in-hospital care. We specify how the importance of tasks left undone, as an intervening variable, is moderated by the effects of the educational level of hospital staff nurses. The underlying idea is that a better educated nurse workforce will increase the productivity (i.e. less omission of nursing care).

### Results

Patient care experience is better in hospitals with better nurse staffing and a more favorable work environment in which less clinical care is left undone. Clinical care left undone is a mediator in this relationship. It is left undone less frequently in hospitals with better nurse staffing and more favorable nurse work environments, and in which nurses perform less overtime and are more experienced. Higher proportions of nurses with a bachelor's degree reduce the effect of worse nurse staffing on more clinical care left undone.

### Discussion

This study provides evidence on the interrelationship between the structure, the process and patient outcomes of nursing care. We also provide decision-makers with evidence of the joint effect of nurse workload and education levels on the completion of necessary nursing care. These findings reinforce the need for nursing management to implement process improvement strategies that aim for nurses spending more time on direct patient care. Hospital hiring policies should reflect the growing body of research associating bachelor-educated nurses with safe, high quality patient care.

Tuesday 16 June

11.00-12.30

## Citizen and Patient Involvement

## Primary Healthcare towards New Public Service -The expected primary health care future from customers' point of view

[Hanna Tiirinki](#)

University of Oulu, Oulu, Finland

### Context

Healthcare is changing and customer orientation has grown increased dynamically. The New Public Management (NPM) has been an influential set of health care management ideas. Today, in health care management have has to look forward and pursue more service. NPM has been complemented with the theory of New Public Service (NPS), which in addition to customer-oriented services focuses on process thinking, results and cost-effectiveness, quality management and managerialism. Compared to NPM, NPS -thinking places more emphasis on the ethics and public service value of public service. On the other hand, it is also underlines the importance of public service motivation.

### Methods

The research task was to understand and investigate the expectations of related to future health care centres from the point of view of customers. In the theoretical frame of the study New Management and New Public Service theory was utilised to conceptualise customers' perceptions related to health care centres. A mixed methods approach was used in this study, utilising both qualitative and quantitative data. The first phase consisted of virtual anthropological material (N=250). The second phase comprised a survey (Northern Finland birth cohort 1966) (N=200 and N=3,237). Qualitative material (phases I and parts of phase II of the empirical part) were analysed using inductive and deductive content and text analysis. Quantitative material (parts of phase II of the empirical part) were analysed statistically.

### Results

In the study a model of future expected expectations related to health care centres was formed from customers' point of view. The Expected Future Model described expectations for the health care centres of the future from customers' point of view. Cultural meanings were related to expectations concerning the future of the health care centre, describing a generative and functional local healthcare centre with a set of values based on a holistic approach. Customers' subjective experience of health service customership is increasingly important; this includes being heard, a smooth service chain a wide selection of services and individual meetings. The respondents wanted the health care centre to be located close at hand, but new primary health care services, especially ones that would increase the flexibility of service provision, were considered positive from customer's point of view.

### Discussion

It is important to examine the future future-oriented opinions associated with primary health care centres from customers' point of view when developing and reforming the primary health care system. In the future, the active and participatory role of the customer must be strengthened by expanding customer choice and autonomy and by increasing the immediate accessibility of services within the health care process. The study generated new knowledge that can be utilised in improving public health care, particularly the complex operational culture at health care centres that is prone to different interpretations form the viewpoint of health service customership. New Public Service thinking can strengthen genuine customer orientation in health care and help implement it into practice.

## Transforming health policies by exploring community mental health user involvement in Malta

[Sandra C. Buttigieg](#)<sup>1</sup>, [Ruth Bajada](#)<sup>2</sup>

<sup>1</sup>University of Malta, Msida, Malta, <sup>2</sup>Floriana Day Centre, Community Mental Health, Floriana, Malta

### Context

The concept of user involvement brought a power shift in health service delivery, away from professionals and more towards service users. Despite this paradigm shift, people with mental health difficulties still lack a voice and are at risk of social exclusion. A research gap exists regarding the extent to which users are involved within community mental health services. Consequently, this study aimed to explore the philosophy and nature of user involvement mechanisms, with reference to their capacity to involve users in shaping the policies and delivery of community mental health services in Malta.

### Methods

Using the case study approach, methodological triangulation was achieved through the use of focus groups, interviews, document analysis and the use of reflective diary. Furthermore, data triangulation was ensured through the collection of data from three groups of participants, namely service users, clinicians and managerial staff within the community mental health services sector.

### Results

Results showed that user involvement in mental health services is needed at the level of organizing individual care, in peer-delivered services and system development. The main finding reflects the health care system structure and its lack of a standardized approach to care. In Malta, the medical model is still persistent whilst the patient-centered care approach is still practiced at the discretion of health care professionals. Furthermore, the absence of formal policies regarding user involvement showed that the organization might still be unprepared for such a cultural change.

### Discussion

A user involvement culture presents an unparalleled opportunity to shape community mental health services that are responsive, accountable and recognizably operating for the benefit of all stakeholders. Therefore, user involvement should be part of the fabric of community mental health services that would impact every aspect of mental health provision and that would allow mental health service users to acquire a voice.

## Embracing evidence gathered by lay people: findings of a local citizen-led inquiry into the services and experiences of care for people with diabetes in England

[Naomi Chambers](#)

University of Manchester, Manchester, UK

### Context

Current estimates are that 2.7 million people in England live with diabetes. This is due to rise to 5 million in the next 10 years. The cost of diabetes care, mostly arising from avoidable complications, amounts to 10% of healthcare expenditure. (Action for Diabetes, 2014). North Staffordshire NHS Clinical Commissioning Group (population = 213,000) identified local concerns about higher than expected complications, and about access to specialist care. The organisation therefore established a citizen's jury, and used the evidence collected by lay people, to produce recommendations for improving the quality and appropriateness of services.

### Methods

The ten members of the jury were all lay people with a specific interest in diabetes or a general interest in improving services and experiences for local people. They adopted principles of working which were collaborative, in contrast with the more contractually or regulatory focussed performance management approaches more commonly found in the NHS in England. The jury analysed a range of evidence from local and national documents and from the academic, policy, practitioner and lay literatures to assess performance, clinical quality, outcomes and patient experience. They also invited a number of witnesses including patients and carers, clinicians and managers. Interview guides were developed to guide questioning and timetabling was arranged and relaxed to suit the availability of participants. This resulted in a combination of individual and group interviews providing rich data. In addition, the jury designed a survey questionnaire particularly to obtain the views of young people.

### Results

Three main findings are selected here for further elaboration:

The knowledge, interest and approach of primary care professionals at diagnosis and for ongoing care was identified as highly variable. The diabetes specialists reported that they were more likely to be contacted informally for advice by those primary care professionals already well engaged in providing high quality care to their diabetes patients.

Varying belief systems held by clinicians about lifestyle factors and about the benefits of specific treatments were revealed which were at variance with best practice promulgated by national clinical evidence and guideline producing bodies such as NICE.

The jury heard from professionals that three monthly (rather than the usual annual) monitoring of blood sugar levels was not expensive and would be beneficial in terms of control, prevention of complications and early intervention where necessary. This accords with findings reported in the academic literature.

### Discussion

The variation of knowledge and interest in primary care in the treatment of diabetes suggests a virtuous circle benefitting one group of patients and a vicious circle affecting a second. Clinical inertia in the treatment of diabetes, as reported in the academic press, may also be a consequence of individual belief systems at odds with the clinical evidence.

The findings led to a recommendation that the CCG should develop and include a specific standard for the management of diabetes in the local GP contract to reduce variation.

The theme of this conference is evidence-based management and this initiative is a rare example of managers prepared to embrace knowledge drawn from the evidence gathered by lay people. The citizen's jury model is in its infancy; it corresponds with the highest level of Arnstein's ladder of public participation and reflects the potential of using lay wisdom to drive evidence-based improvements.

Tuesday 16 June

11.00-12.30

## Planning and Purchasing Care I

## Involving clinicians in local health service planning: the case of clinical commissioning groups in England

[Ruth Robertson](#)<sup>1</sup>, [Holly Holder](#)<sup>2</sup>, [Shilpa Ross](#)<sup>1</sup>, [Laura Bennett](#)<sup>1</sup>, [Jennifer Gosling](#)<sup>3,2</sup>

<sup>1</sup>The King's Fund, London, UK, <sup>2</sup>The Nuffield Trust, London, UK, <sup>3</sup>London School of Hygiene and Tropical Medicine, London, UK

### Context

Clinical commissioning groups are local GP membership organisations that hold responsibility for allocating two thirds of the NHS commissioning budget. They were created across England by the Health and Social Care Act of 2012 with the aim of giving clinicians more say over health service planning decisions than their predecessors, primary care trusts. Evidence from the United States and elsewhere highlights the importance of investing in leadership training and development to create effective clinical commissioning organisations. This study addresses how successful clinical commissioning groups have been in involving clinicians in their work and supporting and developing their clinical leaders.

### Methods

This is an on-going three year study of six case study CCGs in England, selected using a random stratified approach to vary in size, geographic location, level of deprivation and the urban/rural nature of the CCG. Observations and semi-structured interviews were conducted between October 2012 to March 2013 and January to March 2014 with CCG leaders, GPs, and representatives from other external bodies who interact with the CCG; board papers and other relevant documents were reviewed; and an online survey of GPs was fielded in Feb/March 2013, Jan/Feb 2014 and Jan/Feb 2015.

### Results

During their first year as fully established organisations, the CCGs in this study broadly maintained engagement from their GP membership despite the demand and financial pressures on general practice. GPs were more positive about the level of influence they had in the CCG than the influence they had over primary care trusts in the past. However, there was also evidence that the initial enthusiasm among some of the GP leaders who were most closely involved in the work of their CCG had started to wane. CCGs were not always getting maximum value out of the involvement of clinicians in commissioning because of: pressure on GP leaders' time; the need for leadership development and succession planning; internal governance structures; and the complex external environment that required CCGs to work at scale with neighbouring CCGs and other health and social care organisations and to respond to central requests from government.

### Discussion

The waning enthusiasm among some GP leaders poses a serious risk to the sustainability of clinical involvement in commissioning. The development of large GP provider organisations, who themselves require clinical leaders, places an additional demand on the time of the relatively small pool of GPs who are interested in leadership roles. To sustain clinical involvement in decision-making CCGs and NHS England must invest in a clear leadership strategy that supports current clinical leaders and trains a future cadre. As CCGs evolve and commissioning responsibilities develop, CCGs will need to explore ways to ensure the clinical voice remains strong in their decision-making process. Without structures that encourage innovative and critical input from clinicians, CCGs will not be able to achieve one of their original principles: that commissioning led by clinicians would lead to more appropriate decision-making, better outcomes for patients and more effective use of resources.

## Joint Alliance between the Finnish Defence Forces and the National Institute for Health and Welfare of Finland - Simulation Based Research Supporting Service Structure Reform

[Kimmo Parhiala](#)<sup>1</sup>, [Bernt Åkesson](#)<sup>2</sup>

<sup>1</sup>National Institute for Health and Welfare, Helsinki, Finland, <sup>2</sup>The Finnish Defence Forces, Riihimäki, Finland

### Context

In recent years, there has been small steps in collaboration between the Finnish Defence Forces and the National Institute for Health and Welfare of Finland, but with a shared agenda and proper tools, the collaboration has taken further steps in the area of simulation based research for civilian healthcare management. At the same time, Finland is undergoing a nationwide service structure reform in order to gain balance between the raising patient needs and the diminishing healthcare resources.

### Methods

Simulation-based research in healthcare gives the researchers a possibility to create a reality-linked, but at the same time, evidence-based product for decision makers. Based on a set of analysis questions, the gathered information is incorporated into a scenario, which can be implemented into a simulation system. The simulation can then provide the decision makers with a "control knob" situation, where turning one knob will affect the whole system in various ways. The simulation itself is based on the collected data, so it can be modified to meet the reality more precisely by gathering more data on the "knobs" and the variables. In this study the probabilistic simulation model Sandis ELLA, originally developed for the Finnish Defence Forces for simulating medical evacuation, is used for implementing the scenario.

### Results

A joint team has been assembled consisting of professionals with background from medical science, key technical skills, economics and a viewpoint from social sciences as well. The team has started working with a simulation in order to create a scenario which reflects the reform-level changes in institutional care in Finland. For this purpose, a large quantity of data already exists, which has been collected by the National Institute for Health and Welfare. This data will help the team in the development of a realistic scenario. Depending on the first results from the simulation, the team may have an operational role in the designing of new healthcare service structure in Finland. The aim of the study is not simply a set of figures, but a working model, which can answer multiple question instantly depending on the needs of decision makers.

### Discussion

This ongoing research will help to bridge the gap between gathered data and workable models reflecting the connections in the system. This is a viewpoint which can also help managers assess the information needs and direct the work in the right direction. This direction will bring the decision makers and scientists around the same table working towards the same shared agenda: an efficient healthcare system. From a national point of view the alliance is a strong example of multidisciplinary and horizontal collaboration within the government, breaking the invisible borders between the different institutions.

Tuesday 16 June

15.30-17.00

Integrated Care

## Stated and Non-stated objectives regarding the Portuguese Hospital Centres (HC): the results of a qualitative study

[Ana Simões](#)<sup>1,3</sup>, [Américo Azevedo](#)<sup>1,3</sup>, [Suzete Gonçalves](#)<sup>2</sup>

<sup>1</sup>University of Porto, Porto, Portugal, <sup>2</sup>Centre of Research in Health Studies, Coimbra, Portugal, <sup>3</sup>INESC Porto, Porto, Portugal

### Context

In many countries hospitals have been encouraged to be more autonomous. This autonomy has benefits, but on the other hand hospital needs to be seen as a part of wider networks. They need to work closely with other hospitals, since it's impossible that each hospital offers a complete range of services. The Portuguese health system has been conducted horizontal integrations among hospital units (Hospital Centres creation) to answer to this challenge. The main purpose of this study is to ascertain the most important stated and non-stated objectives of Portuguese HCs expected by HC internal stakeholders and external key-informants.

### Methods

A qualitative case study research design was conducted to capturing the understanding, expectations and experience of the internal HC stakeholders and the external key informants (healthcare managers and academic experts with current or past experience in planning, implementing and managing HCs). We chose the case study as the most appropriate methodology because it is suitable to study complex phenomena.

Two semi-structured interview guides were developed (one for key-informants and another one for the internal stakeholders) based on the literature review and research team experience. Documentation analysis was also carried out. Transcripts of the interviews and documentation were analysed using NVivo 10. Content analysis was used as a research method to analyse data. An initial coding scheme was developed based on prior relevant research findings. As analysis proceeded, additional codes were developed, and initial coding scheme was revised and refined.

### Results

The information gathered with this qualitative study gave us a comprehensive idea of objectives, benefits and other concerns that are most valued by the HC internal stakeholders and by external key-informants regarding the HC creation. The objectives were distributed by three evaluation dimensions: Organizational, Patient and Professional. The main objectives in Organizational dimension were: Improve/optimize resources utilization; Improve Scale Effect and Creation of synergies between the integrated units and hospital departments. In patient dimension were: Reduce inequalities in care; Improve healthcare quality (perceived) and Better response to community needs. In professional dimension were: Improve professional conditions and Improve work climate.

Additionally, after analysis it was possible to define external factors that contribute to a successful integration. The support of local and regional authorities as a communication channel between HC board and local population seems to be a very important factor.

### Discussion

Our objective in this study was to define not also the stated objectives of HCs, but also to identify the objectives that weren't defined in any official document, but that were in the mind of these two groups. The results allowed enriching and complementing the stated objectives with new insights, giving a more complete perspective regarding the HC objectives. These results offer us the opportunity to gathered new insights from expectations and experience regarding the Portuguese HCs.

This study constitutes the first stage of a broader research project which aim is to generate an evaluation framework that considers the dimensions and objectives that are most valued by the different stakeholders. Our results gave us a valuable input for the evaluation framework since it will be more complete and adjusted to reality.

## The development model for integrated care - continued!

[Mirella Minkman](#)

Vilans, Utrecht, The Netherlands

### Context

The organisation and implementation of integrated care is complex, time consuming and benefits by tools or models that facilitate the development of integrated care practice. Integrated care gets extra attention in the Netherlands nowadays because of the current health care reform (2015), decentralisations and shifting roles between all regional and local stakeholders. In 2012 the Development Model for Integrated Care (DMIC) was developed which describes the essential ingredients of integrated care. In the last years the use of the model is expanded in practice and internationally, tools are developed and new research related or using the DMIC is available.

### Methods

The DMIC and Phd report won the Karolinska/EHMA Research award in 2012. The model was developed by using literature studies, a Delphi study, concept mapping, questionnaire research and was validated in 84 practices (stroke, dementia and acute myocard infarct). The model contains 89 essential elements of integrated care, clustered in 9 themes and describes four development phases where integrated care services can go through. Based on the model a webbased self assessment tool has been developed, which can be used by multiple stakeholders per integrated care setting to evaluate, assess or help improve the current situation. Other new developments are the construction of a DMIC quick scan, research about the 'soft factors' of cooperation in care and a study about the relation between the outcomes and the organisation of care (in stroke services, measured with the DMIC). Also the first international experiences with the DMIC in Canada are available.

### Results

Since the DMIC has been launched in 2012, over 440 health care professionals working in 136 integrated care networks used the webbased DMIC tool to self assess their integrated care setting. The use of the model expanded to integrated care for stroke, dementia, diabetes care, autism, palliative care, elderly care, parkinson and brain damage patients. Although these networks differ on characteristics like the care process, involved professionals and stakeholders, the relevance score of the models elements are high (> 0.904), also in the Canadian study. The new study on cooperation in care showed that this topic is covered by the DMIC and led only to a few additional elements like transparency and giving priority to the collaboration. The DMIC is used to benchmark 36 diabetes integrated networks. This study showed significant different scores per subgroup (professionals, coordinators, managers) while involved in the same network.

### Discussion

New research showed that the nine DMIC clusters (client centeredness, delivery system, performance management, quality of care, result-focused learning, interprofessional teamwork, roles and tasks, commitment and transparent entrepreneurship) and the four development phases are relevant for a large range of integrated care settings, also outside the Netherlands. The developed model, the quick scan and the webbased tool can be presented at the EHMA conference which can contribute to the evidence based knowledge and management of integrated care. Examples of the use in practice can be demonstrated which could inspire more guidance in the complex process of integrated care development. Also the experiences with using the DMIC as a research framework or as a benchmarking instrument can be presented and discussed. Because the evidence for the DMIC as an generic conceptual model is growing, this can be interesting for an international audience.

Tuesday 16 June

15.30-17.00

## Staff & Health Care Regulation I

## Multifaceted support needed for physicians, nurses and midwives after being involved in an adverse event

[Eva Van Gerven](#), [Walter Sermeus](#), [Martin Euwema](#), [Kris Vanhaecht](#)  
KU Leuven - University of Leuven, Leuven, Belgium

### Context

Mistakes, slips and lapses can cause obvious negative consequences for the patient, but also the impact on the involved caregiver can be significant. In literature these caregivers are referred to as the 'second victims' after an adverse event. Second victims can suffer on both emotional and professional level. Several studies have reported signs and symptoms such as shame, guilt, anger, self-doubt and overall stress symptoms. The most important factor for how second victims cope is support. Healthcare institutions today often fail to take responsibility for the provision of clinician support and provision of the necessary elements of a support system.

### Methods

Thirty-one in-depth interviews were performed from June 2013 to January 2013 with physicians, nurses and midwives to examine two research questions: (1) what kind of support did these second victims receive and need after involvement in an adverse event and (2) what aspects determine whether one becomes a second victim to a greater or smaller extent?

Data was analyzed using sensitizing concepts and the software Nvivo.

### Results

Support was provided in various ways by different people and was appraised either as beneficial or disapproving. Depending on their comprehension and empathy, support of family, friends and colleagues was appreciated. Support from colleagues who have experienced the second victim phenomenon before, an ombudsman or professional experts were seen as most beneficial. Received support was largely dependent on the organizational culture. Emotional support and the opportunity to learn is most requested and appreciated. Education on the second victim phenomenon was suggested to be useful.

There appeared to be three levels that determine the extent to which a healthcare professional becomes a second victim to a greater or smaller extent: individual characteristics of the involved healthcare professional, situational aspects of the adverse event and the organizational culture. Within these three levels, several aspects can increase or decrease the negative impact on the second victim.

### Discussion

Support can be rendered at three levels: informal support from colleagues, formal organizational support from a trained support team and professional counseling support. Although an important source of support was found at the home front. However, social support can also be unwanted. Not every person benefits from the immediate attention. Each event is a unique experience requiring other types of support, but the three levels of support should facilitate the emotional recovery of the healthcare professional.

A multifaceted approach to support second victims in an appropriate way is necessary. The appropriate ethical reaction consists of reporting the event, however if they fear disciplinary actions, this might feel like a no-win situation. We must emphasize that an open, no blame-no shame culture is an important condition for this to be possible.

## A qualitative study of how non-conformities are expressed and finalized in external inspections of health services

[Einar Hovlid](#) <sup>1,2</sup>, [Geir Sverre Braut](#) <sup>1,3</sup>, [Helge Høifødt](#) <sup>1</sup>, [Bente Smedbråten](#) <sup>1</sup>

<sup>1</sup>The Norwegian Board of Health Supervision, Oslo, Norway, <sup>2</sup>University of Bergen, Bergen, Norway,

<sup>3</sup>University Hospital of Stavanger, Stavanger, Norway

### Context

External inspections are widely used in health care as a mean to improve the quality of care. The way external inspections affect the inspected organization is currently poorly understood. A better understanding of these processes can improve our understanding of why effects of external inspections seem to vary, and facilitate the development of more effective ways of conducting external inspections. The way the inspecting body states the grounds for non-compliant behavior and subsequently follows up to enforce necessary changes, can have implications for the inspected organization's change process. The current study explores this matter.

### Methods

We conducted an explorative case study. Our case was public supervision in Norway which is carried out to ensure that health services are provided in accordance with national acts and regulations. We approached the 18 county governor offices that conduct public supervision in Norway on behalf of the government and asked them to submit the correspondence of their two latest completed external inspections in which they had encountered non-conformities, one inspection from a hospital and one from primary care. We imported the documents into Nvivo and performed a content analysis where we combined codes derived from a predefined theoretical framework and codes derived from the data. Our theoretical framework was Donabedian's structure, process and outcome model. We used it to guide our analysis of the content of the non-conformity statements, their corresponding observations and the inspected organization's measures to address the non-conformities.

### Results

We completed the analysis of the written correspondence in 30 external inspections, 16 from primary care and 14 from hospitals. Non-conformity statements addressed a combination of deficiencies in the inspected organizations' management system and work processes. The most frequently described deficiencies in the management system concerned written guidelines, education, and discrepancy reports. We identified two patterns characterizing how observations supported the non-conformity statements. One in which it was clearly demonstrated how deficiencies in the management system could affect the corresponding work process and one in which this connection was not demonstrated. The inspected organizations' change initiatives tended to address deficiencies in the management system. We identified two patterns characterizing how the inspections were finalized. One in which the inspection was finalized solely based on documented changes in structural elements in the management system and one based on documented changes in structural elements and the corresponding work processes.

### Discussion

One of the main purposeses for carrying out external inspections is to facilitate quality improvement. To accomplish this aim it is likely that the inspected organizations need to make changes to structural elements of their organization, like the management system, and the corresponding work processes. To facilitate this kind of change we suggest that non-conformity statements should be grounded by observations that clearly demonstrate how deficiencies related to structural element like the management system might affect the corresponding work processes and clinical care. The inspecting bodies need to pay attention to how external inspections are finalized. In order to contribute to change in the inspected organizations, we suggest that external inspections should be finalized based on documented changes in both structural elements, like the management system, and the corresponding work processes.

## How should the Inspectorate act according to the public?

[Renee Bouwman](#) <sup>1</sup>, [Roland Friele](#) <sup>1,2</sup>, [Manja Bomhoff](#) <sup>1</sup>

<sup>1</sup>NIVEL, Utrecht, The Netherlands, <sup>2</sup>Tilburg University, TRANZO, Tilburg, The Netherlands

### Context

In the wake of various high-profile incidents in a number of countries, regulators of healthcare quality have been criticised for their 'soft' approach. Also, concerns were expressed about public confidence. Differences seem to exist between what the public expects from a regulator of healthcare and the values as expressed in underpinning policy and legislation. However, for The Netherlands, it is unclear whether this difference really exists or whether the apparent difference is only a result of media interest.

### Methods

A questionnaire was submitted to 1500 respondents of the Dutch Healthcare Consumer Panel. Questions were developed around central ideas underlying healthcare quality regulation policies. The response rate was 58.3%.

### Results

The public sees the regulator as the most important party for quality of care. In the public opinion care providers come after the regulator. Patients rated themselves as having the least responsibility. We noticed similar patterns for the food service industry and the education sector.

The public sees complaints about health care from patients' associations as an important source of information for quality regulation, while fewer respondents trusted information delivered by care providers.

Finally: respondents supported the regulator's softer approach. When a care institution delivers poor care the Inspectorate should, according to the vast majority of people, double check the care situation and provide recommendations for improvement.

### Discussion

Result show that gaps and similarities exist between public expectations of regulation and the underpinning policies and legislation.

There is little confidence in the regulator's use of information obtained from care providers' internal monitoring, while a larger role is seen for complaints of patient organisations.

From the perspective of both the Inspectorate and care providers it, however, is inconceivable, that an Inspectorate would not, also, rely upon the information that is collected by care providers themselves. It would not only be inefficient, but using this information also provides the Inspectorate with information on the degree of control by care providers.

The public seems to agree with the values in legislation and policy regarding the regulator's approach. A gradual, and often soft approach, is favoured by the public in spite of the criticism that is voiced in the media regarding this approach.

Tuesday 16 June

15.30-17.00

Quality of Care

## Safety culture and teamwork to improve patient safety - an evidence based approach in mental health

[Andrea Schweiger](#)<sup>1</sup>, [Guido Offermanns](#)<sup>1,2</sup>

<sup>1</sup>University of Klagenfurt, Klagenfurt, Carinthia, Austria, <sup>2</sup>Karl Landsteiner Institute for Hospital Management, Vienna, Austria

### Context

The purpose of this study is to investigate the need for a safety culture in health care organizations, in particular to enhance patient safety through effective teamwork in mental health care. In order to improve patient safety in mental health care settings the organization needs to develop a safety culture at all levels, which leads to effective communication and reduced error rates. Although there is much information about adverse events and teamwork in the operating room, there is a lack of awareness about adverse events and safety issues in non-surgical units, especially in neurological and psychiatric settings.

### Methods

The survey was conducted in two selected neurological and psychiatric units in an Austrian hospital. To assess the safety culture within the units, we combined the German version of the Hospital Survey on Patient Safety Culture and the German version of the Safety Attitudes Questionnaire and developed the FSKT which includes the most important questions of both surveys. 153 staff members received the questionnaire, of which 54 were completed (response rate of 35%). The data obtained in the survey were transferred to SPSS. At first we used descriptive statistics for assessing safety culture (comparison of mean scores of the dimensions) between and within units. Next, Spearman correlation was applied to determine a link between safety culture, teamwork and patient safety to answer the hypotheses.

### Results

Findings suggest a mainly positive safety culture throughout the sample and a positive correlation between effective team structures and patient safety. It should be noted that solely effective teamwork (communication openness, non-punitive response to error, feedback and communication to error) is associated with patient safety whereas just working in teams or unspecific communication cannot be linked with patient safety.

### Discussion

Limitations considered in the study are first the small, not randomized sample and secondly, due to the lacking validation, the used questionnaire should not be compared with other studies yet. In addition to quantitative surveys we also require the need for more qualitative research (observation, interviews) to enhance the transparency for evidence based decision making. Nevertheless the study contributes to a deeper understanding of teamwork and patient safety and raises awareness of further research in the uniqueness of the neurological and psychiatric setting.

## Defining Hospital-Based HTA Best Practices: adaptation of the EFQM business excellence model to the Hospital setting

[Lucinda Cash-Gibson](#), Olena Tigova, Esther Vizcaino, Marta Ribeiro, Magdalene Rosenmüller  
IESE Business School, Barcelona, Spain

### Context

The use of Health Technology Assessment (HTA) as a part of the decision-making process at national, regional, and international levels has evolved considerably over the past 35 years. In recent years, hospital based HTA (HB-HTA) is gaining relevance because hospitals are the main entry level of innovative technologies and HB-HTA analyses consider the hospital's specific context.

Still, there is no common managerial framework to achieve HB-HTA excellence performance.

In the FP7 AdHopHTA project, one of the main objectives is to define HB-HTA best practices and implementation tools by applying business and management frameworks.

### Methods

Based on a review of different business excellence models with a specific focus on successful application in health settings, the EFQM model was selected. This model was adapted to the HB-HTA function through a literature review and an iterative process: application to AdHopHTA partner's settings and a focus group discussion. Consensus on the items of the framework was explored through a Delphi survey among renowned global HTA and HB-HTA experts. Delphi results enabled a prioritization of key elements into a final list of HB-HTA best practices guiding principles. The guiding principles were used to build a practical managerial tool to identify the maturity level of the HB-HTA function.

### Results

The adaptation of the EFQM led to the identification of a preliminary set of key elements relevant as best practices for HB-HTA. The Delphi survey showed a strong consensus on the importance of these elements demonstrating the adequacy of the proposed framework. For practical application, the HB-HTA excellence framework was adapted: the HTA process was placed at the core, guided by Leadership & Strategy, supported by Partnership and Resources, and leading to Results and Impact. Alongside, the key elements were fine tuned into a final list of 17 guiding principles. Based on this, a readiness self-assessment tool was developed to be used by HB-HTA professionals in order to evaluate their strengths and areas for improvement in the HB-HTA function.

### Discussion

The adequacy of the EFQM has been confirmed by global HTA and HB-HTA experts as a good tool to identify best practices for conducting HTA at the hospital level. Moreover, the systematic elaboration of the framework allowed additional insights to guide the development of a toolkit for the establishment or improvement of a HB-HTA function. The Framework will be a fantastic self-assessment tool to see how well the HB-HTA unit is managed, or serve as blueprint for setting up a new one.

## Systematic multi stakeholder definition of health service quality: a case study in cataract care

[Aline C Stolk-Vos](#)<sup>1</sup>, [Jan JV Busschbach](#)<sup>3</sup>, [Joris J van de Klundert](#)<sup>2</sup>

<sup>1</sup>Rotterdam Ophthalmic Institute, Rotterdam, The Netherlands, <sup>2</sup>Institute of Health Policy and Management, Erasmus University Rotterdam, Rotterdam, The Netherlands, <sup>3</sup>Department of Medical Psychology and Psychotherapy, Erasmus MC, Rotterdam, The Netherlands

### Context

The perspectives on health service quality vary among stakeholders, as do defining dimensions and corresponding indicators. This may complicate alignment and measurement of health service quality. This study describes how to identify relevant stakeholders and develop an intersubjective multi-stakeholder perspective on health service quality. Moreover, we systematically address differences in perspectives among stakeholders.

### Methods

Our study considers health service quality using cataract treatment in The Netherlands as a case study. It first identifies and classifies stakeholders using stakeholder theory. A selection of stakeholders subsequently forms the participant group to develop an intersubjective perspective on health service quality for cataract using concept mapping. The quality measures are derived from literature and complemented with suggestions by the stakeholders. The measures were subsequently structured, sorted and rated by the stakeholders and the results were analysed using multivariate statistical analyses resulting in a clustering. We systematically identify the differences among stakeholders and discuss these differences in relation to health service quality.

### Results

We identified seven definite stakeholders: The Dutch Ophthalmic Society, ophthalmologist, general practitioner, optometrist, health insurer, hospital, and private clinic. Seventeen experts, representing the stakeholders, sorted 126 indicators into seven clusters, i.e., patient centeredness and accessibility, interpersonal conduct and expectations, experienced outcome, clinical outcome, process and structure, medical technical acting, and safety. Overall, strong correlations were found regarding importance of clusters among the stakeholder groups with the exception of the optometrists. Moreover, the study revealed noteworthy differences in perceived importance of quality dimensions between ophthalmologists and the National Health Care Institute.

### Discussion

The results show how the stakeholder analysis and concept mapping together provide a robust method to derive an intersubjective inventory of health service quality dimensions encompassing the views of all perceived main stakeholders. In addition the methods enable to systematically identify differences in viewpoints, as relevant to address when aiming to develop an inclusive quality measurement and management system.

Tuesday 16 June

15.30-17.00

Improving Patient Flow - Lean and other approaches

## Deployment of LEAN thinking in Finnish healthcare

[Tapani Jorma](#)

University of Oulu, Oulu, Finland

### Context

The Finnish healthcare system is facing the same problem as other developed countries: an ageing population, rising costs and scarcity of resources. Thus, there is a need to do more with the same resources and to seek new ways to manage and organize healthcare. LEAN thinking represents the latest methodology in healthcare management (Mazzocato et al. 2010). It focuses on customer value and smooth processes without waste and it has gradually diffused to healthcare. There are positive expectations for LEAN: it gives healthcare professionals a chance to redesign their work in more efficient way without the need of extra resources.

### Methods

The aim of the research was to find out how LEAN thinking is deployed and used in hospital services and in primary healthcare in public Finnish healthcare and what kind of outcomes have already been achieved. First, a literature review was conducted to gather background information about LEAN in healthcare. After formulating research questions based on research data with no previous research data from Finland, a webropol questionnaire was built to gather information about deployment of LEAN thinking in public hospital services and primary healthcare. A personal webropol link was sent to healthcare professionals (N=248) working directly with patient and care processes. Data were analyzed quantitatively with statistical software packages (Minitab 16 and IBM SPSS Statistics 22).

### Results

Response rate (N=110) was 44,4%. Developing healthcare processes was seen as a very important issue. The most important reason for deploying LEAN was to improve efficiency or to seek financial savings, although numerical data are lacking. LEAN is rather new in both primary healthcare and in hospital services: in most cases, deployment started less than 5 years ago with small financial investments. LEAN thinking is mostly used in process improvement or development activities. 14,2 % of primary healthcare- and 15,5% of hospital service responders also considered LEAN as a management system. Compared to primary care organizations, hospital organizations had more often a LEAN specialist. There was also a trend ( $p=0.077$ ) reflecting a difference between organizations in how LEAN was introduced. The overall experience of success in LEAN initiatives was very high, although in many cases no specific numerical target were required prior to the adoption of the LEAN initiative.

### Discussion

LEAN thinking has recently been diffusing into public Finnish healthcare, but the depth and volume of LEAN usage is still low. The trend is the same in public primary care and hospital services, reflecting modest financial investments and resulting the usage of LEAN mainly as process development tool. LEAN is mainly used to search for financial savings, but it is not deployed systematically. LEAN knowledge comes mainly from practical experience, not from formal education of healthcare professionals, which reflects the lack of financial resources. A dedicated LEAN specialist is more often found in hospital environment, which may be due to larger unit size compared to primary care organizations. This may also reflect the more "process oriented" environment in hospitals. As a new method in Finnish healthcare environment, LEAN offers potential for further study. Expectations for managing and developing healthcare processes are high and the first experiences of LEAN are positive.

## Innovation through optimized and integrated Patient and Supply Flows in Hospitals: the results of a collaboration network

[Kaat De Pourcq](#) <sup>1,2</sup>, [Paul Gemmel](#) <sup>1,2</sup>, [Jeroen Trybou](#) <sup>1</sup>

<sup>1</sup>Ghent University, Ghent, Belgium, <sup>2</sup>iMinds-CSI-UGent, Ghent, Belgium

### Context

A hospital consists of a complex set of clinical, material and information flows, which must come together in a point-of-care where the patient and the healthcare professional interact. The synchronization of the different flows in an efficient manner, calls for innovative solutions embedded in a network of multiple stakeholders. Collaboration networks among multiple stakeholders could enable hospitals to optimize flows by linking material and information throughout the supply chain (Durugbo & Riedel, 2013).

### Methods

The ultimate goal of this study is to develop a method and tool-box for the coordination, alignment and optimization of the patient, supply and information flows taking into account various resources (such as materials, staff and equipment) and the introduction of innovative IT systems. Several operational management methods were used such as the design of a set of flow-oriented performance indicators, process modeling, process mining and simulation techniques. Furthermore, the toolbox should be designed in such a way that it can be implemented in hospitals to effectively steer and synchronize the different flows. This requires the involvement of different stakeholders such as academic research groups, suppliers and hospitals as users. Using a case study method, we describe how a network of two hospitals, an IT integrator, RFID technology providers, a logistics service provider, and multi-disciplinary academic research groups leads to the design of a useful and innovative tool-box.

### Results

The collaboration within this study made it possible to investigate downstream and upstream relationships at supplier-hospital interfaces. This approach provided insights into supply and value networks and an in-depth understanding of the transition from 'product thinking' to 'system thinking'. Integrating the perspectives of the industry into healthcare was challenging. The terminology and focus within the different fields of industry and research led to communication difficulties. Using a multidisciplinary approach we overcame this challenge. An overall perspective on patient-, material- and information flows was created and the knowledge of suppliers and hospital management collaborating in the network was integrated. Moreover, from a contingency perspective we also integrated the opinions from care professionals (nurses and physicians) working in the hospitals. The innovative toolbox contains several applications and methodologies to develop an operational performance dashboard using hip surgery as case study. Measurements and tools are adjusted to the specific characteristics of healthcare.

### Discussion

Healthcare managers are looking with bigger interest to optimizations of process alignment. While these concepts are not new in the industry sector. This is a rather new concept in hospital operations management (Villa, Barbieri, & Lega, 2009). Industrial companies have experience in several improvement programmes in the field of supply chain and information technology. Although, the healthcare sector differs from the industry because of specific characteristics, hospital managers can learn from this experience. This study integrates different perspectives and competencies of experts of both private companies and hospitals. The multidisciplinary research group sustains the research project. The results of this study are realized because of the broad knowledge of the partners participating in the project. We state that better cooperation between hospitals, hospital suppliers and research groups can sustain process optimization in healthcare. Research should fit the demand of the healthcare sector integrating multidisciplinary knowledge of both academics and practice.

## Nurse services in the management of unscheduled patients with acute health problems

[Isabel Casado](#), [Àlex Giner](#), [Laura Sancho](#), [Montse Tapia](#), [M<sup>a</sup> Antònia Noguera](#), [Agustina Malo](#)  
Consorci Castelldefels Agents de Salut d'Atenció Primària (CASAP), Castelldefels, Spain

### Context

Primary health care systems structure and services they deliver vary a lot across countries. In Spain, many of the public primary care centers employ family doctors, pediatricians, nurses, dentists, social workers, and administrative staff providing broad health care. Our center serves of population of 28.000 inhabitants and has as one of main objectives to solve most health related problems by increasing accessibility and speeding the assistance process. In order to achieve this, the center started a major change in the way it meets the demands of our population by nurses managing the acute health demands for unscheduled visits.

### Methods

We started by making available close to the main entrance two consultation rooms, where nurses could visit the walk-in patients. To reach a high resolution of the patients visited, nurses went through a training process with doctors from the reference hospital and from within the clinic. Clerks were also trained for proper referral of the patients based on their symptoms. To standardize the visits, internal pathways were created and a guidebook called "Nurse Intervention Guidebook" was designed. The guideline was elaborated by team work and includes the twenty-three most common reasons for unscheduled demand and eighteen emergency situations. Problems to be solved autonomously by nurses had been selected from the most frequent ones according to previous literature. The guideline has three parts: the protocols section, divided by acute and urgent health problems, the recommended drugs section, and the addendum section, including pain assessment scales, X-ray projections and neurological assessment.

### Results

In 2013, we evaluated the outcomes of nurse services for walk-in visits, sampling 594 patients attended during a period of 6 months. The most common consultation was for upper respiratory symptoms (13%), followed by vomiting or diarrhea (12%) and sore throat (11%). The overall nurse autonomous resolution was in 74% of the total patients, the rest being referred to the doctor for evaluation. The average waiting time was 9 minutes. We also conducted a telephone survey to measure the degree of satisfaction with this new attending approach with the results being 8 over 10 on a Likert scale.

### Discussion

This organizational change puts nurses at the gatekeeping of the primary care system, allowing us as a team to attend more patients in less time and allowing doctors to dedicate more time for complex tasks. It also leads to an increase of professional capabilities of our nurses. The success of this change led us to the implementation of the same system in the pediatrics department of the center.

## Using Lean to improve nurse effectiveness in a medicine Ward: leading to better compliance with hand-hygiene practices

[Luís Lapão](#) <sup>1,2</sup>, [João Gregório](#) <sup>1,2</sup>, [Inês Santos](#) <sup>1</sup>

<sup>1</sup>Instituto de Higiene e Medicina Tropical, Lisboa, Portugal, <sup>2</sup>WHO Collaborating Center on Health Workforce Policy and Planning, Lisboa, Portugal

### Context

Nurse workflow optimization is an important issue in hospital ward effectiveness. For these reasons, healthcare managers have looked for tools like Lean systems to address this problem.

Healthcare-associated infections (HAIs) are an important cause of morbidity and mortality in Europe, having a significant economic impact. In Portugal, despite a national program aiming at reducing HAI rates, these rates are still high compared to northern European countries.

Hand-hygiene is considered the most effective activity to reduce HAI. Thus, health professional's compliance to hand-hygiene is essential. It is of importance to understand how one can overcome barriers and improve this compliance.

### Methods

In order to improve nurse effectiveness and to better understand how it links with hand-hygiene compliance, a LEAN system approach was chosen.

An urban hospital was selected, since the setting and organization of a hospital can impact the performance of health services. We started our approach with a "gemba walk" observational study of an eight work shift in a medicine ward, looking to understand nurses' work processes, to describe hand-hygiene compliance and to identify waste and opportunities for improvement.

After this, a Value stream map (VSM) was designed and validated by the nurses of these two wards. Following this validation, a one-day LEAN workshop was held with the objective of improving workflow efficiency (having the hand-hygiene process in mind). The results of this improvements will be assessed in a final observational study.

### Results

From the initial observational study we found several opportunities for improvement: an average nurse may take about 16% of their work time for the use of the information system and the overall rate of hand-hygiene was only 63%, motivated by lack of time. Also, we found that the full compliance to every moment of hand-hygiene would amount to about 13% of a nurse's workload.

With the observational study data, we proceeded to the VSM validation. Minor adjustments were made, and two processes were identified as the most important regarding hand-hygiene compliance: the provision of essential materials in the right places and the administration of medicines. This last process was found to be the one most subject to errors and waste.

The LEAN workshops allowed the identification of improvement opportunities that are now being implemented and will be assessed in the next months.

### Discussion

The findings of the observational study help to support the need for improvement of nurses' work processes. The notion of lack of time may be supported by our data which made the necessity to improve ward and work processes organization more visible. The LEAN workshops were fruitful, allowing a great participation of the nurses in the improvement of their work processes and workload. However, several issues arisen from this study. The lack of time and resources that derives from the economic crisis, and the consequent lack of motivation were found to be the biggest barriers to the prosecution of this study within the wards. The necessary commitment of the hospital administration was weak, leaving to difficulties in scheduling the workshops. Using Lean System in a health service implies a cultural openness to quality improvement that we found to be absent.

Wednesday 17 June

09.00-10.30

Networks

## Virtual Oncological Networks - Which IT Support is needed for a Regional Evidence Based Health Care Management? - Empirical Results of a Qualitative Expert Study

[Monika Sinha](#), [Katja Heiden](#), [Britta Böckmann](#)  
University of Applied Sciences and Arts, Dortmund, Germany

### Context

To achieve high quality in regional oncological networks (consisting of Comprehensive Cancer Centers, clinics and residential specialists) interdisciplinary and intersectoral coordinated health care management is essential[1]. Components of this quality-assured regional health care management are: clinical practical guidelines, interdisciplinary councils, ongoing care processes of outpatient-inpatient and inpatient-outpatient, monitoring of quality indicators, using second opinions, and patient-practioners portals. The results of the empirical study presented here raise which specific issues the oncological experts require IT support for in the Health Care Management Platform, which follows oncological guidelines[2] and uses the national electronic case record[3] (eCR) as a communication platform.

### Methods

Qualitative guided interviews were chosen as the method for the empirical study to capitalize on the experts' wide knowledge and experience in oncological health care management. To date seventeen experts have been interviewed: CCC (8) and tumor centers with residential specialists (9). Almost all expert interviews were conducted in person to ensure validity, reliability and comparability. The analysis is structured on two levels: Initially the minutes of the semi-structured interviews were analyzed using the „Meuser und Nagel" content analysis method[4]. The results included deduction-based categories (which were explicitly asked about, making up two thirds) and inductive categories (which were raised by the interviewees themselves) The interviews brought up 426 different variables requiring a second stage of mixed methods analysis[5].

According to the empirical results the development of IT use cases is made for the Health Care Management Platform based on the eCR.

### Results

In the view of all experts the most important key topics for an IT support are the following: around the follow-up incl. data collection, preparation, processing and post processing tumor boards, further IT services such as patient reminders, second opinion and case management. Table 1 gives an overview.

Figure 1 Overall scenario

Table 1 Arithmetic of weightened issue's numbers

Regarding explicitly cited improvement potentials, more than half of the experts mentioned the need for an IT platform on which medical, nursing and psychosocial information is gathered. Especially the medical professionals of oncological centers stated the need for such an IT platform. Nearly half of the experts cited the need for IT support in realizing quality indicators.

### Discussion

The qualitative study explored the goals, preferences and information needs of seventeen oncological experts determine key processes along a guideline compliant treatment which need to be supported by information technology. These processes mainly affect the collaboration between all involved health disciplines as well as organizational aspects at outpatient-inpatient and inpatient-outpatient. In particular the organization of interdisciplinary tumorboards and the follow up processes including the collection of follow up data can be facilitated by the Health Care Management Platform. The usage of the electronic case record ensures a cross-institutional shared care communication to improve the interdisciplinary dialogue and a close documentation.

The use cases mentioned by the oncological experts are prototypically implemented within the Health Care Management Platform in close cooperation with the network of oncology experts for evaluation. Project results are outlined in a cookbook „IT strategy for oncological networks" which can be used by oncological networks as a template.

## Interorganizational network governance within the Belgian mental health reform programme

[Belinda Wijckmans](#), [Stephanie Van der Donck](#), [Mark Leys](#)  
Vrije Universiteit Brussel, Brussels, Belgium

### Context

Since 2010 Belgium launched a reform programme 'towards a better mental health through the realization of care circuits and care networks' promoting an integrated and community-based care model. Within this programme, 19 regionally distributed interorganizational mental health networks (MHN) were set up as pilots. The implementation experiences show us that working in networks requires a particular understanding of the context and urges to set up adequate network governance structures in order to improve network effectiveness (Provan & Kenis, 2007).

### Methods

Our research is inspired by a realist evaluation approach (Pawson & Tilley, 2004; Pawson, 2013). This methodology recognises the complexity of interventions and urges to recognize context and the dynamic relationships between various actors. We aim to understand the MHN implementation and its governance.

We use a prospective approach. Data collection and analysis include a documentary analysis of the 19 network plans, semi-structured face-to-face interviews with the network coordinators and promotors and focus group interviews with the MHN core partner organizations. We focus on the perceptions of the stakeholders regarding network governance (both strategic and operational) and on the implementation experiences, more specifically the facilitating and hampering factors related to the governance of the MHN.

### Results

The MHN use different governance approaches in this newly emerging complex (Belgian) field. Governing is mainly a 'learning by doing' experience: network partners seldom jointly reflect on the objectives and strategy of the MHN or on the governance model. Most governing bodies are developed ad hoc rather than based on a clear and common vision on a sustainable network. Partner organizations indicate that a lot of time is spent to get to know each other. The degree of mutual trust, often related to previous collaboration, affects strategic thinking and governance. Communication between governing bodies (horizontal) and towards the operational level (vertical) is often perceived as problematic. In cases where networks changed the initial governance model it is mainly a movement from a more participative towards a more layered or centralised governance model.

### Discussion

Research on network governance in this type of public health domain is scarce. However findings from governance and management literature are useful to understand the dynamics of this reform movement (e.g. Provan & Kenis, 2007). Governing a network with multiple partner organisations from different policy sectors encounters various difficulties. The 'field' or 'domain' characteristics and some intrinsic aspects of the reform programme raise particular problems in developing adequate network governance. Particularly for the mental healthcare sector it is not so much the "collaboration" between partners, but rather the development of adequate and well managed networks: historically collaborative experiences have mainly developed on the clinical and inter-professional level, far less on the institutional level. Moreover the complexity of the Belgian policy structures raises particular challenges. In the next stage of the process evaluation we will examine more closely what types of governance models are more adapted to context and network characteristics.

## Evidence of specialist sharing: Implications for managing hospitals in a competitive market

Daan Westra <sup>1</sup>, Federica Angeli <sup>1</sup>, Martin Carree <sup>2</sup>, Dirk Ruwaard <sup>1</sup>

<sup>1</sup>Maastricht University, Faculty of Health Medicine and Life Sciences, Department of Health Services Research, Maastricht, The Netherlands, <sup>2</sup>Maastricht University, School of Business and Economics, Department of Organization and Strategy, Maastricht, The Netherlands

### Context

Since the introduction of price-competition in Dutch health care, consolidative efforts between hospitals and between specialist groups have been apparent. While positive quality implications are often cited as the main outcome of consolidation, practical downsides linger. Problems for hospital management could for example occur when specialist groups cross organizational boundaries by merging. We investigate a loose yet similar form of organizational boundary spanning, which we refer to as 'specialists sharing'. The question whether hospitals deliberately share specialists with competitors or whether it arises from medical specialist themselves, along with its practical implications, is explored using a mixed methods approach.

### Methods

We consider a specialist shared when they work for more than one hospital simultaneously. Using AGB-codes acquired from Vektis, the national center for information and standardization in Dutch health care, we identify the affiliations of more than 15 thousand medical specialists to 86 general and 8 academic hospitals in the Netherlands. The sample includes specialists and organizations which, by insurance companies, were registered as being active in 2013. Through techniques of Social Network Analysis we built 29 inter-organizational networks, one for each medical specialty, to quantitatively explore the occurrence of specialist sharing between Dutch hospitals. 9 interviews with medical specialists of the Maastricht University Medical Centre were held in order to investigate the personal and organizational motives to work for multiple hospitals as well as to uncover potential problems and potential implications in terms of both cost and quality of care.

### Results

Quantitative analysis shows that specialist sharing is extremely common in Dutch health care. Across all medical specialties, 70% of Dutch hospitals share medical specialists, when only including tenured specialists 44% of all hospitals share specialists. In ophthalmology, 100%, and general surgery, 96% of the hospitals, it is most common. Hospitals located in similar regions also appear to be more likely to share specialists, while in clinical genetics (0%) and clinical chemistry (34%) the phenomenon is less common. Qualitative inquiries reveal that specialists believe that on a personal level, learning benefits and sub-specialization emerge through specialists sharing, although financial motives are also mentioned. However, respondents point out that it is predominantly an organizational decision to share specialists, used to abide by volume norms and counteract competition in the sector. Furthermore, specialists warn that practical problems regarding workload, time-management, and continuity of care are often overlooked.

### Discussion

The qualitative evidence that hospitals share human resources as a way to counteract competitive pressure, along with the quantitative evidence of its widespread occurrence, especially between hospitals active in similar regions, raises doubts about its implications in terms of competition. Furthermore, specialists caution that spanning organizational boundaries could negatively affect their performance and in line with previous research, we believe that it could also increase difficulties for hospital management to exerting control over specialists when they are affiliated to multiple organizations. While this is especially true for untenured specialist, our results suggest that there is no reason to believe that this is less true for tenured specialists. Our findings provide several questions for further research regarding the sharing of human resources across traditional organizational boundaries. Meanwhile, we urge hospital managers that due to potential implications for competition, practical issues, and unclear quality effects, this practice should be implemented with caution.

Wednesday 17 June

09.00-10.30

Long Term Care

## Assistive health innovations for people living with dementia: A social innovation approach

[Liselore Snaphaan](#) <sup>1,2</sup>, [Ellen Verhaegh](#) <sup>1,3</sup>, [Eveline Wouters](#) <sup>3,4</sup>, [Lena van Gastel](#) <sup>1</sup>, [Inge Bongers](#) <sup>1,2</sup>

<sup>1</sup>Tilburg University, Tranzo, Tilburg, The Netherlands, <sup>2</sup>Mental Health Care institute Eindhoven (GGzE), Eindhoven, The Netherlands, <sup>3</sup>Fontys University of applied sciences, Health Innovations and Technology, Eindhoven, The Netherlands, <sup>4</sup>Erasmus Centre for Health Care Management, Rotterdam, The Netherlands

### Context

For the upcoming 35 years a sharp increase of people with dementia is expected worldwide. To overcome this socio-economical threat, aging in place will be stimulated. The use of assistive innovations in home situations seems promising. However, the diffusion of those innovations is not sufficiently evident. Decision-making of using assistive innovations is influenced by the users themselves but also by the networks (like social and care networks) around them. Therefore, this study engages, in a social innovation approach, an open collaboration and co-creation network of various stakeholders to make aging in place with dementia possible.

### Methods

For this study, an innovation Ecosystem for Dementia Care was created (EDC). An innovation ecosystem is a helix structure of different stakeholders. EDC is a quadruple helix structure with people living with dementia, entrepreneurs, knowledge institutes, and (semi-)governmental organizations. In this clustered structure of stakeholders, (applied) research, provision of services, innovation and implementation are combined. To make this structure effective it relies on three key principles: shared savings, shared value, and shared knowledge. Each month, 13 representatives of these stakeholders collaborate to make aging in place possible by the use of assistive innovations. Several meetings with stakeholders have been organized. Information is qualitatively collected by focus group meetings and supplementary semi-structured interviews with the stakeholders. A topic list based on a literature search is used as starting point for the focus group meetings and interviews. Input collected is transcribed, coded, codified and interpreted with the program Atlas.ti.

### Results

From June 2014 until now, the EDC has grown to > 100 participants, who were aligned with (semi-) governmental organizations (n=9), entrepreneurs (n=17), knowledge institutes (n=6), and people living with dementia (n=51). Until now, six focus group meetings and eighteen interviews were conducted with different stakeholders. Preliminary results show that collaboration and co-creation between the stakeholders is essential to make diffusion of assistive innovations possible. Different expectations and assumed responsibilities however dominate. For example, companies seem to have difficulties to make people with dementia aware of their assistive products and services. Little consensus exists regarding to where an overview of information can be found and which information is both objective and reliable. Also, different expectations regarding which stakeholder should finance assistive technology, seems to be an important barrier for diffusion.

### Discussion

During half a year, more than 100 participants are collaborating in a social innovation approach to make aging in place with dementia possible. To make this social innovation approach effective, it seems that individual stakeholder groups need a linking pin between each other. Therefore, this linking pin has to speak several stakeholder languages, which could be accomplished by participating in the EDC. By the use of an EDC, the connection between the stakeholders will be made by adjusting the communication through shared knowledge, shared savings and shared values. This could have benefits for the diffusion of assistive innovations in dementia care.

## How older clients experience the operational access to long-term institutional care

Lisette Schipper<sup>1,2</sup>, Bert Meijboom<sup>1</sup>, Katrien Luijkx<sup>1</sup>, Jos Schols<sup>3</sup>

<sup>1</sup>Tilburg University, Tilburg, The Netherlands, <sup>2</sup>Surplus, Zevenbergen, The Netherlands, <sup>3</sup>Maastricht University, Maastricht, The Netherlands

### Context

The care and service access process is an important first step in the total care provision of long-term care for elderly. Direct interactions between care professionals and clients during the first contact influence the experiences of clients that subsequently follow during the actual care provision process. In earlier research, the access process has been studied from an organizational perspective. Access can be seen as a concept consisting of three closely related dimensions: availability, affordability and acceptability (three A's). The present paper starts from the three A's and takes a new perspective by investigating how older clients experience the access process.

### Methods

For this study, a qualitative design was chosen, because of the explorative nature of the research question and because the main aim is to explore and describe how older clients experience the operational access to long-term institutional care. Data were gathered through interviews with clients that were recently admitted in a nursing or residential home, or their representatives. A total of 33 respondents from 4 organizations that provide long-term institutional care were interviewed.

In semi-structured interviews, respondents were asked to describe the access process as they experienced it. A topic list derived from the three A's was used to structure the interviews. The transcripts of the interviews were coded, and the identified codes were structured in categories, that were connected to the three A's. Atlas.ti 6 was used to analyze interviews and categorize fragments.

### Results

If clients were staying in hospital the first contact with the long-term care provider was made by hospital staff. In other cases clients or their relatives made the first contact themselves, in several different ways. Clients prefer to move to a nursing home facility nearby. Nearby often means nearby their family, which enables family members to easily visit them. Quality of care, environmental atmosphere, availability of small-scale living setting were other relevant aspects. Nevertheless, most admissions were done where a spot was available, certainly in case of urgent admissions, which was the case in about half of all admissions.

Most respondents were satisfied about the process and felt taken care of personally. They were very satisfied by the way their dedicated liaison handled the contact moments and about his or her availability. Yet, many respondents mention the lack of practical information and 'guidance' in the complexity of elderly care.

### Discussion

During most access processes relatives were strongly involved and handling on behalf of clients. Many of them mention the need for more support and practical information. The study revealed that the 3A model can be used to understand how older clients or their representatives experience the operational access process to long-term care. Especially the dimensions availability and acceptability seemed to shape their experience. Issues related to affordability were mentioned but seemed less important during the access process, which can be explained by the Dutch health insurance system.

The dimension availability was concerned with the access process itself as well as the availability of the preferred location. Finding a location nearby family was a common aim, which in urgent situations was not always feasible. For acceptability, having a dedicated liaison in the organization was relevant. In general, once clients or their representatives had a dedicated contact person, they experienced enhanced availability.

## Improving quality, cost-effectiveness and future sustainability of the long-term care sector in The Netherlands - A nationwide program

[Suzanne van den Bosch](#), Hannie Treffers, Nies Henk, Saartje Sondeijker, Bellis van den Berg Vilans, centre of expertise for long-term care, Utrecht, The Netherlands

### Context

The Netherlands faces the challenge of providing high quality long-term care services to an ageing population in a cost-efficient manner. This implies a huge transition in the Dutch care sector: giving back responsibility to society in terms of empowerment and self-help, creating and joining informal networks, learning to organize care in a more lean and efficient manner, obtaining an attitude towards clients that facilitates extramural care. Together with major changes in funding from the 1st of January 2015 onwards, for health care organisations this implies an urgent call for changes in vision, strategy, culture, behavior and methods to maintain long-term sustainability.

### Methods

In voor zorg! has been initiated in 2009 by the Dutch Ministry of Health, Welfare and Sports in order to support and facilitate this transition within the long-term care sector nationwide. Within the program, over 450 organisations in the long-term care receive in-kind support of a coach to improve cost-effectiveness, while maintaining quality of care. These coaches support the organisations for the duration of 1,5 years, with the intention to initiate and implement the first steps of an irreversible change in their organisation. Besides supporting individual organisations, the more generic ambition of the program is to extract best practices, tools and methods and spread these throughout the sector. The ultimate goal is to facilitate learning from each other and therewith stimulating a nationwide movement in upscaling good initiatives into everyday practice. Important themes are: business processes, technology and e-health, the health care professional and collaborations for integrated care.

### Results

Results show that organisations obtain cost-effective ways of organizing, with less financial resources, associated with an equal or increasing level of quality in client care. More important is that these changes are irreversible. Implying that changes are made at all layers in the organisation, from strategic to operational level, and are secured in daily processes, practices and habits.

The overall means of achieving this is by introducing self managing teams and reorienting, reducing and reversing work processes by taking the client as a starting point. The results are e.g.:

- A decrease in overhead by 27 to 50%
- Efficiency gains of 10 to 15%
- An increase of informal care by 20%
- Cost reduction of 26%

In terms of client 'gains', more effectively organized processes results in more time for client care. Clients using e-health report less dependency, increased feelings of safety and higher quality of care.

### Discussion

- What is the actual contribution of the In voor zorg! program to the ongoing transitions in long-term health care in The Netherlands? There are many developments intertwined and how to distil the efforts of the program? Or is this not important?
- Currently, the annual costs of long-term care are about 27 billion euro. By the 1st of January 2015 major changes in the way care is organized are introduced to ensure that the health care system remains affordable. It is still to be seen if the changes that are initiated are sufficient to deal with the financial and societal consequences of the transitions in the long-term health care in The Netherlands.

## Assessing the effectiveness of interventions in long term care

[Marjolein Herps](#), [Nynke Heeringa](#)  
Vilans, Utrecht, The Netherlands

### Context

A wide variety of interventions, methods and programs is in use that aim at promoting the quality and effectiveness of care and quality of life for clients in long term care settings. Using evidence-based interventions enhances the quality of care and decreases costs. However, for professionals it can be difficult to select the interventions and to make a sound judgement of the effectiveness and preconditions of the interventions. This inhibits professionals in using expertise and in applying evidence-based interventions. The current project aims at making interventions accessible, easy to compare and assesses their effectiveness.

### Methods

In the Netherlands a national review committee consisting of highly qualified scientists and professionals has been set up that promotes the availability of interventions for professionals working in long term care by officially assessing their effectiveness. Developers of an intervention can submit their intervention and describe it in a format. Also, the developer is asked to provide relevant information such as training procedures, protocols and studies regarding its effectiveness. Four members of the review committee review each format independently. During a meeting, the committee seeks consensus and reaches final judgement. Based on the amount and quality of research, an intervention can be judged as effective. In case of lacking or insufficient research, interventions can qualify because of a sound theoretical framework. If an intervention has no evidence or theoretical framework, the intervention will not be qualified as effective by the committee, and as such rejected.

### Results

Two committees are currently active: one committee that reviews interventions that are being used in the care for older people; the other committee reviews interventions that are being used in the care for people with intellectual disabilities (ID). In 2014, twelve interventions have been reviewed: four interventions for the care for older people and eight interventions for the care for people with ID. Twelve more interventions are working towards the review process. Three interventions are reviewed as 'effective', four have been rejected and five have to make adjustments and will be reviewed again after revisions have been made. Submitted interventions address different problems, such as coping with dementia, depression, anxiety or aggressive behaviour. They often have a programmatic approach and involve a wide variety of professionals and informal carers.

### Discussion

A first observation is that evidence-based interventions in long-term care are scarce. This seems to be due to two factors. First, long term care implicates that clients face problems over their life span and across multiple life domains. Problems can even decrease, for example in dementia. This implies that interventions are multifactorial and interdisciplinary. Even though the criteria give room for different research designs, it is difficult to study the effectiveness of an intervention. Therefore, rethinking of what counts as evidence is a necessity. For example, what role can qualitative research play in assessing the effectiveness of interventions? Second, there is still little research capacity within institutions. In order to set up a good study, close collaboration with academic researchers is necessary to study the effectiveness of practice-based interventions.

Wednesday 17 June

09.00-10.30

Evidence Based Practice

## Knowledge Transfer Partnerships: An approach to generating and integrating evidence in a timely manner into healthcare practice

[Elaine McNichol](#), [Paul Grimshaw](#)  
University of Leeds, Leeds, UK

### Context

There are many challenges in achieving evidence based decision making: differing priorities, the inertia of changing current practice, the philosophical and sometimes geographical gap between those who conduct the research and those who are managing healthcare organisations and systems.

This paper will describe using a Knowledge Transfer Partnership (KTP)(1) framework to facilitate a collaborative working relationship between the business and academic researchers. It will explore the impact it has had on establishing common goals and generating pertinent evidence that can then be integrated into healthcare management in a timely manner.

### Methods

The KTP is a tri-partite relationship between the university, the business and a post-doctoral KTP associate appointed to undertake the research. The associate is employed by the university with a named academic supervisor, but they are physically located within the healthcare business to embed them with the day to day issues the research is intending to address. In this instance, to explore and understand: the key facets of the differing relationships within healthcare organisations, the importance of those facets and their impact on decision making and ultimately patient experience.

An iterative process has been undertaken of reviewing and identifying key themes emerging from the published research papers, the grey literature and importantly the day to day experience of the industry experts and the healthcare managers that they work with. These themes were explored further through a Delphi(2) technique and are now being validated through the use of Q methodology(3).

### Results

Working within a KTP framework has helped to ensure that the research has been designed and conducted in a robust manner. Importantly there has been a recognition that the industry partner needs a financial return on their investment during the research as well as at the end. Therefore it has been essential to share emerging evidence and its relevance to the business at regular intervals so that the insight and learning can inform their work with healthcare managers. Additional results emerging include the importance of the KTP requirements for regular (weekly/fortnightly) tri-partite meetings and that the KTP Associate should operate from within the business. This has contributed to the establishment of a close collaborative working relationship with mutual respect for each other's expertise and drivers.

### Discussion

Writing the initial funding proposal and close working throughout the project facilitates a shared understanding of the business needs and the academic expertise required to help the business address those needs. It has enabled an iterative process of early insights being applied in practice and generating further feedback.

KTPs are consistent with adopting a methodological approach to establishing an evidence base that includes grey literature and workplace experience and expertise alongside a review of the academic literature acknowledges the value of 'local' knowledge. This co-production of knowledge helps to increase the relevance of evidence to practice and a feeling of ownership between the collaborating partners

Although KTP's are a UK initiative, the value of close collaborative working between business, healthcare providers and higher education as a constructive approach to understanding the business need, identifying the evidence and then embedding it into management practice is relevant across healthcare economies and models.

## Organizational models of Hospital Based HTA: Empirical Evidence from AdHopHTA European Project

[Valentina Iacopino](#)<sup>1</sup>, [Americo Cicchetti](#)<sup>1</sup>, [Marco Marchetti](#)<sup>2</sup>, [Giuseppe D'Amico](#)<sup>1</sup> [Laura Sampietro-Colom](#)<sup>3</sup>

<sup>1</sup>Catholic University of the Sacred Heart, Rome, Italy, <sup>2</sup>“A. Gemelli” University Hospital, Rome, Italy, <sup>3</sup>Hospital Clinic Barcelona, Barcelona, Spain

### Context

Across countries, Hospital Based Health Technology Assessment (HB-HTA) became increasingly relevant because of its role in ensuring the introduction of evidence-based technologies and eventually in enhancing better outcomes for end-users. The organizational arrangements performed to carry out such activities are different and largely depend on several factors, such as the hospitals' structural characteristics, the available competences, the Regional and National institutional settings. Nevertheless, there are some common points that may be considered as a basis for running HTA activities at hospital level. The aim of this study is to identify and critically appraise existing different organizational models for HB-HTA.

### Methods

Data used in this study was gathered within European Project AdHopHTA, granted under the 7th Framework Research Programme, which is aimed at strengthening the use and impact of HTA in hospital settings. A semi-structured interview was developed from the adaptation of the European Foundation for Quality Management Model, in order to inquire several aspects characterizing the organizational model of HB-HTA. Seven HTA experts responsible for HB-HTA functions were interviewed and seven case studies on the organizational models were thus derived. Multiple case study method was applied to analyze data.

### Results

Our results show that the organizational models adopted seem to depend by a number of contingent variables, such as the size of the function, its stage of development, the relevance of the institutional environment. In particular, the combination of the level of formalization/specialization and the degree of integration with the environment allows us to identify four ideal-types of HB-HTA functions: the independent groups, characterized by low level of both integration and formalization, the integrated-specialized units, characterized by high level of both integration and formalization, the standalone functions, characterized by low level of integration and the integrated-essential functions, characterized by low level of formalization.

### Discussion

Our results provide useful information on how different organizations act to face the matters and the challenges of HB-HTA activities and can be beneficial for hospital policy-makers and executives, HTA professionals and experts involved in the implementation of new HTA organizational models at hospital level. The findings show how the organizational arrangements of HB-HTA result from the contingency variables influencing their growth and activities, especially the level of formalization/specialization and the level of integration. Finally, our results also give an overview about the next steps that the HB-HTA functions could follow to further improve their current ways of working.

Education in research and in management among postgraduate training programs for mental health professionals; added value for the use of evidence-based practice?

[Helene Andrea](#) <sup>2,1</sup>, [Anneloes van den Broek](#) <sup>1</sup>, [Jos van Zaanen](#) <sup>1</sup>, [Cees Rijnders](#) <sup>1</sup> [Arjan Videler](#) <sup>2,1</sup>  
<sup>1</sup>GGz Breburg, Tilburg, The Netherlands, <sup>2</sup>Tranzo, Tilburg, The Netherlands

### **Context**

Postgraduate training programs leading to a license to work as a psychiatrist, clinical psychologist or mental health nurse specialist in the Netherlands have in common that training in research as well as in management skills is part of the curriculum. This combination of training in management and research may facilitate using evidence-based practice (EBP) strategies (the integration of clinical expertise, patient values, and best research evidence into decision making processes for patient care). However, information about how mental health professionals perceive the combination of management and research during training and in clinical practice, is still scarce.

### **Methods**

To gain more insight in how including both research and management training in the curriculum is experienced by mental health professionals and whether and how the professionals use this combination in clinical practice, we interviewed individuals from relevant target groups (mental health professionals in training to become a psychiatrist, clinical psychologist or mental health nurse specialist, licensed psychiatrists, clinical psychologists and mental health nurse specialists, senior management and research lecturers/teachers associated with the postgraduate programs).

### **Results**

We are currently conducting the interviews with individuals from the target groups; outcomes of these interviews and recommendations for the training programs and for clinical practice will be presented during the conference.

### **Discussion**

(not yet applicable).

Wednesday 17 June

09.00-10.30

Patient Centric Care

## Patient Empowerment and its suitability for patient management

[Julia Plein, Ralph Tunder](#)

[EBS Universität für Wirtschaft und Recht, EBS Business School, Health Care Management Institute, Wiesbaden, Germany](#)

### Context

In recent years, the relationship between physician and patient changes from a clear paternalistic shaped distribution of roles (patient seen as physician's command receiver) to a collaborative approach. Patients increasingly take responsibility over the medical treatment and as consequence they even achieve autonomy.

Within the debate about amplifying the personal responsibility of patients for their own recovery, Patient Education and especially Patient Empowerment are broadly discussed instruments to strengthen the position of patients.

The objective of the underlying study is to explain, how physicians can apply Patient Empowerment as an instrument to improve patient management and even increase therapy efficiency.

### Methods

Interviews with different physicians were conducted to identify their attitude towards confident and self-determined patients. Afterwards we designed a study in which patients were asked to fill in a questionnaire after a medical consultation and provide details about the different perceived signals (verbal, non-verbal, medial) from the physician during the conversation. Accompanying aspects, like the sympathy with the doctor, the communication experience and the motivation of the patients were evaluated in parallel. At the same time the patients gave detailed information concerning their satisfaction with the treatment in general.

In the first survey 92 questionnaires were analyzed. We used structural equation models for mapping the complex relationships between the latent variables and analyze the importance of the different constructs for patient satisfaction with the treatment.

### Results

The first evaluation shows that Patient Empowerment measures show a minor significance for patient's participation and therefore do not represent a determining tool to guide patients through therapy. In contrast, sympathy with the doctor is characterizing patient's motivation to participate in the design for the treatment and as consequence should be valued as a determining variable to achieve efficient treatment. However, Patient Empowerment is more important to a successful treatment than the other investigated aspects like communication experience and motivation of the patients.

### Discussion

Based on the findings of the study different patient categories are identified, that enables one to structure therapy according to the needs of the different patient groups and allows to guide the patients as well as possible through therapy. Even though Patient Empowerment is not the strongest aspect to motivate Patients during a treatment, it seems to be the only one physician can operationalize. Therefore the concept of Patient Empowerment is a vital part to guide patients as partners through therapy and achieve satisfied patients and better efficiency.

## Caring for the elderly with a psychiatric condition in the Eurometropolis: a prospective study

[Jeroen Trybou](#) <sup>1,2</sup>, [Wim Van Rijckeghem](#) <sup>2</sup>

<sup>1</sup>Ghent University, Ghent, Belgium, <sup>2</sup>Probis Consulting, Oostkamp, Belgium

### Context

The number of elderly requiring care support is rising. Consistent with this evolution a growing number of elderly experience psychiatric problems and are in need of residential care. However these patients require care adjusted to their specific needs. Little is known about the way residential care facilities, with a focus on the general elderly population, deal with the specific needs of this subpopulation. This study aims to investigate the views of care actors in the region of the Eurometropolis and identify best practices. The Lille-Kortrijk-Tournai Eurometropolis is a European Territorial Cooperation Group. It brings together 147 French and Belgian communes.

### Methods

This prospective study was performed at the three regions. Public, non-profit as well as profit elderly care facilities participated in this research project. Both large and small organizations were included. In total, 63 facilities participated in the study resulting in a response rate of 58,3%. A mixed-method design was used. A quantitative survey was used to identify frequency of elderly with psychic problems and the significance of the problems that arise when admitting these type of residents in general elderly care facilities. In addition a semi-structured interview was performed with the director of the facility and the head nurse or head of the department to study the perceptions and views of the main responsible of the facilities. Good management practices were documented in order to realize cross-organizational learning.

### Results

The population of elderly experiencing mental (psychiatric) problems is significant. As much as 40.7% of the residents have behavioural disorders. This was found to impact the satisfaction and experiences of staff and other residents. Larger facilities were more likely to care for a larger share of residents with a mental condition. The five most frequent behaviours that are experienced as troublesome are: screaming, running away, aggression, wandering and clinging behaviour. Dedicated care entities were a relative small number of residents enable organizations to adjust the care to the specific needs of these residents. In addition, adequate HR-practices (e.g. recruitment, selection and training of staff, ...) and care practices (e.g. expert functions and adjusted, multidisciplinary practices) are important. Finally, while the residence of elderly with mental problems poses significant challenges with respect to the infrastructure and staff most organizations perceive these elderly also as their target population.

### Discussion

Our results confirm that a 'one size fits all approach' for residential elderly care is not desirable. The needs of residents who have mental problems are different to residents with an exclusively physical care need. Elderlies with mental health problems require an adjusted infrastructure and tailored care practices. This has important financial consequences for both the organizations as well as government. The adjusted organization of care in smaller entities with a greater emphasis on a multidisciplinary team and expert functions requires an adjusted financing model. Furthermore from a managerial point of view it is important to realize that the human component requires specific attention. Adequate HR-management including adjusted recruitment, selection and training practices of staff is of great importance.

Wednesday 17 June

11.00-12.30

Management - making good decisions

## Medicine and management: exploring the connections, closing the gaps

[Ellen Kuhlmann](#), [Mia von Knorring](#)

[Karolinska Institutet](#), [Medical Management Centre](#), [Stockholm](#), [Sweden](#)

### Context

Management in hospitals has faced a number of important transformations that have created a qualitatively new demand for coordination and collaboration between clinicians and managers across all levels and areas of hospital management. However, there is a lack of knowledge on the institutional environments that may help building effective connections between medicine/nursing and management. This paper draws on European comparative data and introduces a systems-based multi-level research design using medicine as an example.

### Methods

The study comprises two steps: (1) it expands on a taxonomy of coordination (EU FP7 COST action IS0903, WG2) that focused on meso-level indicators in a comparison of seven European countries; the material was gathered using explorative qualitative methodology and a comparative case study design that comprises document analysis and expert information in the countries included. (2) Secondary sources are used to explore how the connections between medicine and management are furthered and to identify gaps across and within healthcare and education systems (macro-level), organizational settings (meso-levels), and individual professional identity and action (micro-level); here the focus is on case study material from Sweden and Germany. These country cases are interesting because both healthcare systems have traditionally involved doctors in management and leadership debate, although in different ways.

### Results

European comparison has highlighted that coordination of medicine and management matters in relation to the level (hospital and department) and the substance of governance (cost and quality-safety). Examples from the Swedish and German healthcare system reveal significant gaps on all levels of hospital governance: on top of this, training in management remains little represented in medical education, and organisations do not adequately foster the creation of coherent connections between medicine and management. The unsolved challenges of medical management on the systems- and organisational level have an impact on clinical practice and increase the challenges of collaboration; these are unhealthy conditions where clinicians pay the price for poor management.

### Discussion

The findings suggest that healthcare policy and management reform do not adequately support efficient inclusion of doctors (as well as nurses) in management; this is true for New Public Management (NPM) as well as for more recent discourse of leadership. Consequently, future research needs to set the focus on the connections between medicine and management and how they may be improved by systematic interventions. This paper seeks to further evidence-based management by bringing the pitfalls of contemporary approaches into view and by highlighting the need for comprehensive empirical research comprising different actors and levels of hospital governance.

## A framework to support the training and development of managers in relation to management decision making in healthcare

[Elaine McNichol](#)

University of Leeds, Leeds, UK

### Context

In order to recognise the value of and integrate evidence into practice, healthcare managers need to have an understanding of the theory and practice of decision making in order to then apply it within the complex nature of healthcare systems.

Decision Making is recognised as an essential characteristic of effective leadership and management (Marquis & Huston 2011). Therefore developing knowledge and skill in this area is important and like other skills, can be broken down into its component parts, learned and integrated into practice (Scott et al 2010).

### Methods

The framework that will be presented was established from the findings of an interpretive case study that adopted an inductive approach to elicit the lived experience of leadership and management decision making of Modern Matrons working within an acute NHS Hospital Trust. The data was generated through two sets of 1:1 semi-structured interviews which were audio recorded and transcribed. The data was then content analysed and the emergent themes were presented back to the participants for comment and prioritisation. This process of co-construction was used to facilitate an evolving and shared understanding of the data between the researcher and the study participants. The resulting decision making framework was then shared with other healthcare managers both within the same organisation and elsewhere to establish whether the findings had any face validity (Reason et al 2013) with healthcare managers other than Modern Matrons.

### Results

The results show the importance of the interplay between individual and organisational characteristics in regard to leadership and management decision making. Specifically: the level and range of power bases, the authority that they hold and the credibility with which they are viewed are essential pre-cursors to the range of decision making strategies that they can then employ. These factors are then strengthened or weakened by the level of active reflection engaged in by the manager and the structures and processes an organisation puts in place to support both the role of the manager and the establishment of a culture of empowerment and decentralised decision making.

### Discussion

A framework of decision making is proposed that can support the integration of evidence based management into practice by looking more holistically at the individual and organisational characteristics that will facilitate that integration.

It offers a structured approach to developing and informing, at both an Individual and an organisation level, an understanding of what factors and strategies support effective leadership and management decision making and how in turn that will influence evidence based management. These factors are present across the diverse range of healthcare organisations and economies.

The individual insight and understanding of these component parts of decision making alongside the organisational factors will help to facilitate the practice of evidence based management

Although initially developed from research with Modern Matrons, the framework has been used with post graduate masters education and continuing professional development courses. The feedback is that the framework resonates across a range of healthcare manager roles.

Wednesday 17 June

11.00-12.30

## Planning and Purchasing Care II

## Population commissioning for the future

[Abraham George](#) <sup>1</sup>, [Beverley Mathews](#) <sup>2</sup>

<sup>1</sup>Kent County Council, Maidstone, Kent, UK, <sup>2</sup>NHSIQ, Coventry, UK

### Context

People with multiple long term conditions need personalised integrated care that enables them to live as well as possible for as long as possible, achieve better outcomes, a better quality of life, and a more efficient use of health and care resources. However, NHS funding systems have traditionally focused on isolated episodes of activity, rather than longer-term packages of care planned proactively around the needs of the individual. This programme is supporting commissioners and providers to develop and implement funding models so that an annual budget for individuals with complex care needs can be used to commission joined-up care.

### Methods

The analysis working together with information and intelligence teams across various provider organisations including the Kent & Medway Health Informatics Service. To begin with, a locally developed risk stratification tool (based on the King's Fund model) was applied to a registered practice population list using 2 years of worth of hospital activity or SUS data. Risk scores were generated for each person in the whole population and then risk stratified into 4 risk groups or bands (based on the Kaiser Permanente Pyramid model of care). Up to 10 anonymised datasets were sent to Public Health and linked to the risk stratified list using pseudonymised NHS numbers which was the common patient identifier. This included data from community health, mental health, social care, primary care, continuing health care and death registry.

### Results

These were generated as a longitudinal baseline analysis over a 3 year period, describing activity and spend the years before, during and after 'crisis'.

- The top 0.5% of the population classified as the very high risk, represented 20% of total unscheduled hospital admissions' costs during their year of crisis. The amount of activity and spend in the years before and after were less than half of the above activity.
- There was strong evidence of relatively higher morbidity and mortality in the top 5% particularly multiple morbidity frail elderly, higher prevalence of falls related admissions, dementia and death rates.

Higher proportion of service utilizations were also found in community health, mental health and other acute health services. However, analysis of social care service utilization revealed an inverse relationship with risk score, where the patients with the highest risk score received the lowest proportion of social care services.

### Discussion

The impact of this work has been significant. CCG and social care commissioners and clinicians have improved understanding of the impact of multiple morbidities on the wider economy, which no existing intelligence systems are able to do. Planned financial savings can now be robustly estimated as a result of implementing integrated care, targeted to the top 5% of the population before they enter 'crisis' and hospitalisation. At a Kent whole population level the estimated savings as a result averting non elective admission activity due to 'crisis' is approximately £75 million or more than a quarter of the total unscheduled care for 2010/11. Savings in social care through reduction in care home admissions can also be realised as a result of a significant realignment of social care commissioning with health care focusing on the same group of complex patients in a planned proactive approach.

## Can national morbidity index predict need for intensive care?

[Hanna Rautiainen](#)<sup>1</sup>, [Tero Ala-Kokko](#)<sup>1,2</sup>

<sup>1</sup>Oulu University Hospital, Department of Anaesthesiology, Division of intensive care, Oulu, Finland,

<sup>2</sup>University of Oulu, Department of Anaesthesiology, Oulu, Finland

### Context

Intensive care is expensive, heavily staff and technology dependent area of health care. In the western world aging population and increased health care expectations will increase the need for intensive care resources. There is a wide variation in the number of ICU beds and admissions per 100 000 population in Europe (Wunsch et al. 2008). Intensive care can account up to 20 % of hospital care costs. Need for intensive care affects hospital workforce, investments and even department layouts as well as increase costs. Our hypothesis was that morbidity and primary care resources may affect the use of intensive care.

### Methods

The association between municipality-level population morbidity index and use of primary care with the ICU care days was assessed. The Finnish National institute of Health and Welfare (THL) has calculated population morbidity index from the year 2001 onwards to measure regional variations in morbidity and evaluate the burden of disease in municipalities.

We formed a cohort of patients who were admitted to intensive care in one tertiary university level hospital between 1.1.2000 and 31.12.2005. Patients were included if their home address were on the geographical areas of interest. Data from intensive care utilization was obtained from hospital administrative registers. Morbidity data, population demographic factors and primary care resources were obtained from national open access databases (SOTKANet Statistics and Indicator Bank, [www.sotkanet.fi](http://www.sotkanet.fi)). Intensive care need was assessed as care days per 1000 inhabitants. Primary health care resources usage was assessed by the number of primary care physician visits per 1000 inhabitants.

### Results

There were a total of 2831 ICU admissions from four municipalities. The severity of illness and the age of the patients on ICU admission did not differ between the municipalities. The median (25th-75th percentile) length of stay in the ICU was 1.1 days (0.9-2.9) and 58 % of the admissions were operative. The mean (SD) age was 58 (18) years. The number of ICU care days per 1000 inhabitants were 6.1 (1.8), 6.5 (0.8), 8.3 (2.7) and 23.1 (8.9). The crude morbidity index and the number of primary care physician visits correlated with the ICU care days per 1000 inhabitants (Pearson's correlation coefficient (0.505,  $p=0.023$  and 0.676,  $p<0.001$ , respectively) (Figures 1 and 2).

### Discussion

The use of intensive care days per 1000 inhabitants varied fourfold between the municipalities, which was significantly associated with population morbidity index and the use of primary care resources.

Studies estimating the need for intensive care services are based on population demographics, number of hospitalized patients who could benefit from intensive care or expert opinion. Our approach was the first attempt to utilize national municipal level data. In one municipality the use of intensive care resources was lower than expected and primary care resources were less used. In that one municipality there was a wide yearly variance on the number of primary care doctors per 1000 inhabitants (2.5-10.7) through the study period. In conclusion national morbidity index may be used when planning for critical care services and primary care resources may affect the use of intensive care.

Wednesday 17 June

11.00-12.30

Staff & Health Care Regulation II

## Responsive Regulation and the Enforcement Pyramid: Between Theory and Evidence

[Manja Bomhoff](#)<sup>1</sup>, [Roland Friele](#)<sup>1,2</sup>

<sup>1</sup>NIVEL, Utrecht, The Netherlands, <sup>2</sup>Tranzo, Tilburg, The Netherlands

### Context

Responsive regulation is a dominant analytic framework in regulation. The Dutch Healthcare Inspectorate has explicitly embraced this theory for its own regulation and enforcement strategies, also because it would make their enforcement more transparent and proportional to healthcare providers. Quite literally aspects of the theory, as for instance an enforcement pyramid, can be found in policy documents. But how does the theory of responsive regulation fit into the reality of and the evidence on making enforcement decisions? The focus of this research is on the translation of responsive regulation into an enforcement guideline and on the actual decision-making process.

### Methods

The study focussed on the decisions inspectors of the Dutch Healthcare Inspectorate make concerning enforcement. We investigated how these decisions are made, which (type of) arguments play a central role and how inspectors may or may not be helped by their current guideline for enforcement. First, documents were analysed and interviews conducted with persons who had commissioned, written or helped setting up the guideline. This was done in order to get to a reconstruction of policy theories. Next, to gather evidence on the decision making process we conducted interviews with the principal actors in this process, (senior) inspectors and legal advisors. Also, an internal schooling day on enforcement decisions at the Inspectorate was observed. Finally, a group discussion was organised to see whether the findings could be validated and generalised and to arrive at the formulation of key points and suggestions. Finally, policy objectives and evidence were compared and recommendations were made.

### Results

The study shows how the regulatory theory of responsive regulation has been translated in practice and brings to the fore several practical and juridical impediments that hinder truly responsive regulation. In practice for instance, the proportionate 'weight' of an enforcement measure that forms the core of the regulatory pyramid, is much harder to determine and much more subject to sector specific variation than the theory states. Also, the supposed effectiveness of the measures plays a great role in practice but finds hardly any mention in the guideline. The study thus provides further insights into the decision-making process and the legal, practical and ethical dilemmas that individual inspectors may encounter during their enforcement work.

### Discussion

Since there is growing criticism on the lack of empirical tests to prove the validity of the assertions made in Responsive Regulation (Six, 2013) this study is a welcome addition to the body of evidence on regulatory theories. It shows which aspects of the decision making process are and which aren't suited for further protocolisation. Since enforcement measures may have great impact on care providers, this knowledge may help to further increase uniformity in practice and transparency about the decision-making towards care providers. The study demonstrates the need for a further elaboration of concepts such as the 'weight' of regulatory measures and the supposed effectiveness of measures. It stresses the need for further evidence on regulatory decisions, their outcomes and effects on care providers and provides suggestions as to which aspects of the regulatory decision-making process would be helped by standardisation in the form of a guideline.

## Information, care and compensation

[Susanna Palomäki, Anni Vanhala](#)  
Tampere University Hospital, Tampere, Finland

### Context

Customer feedback can be used to correct and improve services, support staff morale and commitment, and strengthen the trust of customers in the service provider. In this presentation the focus is on complainants' experiences and feedback. The presentation is based on a study conducted in a Finnish University hospital on objections handled inside Hospital. We are interested in the causes of objections, and customer feedback on the effectiveness of the objection process. We ask what significance the making of an objection has to the customer and the health care system, and what effects it has on the customer relationship.

### Methods

The data used consisted of 229 objection documents and 93 replies to a survey directed at customers making objections. Sampling produced 2/3 of the objection data of the hospital for the entire year. The response rate for the survey was 44.3%. We analysed the data by categorisation using qualitative content analysis. Marked items are collected together while classes, themes and types are identified from the material. We got a wide range of issues for objection, from serious irreversible events to transient or correctable matters. Most complaints include accounts of failed care and treatment, failure of communication and improper behavior and information not received or misinformation.

### Results

The aim of the process for the complainant is to get better information, to receive care or to get emotional compensation. The majority of the feedback given in the questionnaire by the complainants was that the process did not lead to the anticipated outcome. Errors or ill-treatment were not admitted, the patients did not get the care and treatment or an apology they desired. A written objection passing through the managerial level distances the actual event and the parties involved from each other and prevent the immediate handling of issues in care units. The administrative process also provides security to the hospital staff by giving them peace to work and ensuring that customer data is transmitted directly to management level. In our study, patients and relatives were willing to engage in more debate than the time and desire of hospital staff and those responding to objections could accommodate.

### Discussion

Communication is not a guarantee that the information will be utilized in services, unless the value of the source of information is recognized. A change in the interaction framework of objections from a "patient challenges and hospital defends" process to joint analysis by the parties involved, requires a change in attitudes. Making the role of the customer more active and appreciation for his or her contribution produces a more equitable relationship and may improve patient satisfaction. Courage is needed also to ask what the customer's role was in the events leading to objections. How might the parties together have avoided the undesirable outcome? This kind of conversation requires trust between the parties, tact and discretion from health care staff with respect to the customer's life situation. Participation involves the assumption that the customer's actions have some effect on the service process, even when it does not fully succeed.

Wednesday 17 June

11.00-13.30

Health Managers' (Thesis) Session

## Addiction Policies - Developing an overall political strategy on alcohol, tobacco, illicit drugs and other addictions in Switzerland

[Astrid Wüthrich](#)

Federal Office of Public Health (FOPH), Switzerland

### Context

In spring 2014, the Swiss Government mandated the FOPH within its global Health Strategy 2020 (Gesundheit2020/Santé2020) to bundle the so far substance oriented addiction policies on alcohol, tobacco and illicit drugs within one strategy and to enlarge the concept by integrating also addictions like cyber dependence, compulsive gambling, or the abuse of drugs. As addiction policies are not only about prevention, but also about treatment and negative effects of risk consumption and behaviour (i.e. infectious diseases, criminality, encumbrance, accidents, etc.), and the legal state of the “risks” are different, a plurality of problems have to be considered. In addition, politics on alcohol, tobacco or illicit drugs follow different political cleavages. All these factors should be covered by a consistent strategy.

### Methods

In order to identify needs for action, to define strategic objectives and to decide on how to implement the strategy in the future, an analytical approach to addiction policy had to be developed. Therefore, the following domains were identified and described, evaluated and characterized more precisely:

- Addiction and its medical, societal and legal definitions
- Public interest in governmental action on addiction
- Legal foundations
- Epidemiological data, information on the use of Health (and other) Services and specifications on criminality, accidents, communicable and other diseases, et cetera
- Governance, organisation, and allocation of resources

The analysis based on literature studies and where characterized by developing generalized concepts. The analysis followed the concepts of policy analysis, focussing on institutional agenda setting, formulation of policy proposals, and selection.

### Results

Within these six domains, coherent concepts could be developed. Thus, it could be shown to what extent addiction policies are funded on public interest in governmental action. Likewise, a systematic approach to identify the need for action was developed. Limits of the intent to fund addiction policies in an exhaustive way emerged, when the interdependencies between the six domains should have been illustrated.

### Discussion

Addiction and its corresponding policies have to be approached as a complex problem. Even the most detailed analysis of one selected aspect would not lead to manage the problem in its entity. The presentation will examine two domains more precisely to illustrate how a political strategy could make choices which are fitting political intents and are, at the same time, also corresponding with the needs for action on an epidemiological and a professional level.

## Benchmarking of the main operating room (or) of the university hospital of Lausanne (CHUV)

[Stéphane Johner](#)

University Hospital of Lausanne (CHUV), Switzerland

### Context

The main operating room is located at the 5th floor of the prime hospital building. With 2 emergency and 18 elective rooms, he could be considered as one of the biggest block in Switzerland. The elective rooms are operated from Monday to Friday starting at 7am to 4pm. More than 11'000 surgical cases are carried out per year, this represents around 38'000 production hours. In average an increase of 1-2% per annum can be taken into account. The university and all care missions of the hospital have a big influence on the activity of the operating room. People are coming from the local area as well as faraway and constitute the healthcare population of our hospital in Lausanne. Despite a good maintenance, the operating room is becoming older and a bit rundown because of its structure dating the construction of the hospital building, that means 30 years ago. Nowadays the OR is running over 95% utilisation rate. As a consequence the hospital doesn't have a margin to operate the OR in a good manner. This situation creates pressure on the staff, longer operating time, absenteeism, conflicts and resignations. What has also been seen is that elementary good practices are not respected due to a lack of controlling and unity of doctrine. In regard to this context, an analyse has to be achieved to find out and implement measures to optimise the use of resources, organisation and productivity in a renovated operating room which should be ready in May 2017.

### Methods

Three approaches have been selected:

1. Review of publications about governance, organisation, distribution and allocation of resources as well as the architecture trend of the gold standard of operating room
2. Carry out a brainstorming about how to externalise lower surgical cases out of the main operating room or to take advantage of the day surgery practise
3. Benchmark the University Hospital of Lausanne with the others Swiss University Hospitals in order to compare different running time and allocation of resources.

### Results

All governance aspects are in line with what could be read in the publications. The improvement has to be focused on creating a bloc committee, implementing a culture of efficiency & controlling and cutting back the supremacy of the surgeon. In regard to the question of the architecture of the operating room, nothing is in line with a gold standard. Therefore all the points will have to be reconsidered in the new bloc. In terms of organisational improvement, an effort needs to be done about preventing operation cancellations, reducing delay in the operating process, punishing surgeon when they don't respect or overestimate the operating time, scheduling lower cases as a first operation in the morning. About the allocation of the resources, this has to be optimised. It is correct to say that an opportunity does exist to implement the list of the British Association for Day Surgery. The benchmarking has shown that the first operation in the morning plays a primary role in the capability of being able to run the operating program as scheduled.

### Discussion

A successful governance, organisation, distribution and allocation of resources of operating room will come through a full implementation of the Lean Management philosophy. This will help to reduce malfunction, waste and create leadership as well as to promote responsibility, education, transparency and mind shift.

The externalisation of lower surgical cases will bring new opportunities in finding new capacities but the hospital will have to work hard on changing surgical practices and implementing the list of the British Association for Day Surgery. Finally the benchmarking will give metrics to surgeons to improve the operating process, predictability, productivity, throughput, the utilisation of the schedule as well as a culture of efficiency.

## Routinised innovation in specialist child and adolescent mental health agencies

[Ramón Lindauer](#) <sup>1,2</sup>

<sup>1</sup>Head Department of Child and Adolescent Psychiatry, Academic Medical Centre, the Netherlands,

<sup>2</sup>Child and adolescent psychiatrist De Bascule, Academic Centre for Child and Adolescent Psychiatry, the Netherlands

### Context

Political and social developments, growing competition and tight budgets are expected to reduce the volume of specialist mental health care to children and adolescents in the Netherlands. That means that agencies providing such specialised care must make strategic choices about how to differentiate themselves from other organisations. Agencies that opt for product leadership must continue distinguishing themselves in terms of uniqueness. They need continuous innovation to maintain their strategic positions. Agencies therefore require routinised innovation practices. The aims of our study were to identify the routines for innovation currently practised in Dutch organisations for specialist child and adolescent mental health care and to make recommendations for strengthening routinised innovation.

### Methods

On the basis of the innovation decathlon proposed by Jacobs and Snijders (2008), we assessed routinised innovation in four specialist child and adolescent mental health care organisations. We used purposive sampling to select two academic and two non-academic centres. All ten disciplines of the innovation decathlon were assessed in each agency using a range of data sources, including semi-structured interviews, annual reports and financial statements, and websites. For this purpose, the ten disciplines were categorised into one of three subroutines with a strategic, an implementation or a learning focus. The interviews were conducted with the executive officer or director charged with treatment matters and with a director, manager or coordinator charged with innovation matters.

### Results

The extent to which innovation was routinely practised in the specialist child and adolescent mental health care institutions was still limited in comparison with the specialised establishments studied by Jacobs and Snijders (2008). Innovation was still insufficiently routinised in the mental health agencies, and the notions of 'innovation' and 'routine' were largely seen as two discrete entities. On the other hand, both radical and incremental innovation were understood as innovation, and the assumption was shared that innovation is not dependent on a leader but is developed in a team of experts. Product innovation was found to be more common than process innovation, even though much of the criticism from clients concerned the logistics of treatment delivery. Treatment effects were increasingly being measured, whereas research on cost-effectiveness was still rare. The disciplines of strategy/business model, client orientation, continuous incremental innovation and strong networks were performed well by the organisations we studied. The disciplines needing the most attention were ambition/daring, the best people, and ambience/open culture, and, to a lesser degree, societal orientation, learning from real figures, and focus and commitment. Academic and non-academic organisations did not substantially diverge from each other in the innovation decathlon, but there were some minor differences. In comparison to the non-academic centres, the academic centres scored higher on average in terms of the societal orientation discipline, and lower in terms of learning from real figures and focus and commitment.

### Discussion

The innovation decathlon is an effective instrument for obtaining insights into routinely practised innovation in specialist child and adolescent mental health care institutions. It can aid in formulating recommendations for improvement within the focuses of strategy, implementation, and learning or culture. Improvement recommendations pertaining to the three subroutines of organisational innovation routines (with strategic, implementation and learning focuses) can then be integrated to arrive at a comprehensive improvement plan. Our improvement plan for the specialist child and adolescent mental health organisations will be presented for discussion at the conference.

Wednesday 17 June

12.30-14.00

Substituting a health for a sickness orientation within (military) healthcare systems

## Substituting a health for an illness orientation within military healthcare: an theoretical underpinning

[Rosanne Meulenbeld](#), [Thomas Plochg](#)  
Netherlands Public Health Federation, Utrecht, The Netherlands

### Context

The existing health workforce, including military healthcare personnel, is poorly fit for purpose. Most health professionals think and act as single-condition experts focusing on curative treatment and care. Although this expertise has been functional for addressing the diseases of the past, it is increasingly dysfunctional for addressing the multiple co-existing health problems of today and tomorrow (i.e. multimorbidity). Against this background it is increasingly argued that health professionals should renew their expertise by adapting a health orientation. It would provide them the mind-set to proactively address today's health problems with a more preventive, holistic and human approach.

### Methods

The aim of this abstract is to theoretically explore why the substituting of a health for a sickness orientation within the (defence) health workforce is timely and relevant.

The abstract draws mostly on an interdisciplinary literature review that includes (theoretical and empirical) evidence from public health, medicine, sociology, the administrative sciences and economics, all stressing the ways in which (defence) health professionals could innovate their expertise.

For illustration purposes, the proceedings of the co-creation project between the Netherlands Public Health Federation and the Dutch Defence Healthcare Organization will be presented.

### Results

- Epidemiological research shows that the accumulation of (chronic) diseases and social problems are becoming the norm rather than the exception;
- Having multiple health problems is associated with great increases in costs of care, avoidable hospitalizations and adverse events;
- This falsifies a sickness orientation which is at the heart of current healthcare systems as reflected in its underlying specialist expert model, made of numerous mutually excluding professional domains focusing on cure and care;
- Future health professionals should therefore innovate their expertise by adapting a health orientation;
- Such an orientation would yield professionals who work with a more preventive, holistic and human approach;
- The Dutch Defence Healthcare Organization is embarking on a co-creation project aiming at promoting and employing such a health orientation amongst the defence healthcare workforce.

### Discussion

The future health workforce, including those within military healthcare, needs to innovate their expertise to become fit for purpose again. Their current expertise is based upon the acute single diseases of the past, but not necessarily on the health problems of today and tomorrow.

For health policy-makers, the key message is to promote the health workforce to innovate their professional expertise themselves. Theoretically, the future health professional should substitute a health for a sickness orientation.

The collaborative project between the Dutch Defence healthcare organization and the Netherlands Public Health Federation will yield clues as to how such an innovation could be initiated in co-creation.

## Co-creation of sustainable employability within the Dutch Armed Forces: substituting a health for an illness orientation within military health care

[Pieter Helmhout](#), [Cynthia van Reek](#)

Netherlands Public Health Federation, Utrecht, The Netherlands

### Context

The Surgeon General (SG) of the NLD Armed Forces has an interest in substituting a health for an illness orientation within the Dutch military health care system. The impact of adverse lifestyle habits and co-existing multiple health problems on the military workforce has grown this last decade. It is fuelled by the ongoing demographic changes, particularly the shift in compulsory release age to older ages, and by severe cut-downs in military personnel and materials due to the global economic recession. These trends call for more sustainable employability policy; one that is not only financial sustainable, but also generates more health.

### Methods

In an overarching Defence program aimed at sustainable employment, a series of dialogue sessions will be initiated between human factor stakeholders within and outside the military on this paradigm shift in health (care). These dialogue sessions should lead to developing action agenda's aimed at influencing policy developments, as well as concrete projects in which specific themes (e.g., education & training, e-health/quantified self, integration/co-ordination of system elements) are operationalized and implemented. The activities comprising the program will be a co-creation of the Dutch military and the Netherlands Public Health Federation (NPHF: [www.nphf.nl/en](http://www.nphf.nl/en)). The NPHF is an alliance of 46 Dutch professional associations, trusts, knowledge institutes and companies that see it as their task to promote prevention, health promotion and health protection.

### Results

The project yields are that military health (care) professionals and other stakeholders in this area:

- have a better view on the multimorbidity problems accompanying the negative trends in cardiorespiratory and cardiovascular condition of service members;
- understand the complex interrelations between different conditions, and apply knowledge, skills and techniques rooted in multiple health specialty domains;
- act within the framework of a transformative re-orientation of the military health (care) domain.

The results of the first dialogue sessions will be presented at the congress.

### Discussion

Key point in the vision of the SG is that individual soldiers (in any phase of their military career) and the 'system elements' surrounding them (e.g., military unit, health care system, social network) should integratedly focus on the positive side of health. Health in this respect is not the mere absence of disease, but rather a dynamic concept comprising elements such as physical and mental resilience and self-management. The concept of 'antifragility' may be useful in this context, which refers to systems that increase in capability, resilience, or robustness as a result of attacks or failures (as opposed to more static concepts like resiliency and robustness). One example to use this concept in a military context is that, in discussing the impact of military missions abroad, we tend to focus on (care for) post-traumatic stress, instead of (care for) post-traumatic resilience, growth, and creative tension.

Monday 15 June - Tuesday 16 June - Wednesday 17 June

## Poster Session

## A multi-centred empirical study to measure and validate user satisfaction with hospital information services in Australia and Germany

[Anke Simon](#), Bettina Flaiz, Katrin Heeskens  
Baden-Wuerttemberg Cooperative State University, Stuttgart, Germany

### Context

Healthcare costs in Australia and Germany are increasing exponentially. To address this and other healthcare challenges including the aging population and increases in chronic diseases, both countries are investing heavily in IS/IT. Nowadays, nearly all clinical as well as administrative processes depend on IT related services. However, without proper metrics that are designed specifically for healthcare contexts, neither is it possible to evaluate the benefits of these technology investments nor design them to optimally meet user needs. Thus, a key void is the existence of appropriate metrics and instruments to measure and validate user satisfaction with hospital IT services.

### Methods

The objective of this investigation is to measure and validate user satisfaction with hospital IT services. Specifically, to (1) develop and statistically validate metrics and scales for healthcare contexts (to provide validated and appropriate standard measures), (2) understand the current state of user satisfaction with IT services in the context of clinical environments in hospitals, and provide a descriptive picture of the present situation from the subjective perspective of health professionals in Germany and Australia and (3) provide first reference values/data on user satisfaction in both countries for hospital senior management and CIO's. We applied a triangular approach increasingly used to cover complex investigation objects. Our comprehensive concept includes the development of online-based questionnaires for flexible use. Reliability of the scales (internal consistency, split-half reliability) and validity (exploratory factor analysis) has been tested.

### Results

The comprehensive study protocol will be presented. Four questionnaires / modules are developed and validated: 1. General User Satisfaction: (4 items / three open questions / overall satisfaction grade); 2. IT-Service: appropriateness of IT equipment and frequency of use, IT hotline (10 items), IT on-site service (7 items), IT on-call duty (at night and weekends) (7 items), IT training for users (8 items); 3. IT-Application: suitability for the task (15 items), suitability for learning (8 items), conformity with user expectations (8 items); 4. Statistics (socio-demographic variables). Psychometric evaluation shows that the developed and adapted instruments are suitable for assessing user satisfaction with hospital information services. First reference values based on the investigation in 10 German hospitals will be presented.

### Discussion

According to our preliminary research and pilot project most of the hospital CIO's in Germany and Australia do not measure user satisfaction. Among the small number of hospital CIO's with relevant data the majority use self-developed, hands-on questionnaires with poor empirical quality. Moreover, there is nearly a complete lack of national studies on user perception on hospital IT service quality in Germany, Australia or elsewhere. Hence, valid reference data covering the entire national hospital sector are not available. This research project is one of the first, if not the first, investigation in this field. Given the huge amount of money spent on healthcare IT in all developed countries as well as the increasing escalating costs of healthcare expenditure, it is not possible to overstate the importance and significance of this study.

## Accelerating the Adoption of Cost-saving Technologies: Evidence from an Italian Research Project on Medical Devices

[Valentina Iacopino](#)<sup>1</sup>, [Americo Cicchetti](#)<sup>1</sup>, [Alessandra Fiore](#)<sup>1</sup>, [Stefania Santangelo](#)<sup>1</sup>, [Alexandra Berrino](#)<sup>2</sup>, [Gianni Lorenzoni](#)<sup>3</sup>, [Marcella Marletta](#)<sup>4</sup>

<sup>1</sup>Catholic University of the Sacred Heart, Rome, Italy, <sup>2</sup>"A. Gemelli" University Hospital, Rome, Italy, <sup>3</sup>University of Bologna, Bologna, Italy, <sup>4</sup>Italian Ministry of Health, Rome, Italy

### Context

European healthcare systems are facing the big economic crisis applying spending review and cost-containment policies to ensure the sustainability and the quality in the provision of healthcare services. Technologies are part of this objective, since their increasing cost and their role in assuring successful healthcare. Thus, a great interest toward cost-saving technologies emerged and a gap of knowledge on how they are identified and accelerated at National level was perceived. The aim of this study is to present a methodology to select and assess cost-saving medical devices as well as to accelerate their diffusion in the Italian NHS.

### Methods

This study is part of a broader research project funded by the Italian Ministry of Health. An expert consultation process with different stakeholders was performed to define the explicit and transparent criteria applied to select cost-saving and innovative medical devices and the healthcare providers involved in the study. Case study method allows researcher to build the business cases on the adoption process of each technologies considered. Finally, Adoption Guidance including the HTA evaluation and the Business Case per each technology was realized.

### Results

In order to select the medical devices to be considered in the study, three macro criteria has been shared in the consultation process: the effectiveness of the technology, its economic impact and potential changes at organizational level, and its level of acceptability among users. A "notification form" has been produced to identify the potentially cost-saving technologies and administered to end-users. Selected technologies has been prioritized by an expert consultation. Finally, five technologies have been submitted to the evaluation process (Automatic device for Chemical Endoscopy, Hemodynamic Optimisation Protocol, Cooling Collar, Transcatheter Aortic Heart Valve, Plus Antibacterial Sutures). In accordance with their stage of adoption, the information regarding their effectiveness and organizational impact was synthetized within HTA products (Mini-HTAs or Mini-Horizon Scanning). Finally, medical devices have been evaluated in specific Business cases in order to verify their ability to produce financial savings.

### Discussion

This study aims to suggest a systematic approach to the adoption and diffusion of cost saving medical devices in Italian healthcare context. Moreover, it provides useful information to the decision makers interested in the selection of those technologies highly affecting the economic balance and the organizational setting in which they are implemented. Since a number of new technologies are available on the market, a more structured approach is thus suggested to manage the acceleration of those able to produce financial savings. The HTA logic can be helpful in achieving this goal and its use should be encouraged to support decision making at both system and organizational level.

Analysis of incident cases of acute myocardial infarction (AMI) in the population of the province of Pavia (Lombardy Region, northern Italy) led by the Local Health Authority (LHA) for the years 2012-2014

[Guido Fontana](#), [Simonetta Nieri](#), [Simona Migliazza](#), [Simona Dalle Carbonare](#), [Carla Martinotti](#), [Enrico Frisone](#), [Bruno Carugno](#), [Carlo Cerra](#)  
Local Health Authority of the province of Pavia, Pavia, Italy

### Context

Cardiovascular diseases are the main cause of mortality (M) in Italian population, overall responsible for nearly 38% of total M, while AMIs alone account for 5%. A good indicator of acute care quality is the 30-day AMI case-fatality rate. Scientific literature has long identified risk factors favoring AMI's onset; its prevention is a specific interest of Primary Care (PC) and, if properly manned, should ensure reduction in burden of the disease. To assess capacity of PC to tackle chronic diseases, LHA of Pavia analyzed incident AMIs in its resident population, to verify if risk-conditions of patients were known and monitored.

### Methods

The survey was conducted using data retrievable from the Patient database (PDB), managed by LHA, able to trace, for resident population, all administrative events related to health care like hospitalization, specialist visits, drug prescriptions, exemptions for pathology.

Patients, aged >14, were chosen on the basis of following criteria:

1. ICD9-CM = 410 \* as the principal diagnosis at discharge (SDO)
2. Discharges from regional hospitals between 01.01.2012 and 30.06.2014;
3. Further selection of hospitalizations related to patients registered in PDB at least from 01.01.2005;

Patients were then characterized by gender, age, morbid chronic conditions known in the year prior to admission (priority category). In-hospital case-fatality rates following AMI - within 30 days and within 6 months (including same day of admissions) - have been calculated.

### Results

2937 AMIs were registered, of which 1888 in men ( $\sigma$ ) and 1049 in women ( $\text{♀}$ ). Incidence rates were:  $\sigma$ 1,7‰ and  $\text{♀}$ 0,9‰. The further selection of the patients already registered in the PDB since 2005 -to exclude cases of re-infarction - led to the identification of 2196 AMI incident cases (1391 $\sigma$  and 805 $\text{♀}$ ). With regard to the underlying diseases of these 2196 patients, 1500 (68,3%; average age 74 years ) showed cardiac impairment or diabetes. Of the other 696 (31,4%; average age 64 years ), 135 (6,1%) reported pulmonary diseases, cancer, neuropathy, etc.) while 561 (25,5%) weren't carriers of any other known chronic condition. The 30-days AMI case-fatality rate recorded for these 696 patients was 7,8%, significantly different ( $p < 0,05$ ) from the rate (10,9%) recorded in the other 1500 patients. Likewise significantly different ( $p < 0,01$ ) was the 6- months AMI case-fatality rate between the two groups (11,4% vs 17,5%).

### Discussion

Across Europe, AMI's mortality has declined significantly since the 1970s, substantially thanks to better treatments, particularly in the acute phase.

Another significant gain has occurred on the basis of better management of risk conditions and promotion of healthy lifestyles. On this side there is probably room for improvement.

On the basis of data collected by LHA of Pavia, approximately 25,5% of IMA develop in patients apparently healthy, in the absence of known related chronic conditions or risk factors.

Moreover, it seems that this subgroup of the population, younger than the other, is affected by a mortality rate lower than the one recorded in the other sample. The figure should be further investigated to assess whether a medicine of initiative on the part of GPs could guarantee better results in terms of prevention.

## Analysis of the Learning Approaches Adopted by Students Enrolled in Health and Business Management Departments and the Variables Affecting These Approaches

[Huseyin Abuhanoglu](#)<sup>1</sup>, [Abdulkadir Teke](#)<sup>1</sup>, [Yildiz Ayanoglu](#)<sup>2</sup>, [Aysegul Ciger](#)<sup>3</sup>, [Necmettin Cihangiroglu](#)<sup>1</sup> [Mevlut Karadag](#)<sup>4</sup>, [Cengizhan Acikel](#)<sup>1</sup>

<sup>1</sup>Gulhane Military Medicine Academy, Ankara, Turkey, <sup>2</sup>GAZI University, Ankara, Turkey, <sup>3</sup>Akdeniz University, Antalya, Turkey, <sup>4</sup>Agri Military Hospital, Agri, Turkey

### Context

Universities are deemed successful, so long as they offer qualified education, ensure the conformity of the teaching and practice for their students, and provide their students with paths that lead to employment opportunities. In this respect, in order to ensure achievement for both their students and themselves, universities must define how students learn and the factors affecting learning in educational environments.

The current study aimed to determine whether there were differences in the learning approaches adopted by students studying at schools that provide working opportunities in the health sector and those who were enrolled in the field of business management.

### Methods

The descriptive method was used with the aim of determining the learning approaches adopted by students at different universities and interpreting these approaches according to independent variables. In this respect, data collected and analyzed from a total of 1027 students, 436 of which were enrolled in the field of health, and 591 were enrolled in the field of business management.

In order to determine the learning approaches adopted by the students, the "Revised Studying Process Questionnaire with Two Factors" (R-SPQ-2F) that was developed by Biggs, Kember, and Leung in 2001, and adapted into Turkish by Önder and Beşoluk in 2010, was used.

### Results

It was observed that the median for the students of health and business management (34.00 and 33.00 respectively) was higher than the mean score value, and that the surface learning approach was below the median for students of health with a score of 28.00, while the scores of students from business management were higher than the median, with a score of 32.00.

The statistical difference observed according to the field of education was found to be significant ( $Z=-9.067$ ,  $p<0.001$ ,  $Z=-2.143$  respectively;  $p=.032$ ). The median scores indicated that the surface learning approach was less frequently adopted by the students enrolled in the field of health when compared to those who were enrolled in the field of business management.

### Discussion

The students studying in grades 1 and 2 had a greater tendency towards adopting the deep learning approach and that this tendency shifted towards surface learning in grades 3 and 4. No significant difference was found between the learning approaches adopted by the students in grades 5 and 6. This interpretation is in line with the findings of Hilliard (1995) in his study conducted in a faculty of medicine, where it was determined that the students had a greater tendency towards learning during the pre-clinic period, they had to study harder to achieve better results, and had a greater tendency towards deep learning, accordingly.

In light of the perception that the deep learning approach has more positive effects on learning outcomes, educators should prefer to explain cause and effect relationships in teaching rather than allowing memorization and they should ensure the active participation of their students in the lesson.

## Are there any pre-requisites for high-quality delivery of dental services? A perspective from Romanian dentists

[Marius-Ionut Ungureanu](#) <sup>1,2</sup>, [Mara Paula Timofe](#) <sup>1,3</sup>, [Razvan Mircea Chereches](#) <sup>2</sup>, [Silviu Albu](#) <sup>3</sup>, [Floarea Mocean](#) <sup>1</sup>

<sup>1</sup>Department of Public Health and Health Management, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania, <sup>2</sup>Cluj School of Public Health, College of Political, Administrative and Communication Sciences, Babes-Bolyai University, Cluj-Napoca, Romania, <sup>3</sup>Department of Maxillofacial Surgery, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania

### Context

Safe and high-quality delivery of dental care services require a team-based effort, with a quality management approach. However, dentistry is still lagging behind with regards to incorporating quality management standards and practice into its day-to-day activity. As such, the aim of this study was to explore dentists' perceptions and attitudes towards a quality management approach in the service delivery.

### Methods

Eight focus-groups have been organized with dentists between August 2014 and October 2014, in Cluj-Napoca, Romania. In total, 51 dentists have taken part in the focus-groups. To ensure a broad representation of perspectives, out of the eight focus-groups, two of them had as participants dentists who are also holding leadership positions in the Cluj-Napoca Dental School, the county branch of the Dentists' College, as well as national professional associations.

### Results

According to the dentists participating in the focus-groups, there are two main categories of pre-requisites for the delivery of high-quality dental care: individual factors and office-related factors. The individual factors relate to doctors' and team members' professional training, as well as the dentist-patient communication. The office-related factors are concerning the system for scheduling patients and the technical equipment in the office. Moreover, dentists have highlighted that the barriers in incorporating quality management more broadly in their practice are the lack of specific regulation, enforcement mechanisms and training opportunities.

### Discussion

In order for dentists to deliver safe and high-quality dental care, a more pro-active approach is needed towards the adoption of quality management standards. In the end, these efforts will be translated into higher patient satisfaction and patient retention.

This project has received funding from the National Authority for Scientific Research, CNCS-UEFISCDI, number PN-II-PCCA-2011-3.1-1208.

Dr. Marius-Ionut Ungureanu is a fellow of POSDRU grant no. 159/1.5/S/138776 grant with title: *Model colaborativ institutional pentru translarea cercetarii stiintifice biomedicale in practica clinica-TRANSCENT*.

## Assessing and improving the management of relational value in healthcare systems

[Paul Grimshaw](#)<sup>1</sup>, [Peter Lacey](#)<sup>2</sup>, [Elaine McNichol](#)<sup>1</sup>

<sup>1</sup>University of Leeds, Leeds, UK, <sup>2</sup>The Whole Systems Partnership, Knaresborough, UK

### Context

Viewed through a systems lens, European healthcare represents a complex human social environment, influenced by the activity of, and relationships between, a set of inter-related technical experts, each striving to optimise the effectiveness of their own particular function. When organisational crises occur, part of the response is to identify causal technical deficiencies. It is anticipated, that if certain elements are absent or depleted that they should be (re)-established. Notwithstanding the impact on other parts of the focal system, this is particularly difficult to implement, when the perceived missing element is an intangible relational value, such as compassion (NHS England, 2014).

### Methods

Working between a health-care systems dynamics company and University of Leeds, we have developed a methodology for helping health care practitioners to define and conceptualise seemingly intangible relational elements and to sensitively model and to create a picture of the optimum relational value in distinct health environments. Working with a Delphi of academics, practitioners and philosophers we have developed a foundation of high-level relational concepts and extracted the related attitudes and behaviours from the existing health care evidence base. Statements to represent the concept of relational value were developed from the healthcare evidence and validated using Q methodology (Watts & Stenner, 2005) with both practitioners and recipients of healthcare, initially in the elderly care context. The organised q sort factors are being used to create a set of variably complex framework tools for health organisation management to take the temperature, appraise and modify the relational nature of their working environment.

### Results

Literature work to establish relational value (RV) themes indicate a focus on the impact of the key components for RV such as trust and dignity at the level of provider/patient and a distinct lack of evidence of the occurrence and effect of RV at the level of work groups or organisations (Calnan & Rowe, 2006). However, results also highlight the need for and the role of RV to balance across the organisation. High level themes emerging from analysis such as managing 'organisational balance' are providing the basis for frameworks and models for modifying RV in divergent health settings. The need to contextualise the results for each setting is leading to tools that can be deployed at different levels of granularity. For example, organisations that require a full examination of system level relational value versus those that need to get a snapshot of the current nature of RV within the system.

### Discussion

Relationships form the basis of all social systems and yet they are often overlooked when modelling system behaviour. This approach connects the use of the state-of-the-art healthcare evidence base with practitioner built dynamic system tools that can model and visualise the current and optimal relational value of differing healthcare contexts. The approach requires research brokerage roles between the different settings to ensure that the explicit and tacit components of the process are exchanged between the different knowledge bases. The research methodology, validity and rigour is providing healthcare environments with a new approach to examining the often overlooked and difficult to measure areas of human relations. This research shows how evidence can provide real value to the management within healthcare by connecting academic research with the needs of practitioners and building data outputs that are designed to connect with and the aid the development of novel practitioner tools and expertise.

## Attitudes of members of Lithuanian Association of Physicians Executives towards restructuring policy of health care settings and services

[Skirmante Sauliune, Vilma Jasiukaitiene](#)  
[Lithuanian University of Health Sciences, Kaunas, Lithuania](#)

### Context

There has been an ongoing health system reform in Lithuania for nearly 25 years. Restructuring of health care settings and services underwent three main stages during 2003-2005, 2007-2008 and 2009-2011. The main priorities of these reforms were development of the outpatient, especially primary health care services, optimization of the inpatient services and development of the nursing, day care and other services. The aim of the study was to assess the attitudes of members of Lithuanian Association of Physicians Executives towards the positive and negative aspects of the restructuring policy of health care settings and services.

### Methods

The qualitative content analysis study was performed. Anonymous questionnaires with two open-ended questions on positive and negative aspects of the restructuring policy of health care settings and services were distributed to members of Lithuanian Association of Physicians Executives during the qualification training courses in 2012. Out of 130 members of the Association, 85 took part in the courses and in the survey, and 77 filled-in the questionnaires (the response rate 90.6%). Qualitative data were analyzed based on framework revealing subjects' ideas, feelings, and experiences. The answers were coded, main thoughts were disclosed, then themes and subthemes were estimated and each subtheme was illustrated by the original citations.

### Results

Health care executives indicated that system of health care management underwent many positive changes since 2003. The health care services are safe and of adequate quality (44 times positive changes in quality of health care services were mentioned), institution of family physician and primary health care services are growing, and health care settings are equipped with new modern technologies. Executives most frequently mentioned accessibility to health care - 17 times they mentioned that it increased, however, even 64 times respondents indicated the negative trends in accessibility to health care. Changes in health care financing system were mentioned 70 times - there were 26 positive aspects of changes in it disclosed and 44 - negative. The study revealed the issue of shortage in physicians and nursing staff (especially in rural areas) and their emigration problems. Legal base of health care system and drugs reimbursement policy are still incomplete.

### Discussion

Members of Lithuanian Association of Physicians Executives indicated that during the period of restructuring of health care settings and services, services became safer and of a higher quality, primary health care and outpatient health care services were strengthened, the usage of existing resources became more efficient, the network of health care institutions was optimized. However, from the executives' perspective, accessibility to health care services has decreased and legal base of health care system and drugs reimbursement system still needs further development.

## Benchmarking of different distribution models of absorbent devices for incontinence in Lombardy (Italy)

[Emanuele Porazzi](#)<sup>1</sup>, [Alessandro Creazza](#)<sup>2</sup>, [Elisabetta Garagiola](#)<sup>1</sup>, [Umberto Restelli](#)<sup>1,3</sup>

<sup>1</sup>University Carlo Cattaneo - LIUC, Castellanza, Italy, <sup>2</sup>Hull University Business School, Hull, UK,

<sup>3</sup>Witwatersrand University, Johannesburg, South Africa

### Context

The shift of the healthcare focus from the hospital towards the local and domicile levels is one of the strategies adopted by Italian NHS in order to contain costs without affecting service quality.

Given that the ability to organize a logistic network for distributing services and health technologies on the territorial level is essential, the optimization of logistic processes could be an element driving the improvement of the on-field assistance quality, in terms of pertinence and timeliness.

A literature review demonstrates that the optimal logistics/distribution management of health technologies at a local level is a theme becoming progressively topical.

### Methods

This abstract refers to a research project aimed at analyzing and benchmarking the different alternatives for distributing health technologies (i.e. absorbent devices for incontinence, chosen for their managerial complexity and economic impact on the NHS' balance sheet) at a local level, implemented by a sample of 9 Local Health Authorities (LHA) of a specific Italian territory, i.e. Lombardy.

After an analysis of the distribution processes, we designed specific key performance indicators in order to compare the LHAs' distribution performances in the period 2011-2012.

We collected quantitative data concerning the target population, the amount of devices delivered and the economic resources involved in the distribution processes. These data were used to feed the set of designed KPIs.

To support the analysis, qualitative data were collected by means of semi-structured interviews with a panel of LHA's experts. This led to identify, scrutiny and understand the factors leading to best/worst practices.

### Results

In the studied sample two main models for distributing absorbent devices were identified:

1. Distribution through pharmacies: patient or caregiver goes to a pharmacy within the LHA territory with a general practitioner/specialist prescription and withdraws the products.
2. Home delivery: the LHA calls for a tender to identify the provider of products and logistics services. The patient brings the medical request for service to the contractor and then the distributor delivers the products at patient's domicile.

In 2012 a key change was recorded: some LHAs joined a regional tender for the supply and home distribution of devices while other LHAs implemented innovative new agreements to distribute through pharmacies.

The results of this change show that, in most studied cases, the unit cost of the service per patient has decreased (on average -10%) while the amount of delivered absorbent devices for incontinence (per patient) has increased (on average +10%).

### Discussion

Our results suggest that, in the studied time frame, the economic performance has improved (lower costs per patient) with a larger amount of devices distributed.

From the interviews with the panel of experts, it emerged that this is due not only to the change of the distribution model (i.e. the introduction of the regional tender forcing LHAs to the home distribution).

In fact, LHAs still using a distribution model through pharmacies implemented one/more practices to rationalize the usage of resources (e.g. negotiating better agreements with suppliers).

Based on the obtained results, it seems that it isn't impossible to identify the best distribution model, but we have pinpointed some drivers and best practices that could provide elements and guidelines for helping decision making for Health Authorities. This is intended to lead to a review of distribution models for the purpose of a greater economic sustainability of the NHS.

## Better knowledge management, better decisions by public-private interactions in health care

[Jan-Erik Johanson](#)<sup>2</sup>, [Päivi Husman](#)<sup>1</sup>

<sup>1</sup>Finnish Institute of Occupational Health, Helsinki, Finland, <sup>2</sup>University of Tampere, Tampere, Finland

### Context

Healthcare across Europe face complex challenges with regard to delivery of care. Research has emphasized comparisons of private and public organizations. Now is time to concentrate to their efficiencies at the expense of understanding if there is inherent role casting between them. One of the obstacles is the lack of knowledge sharing practices among public and private providers which cannot be surmounted without practices defined at the higher than organizational level. Public-private interaction requires shared practices both among public organizations as well as private providers. We want to discuss how to improve decisions and make better use of evidence-based management.

### Methods

The paper represents results of large intervention and evaluation research called "Innovation capture and diffusion in public-private health services". The case study is compounded of six organisations. The data consists of surveys, interviews, medical records and productivity numbers. The aim of the study is to evaluate and develop health service innovations by applying innovation capture model. The innovations studied are based on information dependent practices in which the application of new knowledge or management alters existing modes of operation. In addition to the enhanced efficiency and effectiveness the interventions examined here alter the positions of public and private health care organisations by putting them into new cooperative, competitive, control and evaluative relationships. Further aim of the study is to exemplify as to how innovations can be rooted to existing practices, and what would be suitable methods to organise public-private interactions, and what consequences innovations and forms of management entail.

### Results

Do managers and leaders really make use of evidence in their decision making? Many studies show managers' very pressured and fragmented working lives, so how do they make time and space to think about the evidence? Our research points out that they use evidence if they are motivated enough and can participate to define problems and solutions by themselves.

Public health care is claimed to have less ability to absorb new innovations, knowledge and evidence and put them into the practice than private health care providers have. Anyway some organisations are better than others at using evidence or knowledge in decision making. Our study shows that being an evidence-based organisation can lead to performance improvements and competitive advantage. One of the key ingredient in such practices is to actively use information channels available for the providers and to use this information to differentiate existing care processes.

### Discussion

There is a clear lack of strategy in optimizing the whole process of treatment and management in health care. The empirical findings suggest that the work distribution between public and private health care providers is not clear and the practices vary a lot among service providers. The illegibility between public and private sector has created a situation in which coordination problems, lack of communication, poor management and controversy over the proper provider complicates the treatment processes and reduces productivity.

It could be possible in the future that interplay between public and private forms of institutional action will change service delivery in health care. Private health care providers' willingness to show openly results of treatment challenges public sector.

However, it is evident that the good management and success of public - private activity in health sector depends upon the favourable regulatory environment, functional role distribution, willingness to cooperate and suitable competitive landscape.

## Capacity building for bringing more evidence based decisions for monitoring and reducing health inequalities in Lithuania

[Mindaugas Stankunas](#)<sup>1</sup>, Ramune Kalediene<sup>1</sup>, Rolanda Valinteliene<sup>2</sup>, Arnoldas Jurgutis<sup>4</sup>, Ausra Berzanskyte<sup>3</sup>, Skirmante Sauliune<sup>1</sup>, Faustas Stepukonis<sup>4</sup>, Eimante Zolubiene<sup>2</sup>, Snieguole Kaseliene<sup>1</sup>, Kastytis Smigelskas<sup>1</sup>, Apolinaras Zaborskis<sup>1</sup>, Jurgita Vladickiene<sup>1</sup>, Ruta Butkeviciene<sup>1</sup>, Kristina Selli<sup>1</sup>, Olga Mesciarinkova-Valiuliene<sup>1</sup>, Egle Sabaliauskaite<sup>1</sup>

<sup>1</sup>Lithuanian University of Health Sciences, Kaunas, Lithuania, <sup>2</sup>Institute of Hygiene, Vilnius, Lithuania, <sup>3</sup>Vilnius University, Vilnius, Lithuania, <sup>4</sup>Klaipeda University, Klaipeda, Lithuania

### Context

Socioeconomic inequalities in health and health care are important challenges for public health. Systematic inequalities in morbidity, mortality, health services use and accessibility between socioeconomic groups exist in most of the countries. However, the vast of scientific data suggest, that these inequalities are more expressed in countries in transitions. In terms of health inequalities, Lithuania appears in the range of the countries with the most unfavourable situation in the European Union. In 2014, the Lithuanian Parliament (Seimas) approved the Lithuanian Health Programme 2014-2025. One of strategic goals of this programme is to reduce health and health care inequalities in Lithuania.

### Methods

For achieving the reduction of inequalities in health and health care, Lithuania has started to implement the project "Development of the Model for the Strengthening of the Capacities to Identify and Reduce Health Inequalities". This project is financed by the Norwegian Financial Mechanism 2009-2014 Programme "Public Health Initiatives" and will be implemented in 2014-2016. The project is aimed at development an evidence based platform for health and health care inequalities monitoring and strengthening administrative capacities of persons involved in the policy making at national and municipal levels.

### Results

For this purpose, Norway's experience in identification and reduction of social inequalities in health, and the practice of implementation of the Norwegian National Strategy to Reduce Social Inequalities in Health which is recognised by the WHO as a model for other European countries, are of great importance. This project will be sought to develop the respective fields intended for the improvement of public health and reduction of health inequalities in Lithuania by maintaining cooperation with the respective Norwegian institutions and strengthening bilateral relations. Lithuanian University of Health Sciences, Vilnius University, Klaipeda University and the Institute of Hygiene will create the model of health inequalities' identification, measurement and reduction. It will be developed according to the international and national experience, legal documentation (national or international) analysis, human recourses potential analysis and will contribute to capacity building for reducing health inequalities at municipal and national level through continuous training and awareness raising.

### Discussion

This model will be developed based on identified country specific needs and on international evidence. It is expected, that it will be regularly used by the target groups thereby improving public health and reducing health and health care inequalities in Lithuania. Moreover, this model could be transferable example for other countries, which are tackling health inequalities.

## Defining quality in chronic care supply chains: the case of Down syndrome

[Bert Meijboom](#)<sup>1</sup>, [Mirjam Hollegien](#)<sup>1,2</sup>, [Diana Delnoij](#)<sup>1,3</sup>, [Antonia Coppus](#)<sup>4,5</sup>, [Esther de Vries](#)<sup>1,2</sup>

<sup>1</sup>Tranzo, Scientific Center for Care and Welfare, Faculty of Social and Behavioural Sciences, Tilburg University, Tilburg, The Netherlands, <sup>2</sup>Department of Pediatrics, Jeroen Bosch Hospital, 's-Hertogenbosch, The Netherlands, <sup>3</sup>Institute for Health Care Quality, National Health Care Institute, Diemen, The Netherlands, <sup>4</sup>Department for Primary and Community Care, Radboud University Medical Center, Nijmegen, The Netherlands, <sup>5</sup>Dichterbij, Centre for the Intellectually Disabled, Gennep, The Netherlands

### Context

Down syndrome (DS), or (partial) trisomy 21, is the most common genetic disorder in man. It is associated with a broad variety of age-related medical problems, ranging from e.g. congenital heart disease to dementia. The care chain around DS is challenging and complex, involving numerous professionals. This requires coordination of care and adequate age- and service-related transitions. The current quality is unknown. Quality indicators have the potential to improve clinical decisions at individual and organizational levels. Our aim is to review current knowledge on indicators that assess quality of medical healthcare for DS, and/or people with intellectual disabilities (ID).

### Methods

We systematically searched the databases of PubMed, EMBASE, Web of Science, CINAHL, PsycINFO and Google Scholar using predefined inclusion and exclusion criteria. Studies concerning the development, implementation, application and/or evaluation of structure, process or outcome indicators for measuring quality of medical healthcare for people with DS were included. Research specific for DS was scarce. Therefore, we also included people with ID. Quality indicators with an outcome-oriented approach and structure/process indicators that could be used for chronic medical DS-care were included for further analysis.

### Results

Fourteen out of the 915 initially retrieved studies were selected. Included studies described quality indicators for medical healthcare in people with ID. Most studies developed and/or measured indicators in a multidisciplinary manner with relevant stakeholders, some of which used focus groups to include people with ID. A total of 22 indicators was identified, having potential relevance towards DS-care. This selection consisted mostly of structure and process indicators for performance measurement purposes. These indicators are measured in multiple ways, such as consumer/family surveys, staff questionnaires, medical file recordings, financial registrations and/or national databases.

### Discussion

Quality indicators specific for DS-care have not been developed to date. Though the DS-care supply chain is continuously evolving with new organizational strategies, questions on quality of care remain. Therefore, an indicator set specific for DS is needed. Existing indicators in the ID field solely seem to focus on structure and process indicators which do not necessarily lead to desired, qualitative health outcomes at individual levels. Furthermore, they tend to evaluate single organizations rather than integrated total care cycles. They measure inputs more than results. Future indicators should preferably be patient-centered and outcome-oriented, including user-perspectives, while developed in a multidisciplinary way to achieve successful implementation. We intend to develop a compact set of indicators to evaluate and monitor the quality of the DS-care cycle as a whole. This set can also provide an example for other chronic care settings.

## Development of Quality Management manuals for use in Dental Practice

Andreea Maria Cetean <sup>1</sup>, Mara Paula Timofe <sup>1,3</sup>, [Marius-Ionut Ungureanu](#) <sup>1,2</sup>, Catalin Ovidiu Baba <sup>1</sup>, Razvan M. Chereches <sup>1</sup>, Silviu Albu <sup>3</sup>

<sup>1</sup>Cluj School of Public Health, Babeş-Bolyai University, Cluj-Napoca, Romania, <sup>2</sup>Department of Public Health and Health Management, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania, <sup>3</sup>Department of Maxillofacial Surgery, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania

### Context

Quality management in dentistry is a global concern due to its impact on the population, being a starting point for oral health improvement. A quality management system (QMS) in dental medicine implies a continuous evaluation, maintenance and improvement of the quality of services delivered. This will result in higher personnel and patient satisfaction, a better management of the practice, fewer errors, and more importantly, higher patient safety. The aim of this project is to develop Quality Management manuals for dental practices, adjusted to the particularities of the Romanian medical system.

### Methods

Formative research was conducted to assess the knowledge, attitudes and perceptions of dentists towards quality management in dental practices. This was done by sending questionnaires through postal services to a representative national sample of dentists (n=1240). Focus groups were also conducted on the subject with dentists and other key informants from Cluj-Napoca (n=8). Finally, research was conducted to identify quality management standards and the types of quality management systems implemented in dental practices, with a focus on examples from other EU Member States. Even though the initial assessment showed that dentists had knowledge of quality management, the manuals were developed as a useful tool to complement all professionals working in dental practices. Moreover, they are intended to be used as a mechanism for quality improvement.

### Results

The project has four main deliverables: a manual of standards, a control system manual, an implementation guide, and a manual of good practices. The Manual of Standards is designed as a starting point, where concepts such as quality management, quality management systems and total quality management are explained and exemplified. Quality improvement techniques are presented, such as patient communication, risk management and quality assurance. Moreover, the manual also introduces the ISO 9000 standards. The Control System manual represents a checklist that dentists can use to assess their own practice, structured in three main domains: managerial responsibility, resource management, and measurements, analysis and improvements. The Implementation Guide complements the Control System manual, by explaining and exemplifying the elements from the checklist. The Manual of Good Practices is an overview of quality management systems implemented in dental practices in other EU Member States.

### Discussion

Using quality management tools in dentistry is considered an example of good practice or a mechanism for defensive medicine. They should be used with the purpose of increasing the quality of services offered. The information from the manuals will be integrated in a Quality Management System software, which will be pilot-tested in 25 dental practices from Cluj-Napoca. The QMS aims at increasing the quality of dental services offered in Romania, by providing practical information for dental practices. The QMS will benefit dental practices in terms of increasing their visibility, managerial capabilities, productivity, but also their patients' safety. By using a QMS, dental practices are expected to increase their competitiveness and capacity to adapt to the increasing needs of the market.

## Do health managers have the appropriate managerial competencies to enhance access to health care at the primary care level in Kazakhstan?

[Kuanysh Yergaliyev](#)<sup>1</sup>, [Lyazat Rakhimova](#)<sup>2</sup>, [Gulnazyra Yespolova](#)<sup>2</sup>, [Aizhan Azerbaeva](#)<sup>2</sup>

<sup>1</sup>Nazarbayev University, Astana, Kazakhstan, <sup>2</sup>Republican Center for Health Development, Astana, Kazakhstan

### Context

Primary health care (PHC) is an imperative strategy to providing "health for all" and is widely acknowledged as a universal solution for improving population well-being in the world. Therefore if PHC is equitably distributed it can play important role in preventing diseases and decreasing health inequality on a large scale in society. Access to PHC is one of the indexes to achieving the goal of "health for all" and managers of these organizations are to a large extent responsible for operationalizing the visions and objectives that policy-makers have for the health and well-being of a nation.

### Methods

This research is aimed to provide some of important evidence to improve management practice and finally enhance access to health care for population. The goal of study was to reveal the relation, if any, between managerial competencies and the accessibility of healthcare in PHC organizations of Kazakhstan. During this study, 86 managers from 30 PHC organizations in Kazakhstan and 300 patient have been surveyed by online structured questionnaires. The survey included different questionnaires covered self-assessment and subordinate assessment of managers' competencies, assessment of a degree managers and patients understanding of the definition of "accessibility of healthcare in PMC", assessment of patients' satisfaction about provided care and its accessibility. Assessment of managerial competencies is based on surveying of all sides involved in provision and consuming of health care: top-managers, subordinates and patients. Collected data was analysed utilizing Pearson test.

### Results

As a result there were identified strong positive correlation (0,5049) between assessment of managerial competencies and managers understanding of the definition of "accessibility of healthcare in PMC" and strong positive correlation (0,7004) between assessment of managerial competencies and patients' satisfaction about provided care and its accessibility. Medium correlation (0,4436) was identified between patients' satisfaction about provided care and its accessibility and an understanding of the definition of "accessibility of healthcare in PMC".

### Discussion

Human resource management (HRM) is an important factor in provision of health care directly influencing the performance of health care systems. Nevertheless in many transition countries like Kazakhstan the importance of HRM was underestimated and undergone reforms were emphasizing more on structural change, cost containments, financing mechanisms etc. From HRM perspective there is no doubt that health managers play crucial role in smooth running of the organization, and are ultimately responsible for the quality and accessibility of healthcare services. Whereas, competencies are right combination of knowledge, skills and behaviors possessed by managers and are a source of sustained competitive advantage for the organization. Therefore, health management performance as a whole is open to measurement on an ongoing basis and reflects what health managers actually do and how they make decisions. Such studies could be a source of needed evidence to improve management practice and finally enhance access to health care.

## Effects of physical environment on patient satisfaction and job satisfaction in the delivery of health services

[Turgut Karaalp](#)<sup>1</sup>, [Pinar Dinc Kalayci](#)<sup>2</sup>, [A. Kadir Teke](#)<sup>1</sup>

<sup>1</sup>Department of Hospital Administration Diyarbakir Military Hospital, Diyarbakir, Turkey,

<sup>2</sup>Department of Architecture, Gazi University, Ankara, Turkey, <sup>3</sup>Department of Health Services Management, Gulhane Military Medical Academy, Ankara, Turkey

### Context

In the process of the production of health services there are various inputs. One of these inputs is health-care facilities designed to include diagnosis and treatment units to contribute to the health-care services of the society. Major factors which are the basis of health-care facilities are guidance and accessibility, comfort, aesthetics and hygiene. The evaluation of these factors and improvement of the facilities based on such evaluation lead to provide the patients and staff with safe and comfortable setting. If these factors are better, it can be expected that users of the facilities have higher levels of satisfaction.

### Methods

This study aims to explore the effects of physical environment of health-care settings on patients' satisfaction and staff job satisfaction in health services. Using a quantitative survey based research, this study invited 466 patients and 125 staff from the Dentistry Center of Gülhane Military Medical Academy. The survey questionnaires explored the participants' perceptions developed for this study based on a literature review on the three critical dimensions, namely evaluation of physical environment, patient satisfaction and job satisfaction. The effects of the physical environment on patient satisfaction and job satisfaction were analysed using Spearman rho coefficient. Further analysis of the same were conducted using the multi-linear regression analysis and ordinal logistical regression analysis. The patients' perceptions about the physical environment based on their socio-cultural characteristics were analysed through the "Kruskall - Wallis analysis and Variance Analysis (ANOVA)" tests followed by "Mann-Whitney U test" and "t – test for independent groups".

### Results

This study demonstrated statistically significant positive effects of physical environment factors on patient satisfaction. Specifically, hygiene factor leads to increase of 28.6% in patient satisfaction. The other created by physical environment factors as follows: comfort increase of 23.2%; guidance and accessibility increase of 22.3%. Interestingly hygiene had an important positive impact on the dental fear in patients. With regards to job satisfaction of staff it was found that all physical environment factors except aesthetic have statistically significant and positive effects. Specifically, comfort leads to increase of 29.1% in general job satisfaction, hygiene increase of 19.7% and accessibility increase of 19.3% in general job satisfaction. The comfort of job environment also positively affect on job safety, coordination between staff, respectfulness and individual working ability.

### Discussion

Our study indicated the significant environmental factors for designing and building better dentistry facilities. Future studies should be performed to investigate the importance of these factors in other healthcare facilities.

## Evidence of the evolution and development of “Comprehensive Cancer Networks”

Daan Westra<sup>1</sup>, Federica Angeli<sup>1</sup>, Vivianne Tjan-Heijnen<sup>3</sup>, Martin Carree<sup>2</sup>, Dirk Ruwaard<sup>1</sup>

<sup>1</sup>Maastricht University, Faculty of Health Medicine and Life Sciences, Department of Health Services Research, Maastricht, The Netherlands, <sup>2</sup>Maastricht University, School of Business and Economics, Department of Organization and Strategy, Maastricht, The Netherlands, <sup>3</sup>Maastricht University Medical Center, Department of Medical Oncology, Maastricht, The Netherlands

### Context

In 2013, 9 stakeholders, including the Dutch Hospital Federation (NVZ) and the Dutch Federation of University Hospitals (NFU), announced their plan to optimize delivery of oncology care in the Netherlands. They suggested that cooperation among hospitals and between hospitals and primary care practices, in so-called ‘Comprehensive Cancer Networks’ (CCN), would lead to increased patient centeredness, quality, and efficiency. However, empirical evidence of current cooperative arrangements between hospitals in the Netherlands is slim. Comprehensive Cancer Networks will need to divide labor, standardize processes, and create effective referral networks but evidence regarding the current state of these matters is non-existent.

### Methods

To provide evidence of how oncology care is currently organized in the Netherlands we explore division of labor at organizational level through patient referral networks. We use health insurance data of 1.3 million insurance claims of 385 thousand patients submitted between 2008 and 2011. These claims encompass all Dutch hospitals and are used to build patient referral networks between hospitals in the Netherlands. Our focus is on four different tumor types, namely breast tumors, prostate tumors, colon tumors, and gynecological tumors. Using Social Network Analysis techniques, the networks are not only characterized based on the types and size of organizations delivering care, but also on network measures such as centrality, density, and reciprocity. Differences within and between tumor types are statistically explored.

### Results

Graphic representation of the networks reveals that academic medical centers, including one specialized cancer center, play a central role across all tumor types. However, significant differences exist between tumor types in terms of density, centralization, reciprocity, and transitivity. For example, the network measure centralization is highest for breast tumors, implying that hospitals tend to refer patients to a particular central hospital, creating a hub and spokes configuration. Other tumor types are thus more decentralized, which could be due to the fact that it is organized at more regional levels, that hospitals have different perceptions of which hospital is best suited to refer patients to, or that some other, informal, agreements are in place. Reciprocity is lowest for prostate tumors, which shows that for this tumor type, patients are referred in both directions between hospitals less often than in other tumor types.

### Discussion

Our results provide evidence that, at a national level, no uniform configuration of cancer networks has naturally evolved in the past few years. To avoid management and implementation problems, formalized Comprehensive Cancer Networks should not overlook the distinctions of each type of oncology care. Questions regarding the applicability and effects, such as implications in terms of integrated care delivery and quality of care, should be clarified. Our work shows that informal referral networks might contradict the envisioned network configuration under the Comprehensive Cancer Networks. While a hub and spokes model with a central academic medical center might be desired, our evidence shows that this is not necessarily already in place for all tumor types. These findings serve as evidence of the fact that formalization of Comprehensive Cancer Networks could be beneficial in oncological care, but also serve as a caution that formalization of the networks should be executed with diligence.

## Flexibility in healthcare, a review on how management can facilitate the flexibility of the professional workforce

[Frank van Gool](#) <sup>1,2</sup>, [Nicolet Theunissen](#) <sup>3</sup>, [Joyce Bierbooms](#) <sup>4</sup>, [Inge Bongers](#) <sup>1,4</sup>

<sup>1</sup>Tranzo (Tilburg University), Tilburg, The Netherlands, <sup>2</sup>Trifier BV, Rijen, The Netherlands, <sup>3</sup>Future Life Research, Apeldoorn, The Netherlands, <sup>4</sup>Institute for Mental Healthcare Eindhoven (GGzE), Eindhoven, The Netherlands

### Context

The impact of global market liberalization and the tumultuous and chaotic environment are frequently mentioned as the rationale for change in healthcare. When organisations are responding to this dynamic environment, they meet several challenges. Institutional complexity, personal rigidity and ineffective strategies often cause failure and frustration. Many organisations have a reactive attitude and they seem to change from one rigid state to another, creating new problems for tomorrow. An important challenge is to increase the flexibility of the organisation and the people working in it. This review sheds light on how to foster or facilitate the flexibility of professionals.

### Methods

Within this literature study the research question will be answered: How can management influence the flexibility of professionals in healthcare organisations?. Based on The Prisma statement and the Cochrane Handbook searches were conducted. The Psycinfo (1973 to 01-10-2014) and Web Of Science databases (1975 to 01-10-2014) are searched for 'peer reviewed' articles in Dutch or English. Criteria were: The objective has to be Flexibility, defined as the individual or organisational capability to adapt to changing circumstances (search terms e.g.: flexib\*, dynamic\*, adapt\*). The domain presented had to be Healthcare organisations (e.g: health care, healthcare), and the target groups should be Employees (e.g: physician, practitioner, nurse) and/or Management (e.g.: \*manage\*, strateg\*, organiz\*, organis\*). The selection was co-checked by the PhD supervisors. Analyses started using MS Excel, placing the publications in rows and key elements in columns (e.g. definition, aim, question, methodology, data collection, target group, context, intervention-elements, indicators, findings).

### Results

The analyses will be completed in March 2015 so final results will be presented at the conference. Preliminary results are: The search resulted in 654 hit. On the basis of the information of the abstracts of these references, only 19 met the selection criteria. These were studied in full. Twelve articles described empirical research of which 7 used qualitative-, 2 quantitative- and 3 mixed methods. In 11 out of 19 articles flexibility is an input factor that leads to security, performance, change or adaptability.

Eight articles describe flexibility of the organisation or workforce as output of interventions such as changing attitude, organisational structures, approaches, leadership styles and -skills. Five of these 8 articles are based on empirical research. In only 2 of them a definition is given.

### Discussion

Based on the first results of this review, the idea emerges that organisations try to influence their managers and professionals to create change by introducing new attitudes, approaches to change and new forms of leadership. There appeared to be a rich body of knowledge on change management and how to create readiness for change in general.

Less is known about flexibility of the workforce in healthcare organisations as an output factor of change management. That is, flexibility as a state of mind of professionals, needed to anticipate on continue changing circumstances. Moreover, there appeared to be a limited number of empirical research on this topic. In the presentation we will discuss the need for further research on how to create flexibility in healthcare as a pro-active and dynamic attitude towards continuous change.

## Health Service Utilization and Costs among Women with Postpartum Depression in Taiwan: A Retrospective Matched Case-control Study

Jung-Husan Chao <sup>1</sup>, Ning Lu <sup>2</sup>, [Kuo-Cherh Huang](#) <sup>1</sup>

<sup>1</sup>Taipei Medical University, Taipei, Taiwan, <sup>2</sup>Governors State University, Illinois, USA

### Context

Postpartum depression (PPD) happens frequently to mothers, but is inadequately recognized and thus undertreated in many countries. To the present time, studies of influencing factors of health services utilization and costs among women with postpartum depression are still scarce in Taiwan. Hence, the present research sets out to fill the gap.

### Methods

This study was based on data from the Longitudinal Health Insurance Database 2010 (LHID2010) in Taiwan. Subjects who were diagnosed with PPD the first time during pregnancy or within one year after childbirth between 2003 and 2012 were treated as the case cohort. To reduce the likelihood of confounding errors and selection bias, subjects in the reference control cohort were randomly selected and matched in 1 case : 4 controls ratio from remaining subjects in LHID2010 by age and income-related insurance amount. Student's t-test, Chi-squared test or Fisher's exact test were conducted to compare the differences of health services utilization and costs between the case and control cohorts in 2 years after having PPD. Furthermore, Generalized estimating equation (GEE) was performed to evaluate the predicting factors of health services utilization and costs, while accounting for the clustering effects. All analyses were performed by using the SAS statistical package, version 9.3.

### Results

On the whole, GEE results revealed that the case cohort consumed more outpatient visits, emergency room visits, acute admissions, lengths of stay, and incurred comparatively larger medical costs than the control cohort (all p values < 0.001). Furthermore, subjects who underwent normal vaginal delivery or had more prenatal visits consumed less emergency room visits, acute admissions, and lengths of stay as well as incurred lower medical costs, compared to their counterparts (all p values < 0.001). In addition, higher comorbidity indexes were associated with more outpatient visits and emergency room visits (both p values < 0.05).

### Discussion

PPD is a common clinical disorder and considered as an important health problem in modern societies. Nonetheless, research on influencing factors of health service utilization and costs among women with PPD remains under-recognized in many countries. Generally speaking, the present study confirms that women with PPD would make use of more health services and incur higher medical costs. Furthermore, mode of delivery, prenatal visit and comorbidity index were significant predictors. Given considerable medical and personal costs associated with PPD, increased attentions and efforts from policymakers, clinical practitioners and hospital administrators upon women with PPD are clearly warranted. It is hoped that the study could assist health care practitioners in implementing preventative measures for at-risk groups, and thus make valuable contributions to improving the quality of life among pregnant women.

## Healthcare Cost-Savings Initiative from an Evidence-Based Review of DHA Supplements in KK Women's and Children's Hospital Formulary

[Kae Shin Lim](#), [Jamie Stephanie Caleb](#)  
KK Women's and Children's Hospital, Singapore, Singapore

### Context

Docosahexaenoic acid (DHA) supplementation during pregnancy and lactation is beneficial for infants' growth and functional development. Historically, KK Women's and Children's Hospital (KKH) carried the same two same brands of DHA supplements (Brand A and Brand B) in the formulary due to prescriber preference. The lack of a formal evaluation of the use of DHA supplements in the hospital may result in monopoly of certain brands despite availability of similar or better alternatives in the market.

In 2013, the Pharmacy department evaluated the tender process to ensure fair competition. This review illustrates an evidence-based process of selecting DHA supplements and highlights cost-savings.

### Methods

A literature search was performed to identify DHA requirements in pregnant and lactating women. Based on the criteria, a Request for Proposal (RFP) for DHA supplements was called. An evaluation committee comprising of pharmacists, appraised brands based on DHA content, mercury limits, costs, halal and vegetarian status. The expert opinions of the hospital's obstetricians were also sought. The results of the evaluation process was presented and approved by the Pharmacy and Therapeutics Committee. The most cost-effective brand (Brand C) was included into the formulary in June 2013, with concurrent removal of the previous brands. Brand C was 28 to 44% cheaper than Brand A or Brand B. However, Brands A and B were still available in the hospital's Retail Pharmacy. The costs, payment modes and hospital movement (formulary and retail) of all three supplements were analysed before and after June 2013. The amount of subsidy for these supplements by third-party public payers were also analysed.

### Results

Expert panels worldwide recommend a daily dietary DHA intake of 200 to 300mg for this population. There is no evidence to support a particular DHA to eicosapentaenoic acid (EPA) ratio, as advertised by certain brands.

Before and after June 2013, the yearly movement of hospital DHA supplements in the formulary dropped from 21,000 bottles (Brand A and Brand B) versus 2,400 bottles (Brand C). However, this was compensated by an increase in retail sales of Brand A and Brand B resulting in costs of approximately S\$740,000. It was extrapolated that if these sales were translated to the more cost-effective Brand C, overall health care cost savings would amount to approximately S\$300,000 per annum. Up to 15% of the costs of these supplements were borne by public third party payers; hence, we can expect an extrapolated annual cost-savings of S\$46,000.

However, the movement of Brand C in the formulary has been on steadily increasing despite a slow start.

### Discussion

Hospital formularies may carry supplements too, although these are not marketed as drugs. It can be challenging to decide which brands to include in the formulary due to lack of scientific evidence and unsupported claims. Certain brands are usually considered better than another due to effective marketing strategies by the companies which may influence both patient and prescribers' preferences. However, these brands are often associated with higher costs. This review highlighted that substantial cost-savings can be achieved for patients and third-party payers through a methodological evaluation that is evidence-based. We are optimistic that the usage of Brand C will eventually be comparable to that of Brand A and Brand B as it is slowly gaining acceptance as the most cost-effective DHA supplement available currently in KKH.

## Hospital projects as facilitators of change process - Mid-level nurse managers' perceptions

[Nina Lunkka](#), [Marjo Suhonen](#), [Leena Paasivaara](#)  
Medical Research Center Oulu, Oulu, Finland

### Context

In hospitals, projects are a way to implement changes into practice as well as a way to enhance multi-professional co-operation during the change process. In this study change process is seen as a cyclical process without an end state. Attention is directed to situations of inter-personal interaction in the organization. It is known that a large part of hospital projects do not achieve their goals. It is difficult to root the results of hospital projects into practice. In this study hospital projects were seen as a tool for change management for mid-level nurse managers.

### Methods

The aim of this study was to describe mid-level nurse managers' perceptions of projects that facilitate change process in hospital. Mid level Nurse Managers (n=10) from one University Hospital in Finland were interviewed about their perceptions of what kind of project facilitates change process in hospital. The selection criteria for the participation to this study was that participants had to have participated in a structured hospital project aiming at change in their current position as mid-level nurse manager. The data were collected using semi-structured interviews. The interviews proceeded by discussing the themes that were selected beforehand by the researchers. The themes focused on mid-level nurse managers' experiences and perspectives from change process in the context of hospital projects. The data was analysed using phenomenographic analysis. Phenomenographic analysis enables to investigate the qualitatively different ways in which people experience something or think about something.

### Results

Accepted, networking, co-operative, negotiative and resilience hospital project which was supported by line-management was suggested to facilitate change process by the interviewed mid-level nurse managers. It was necessary that hospital project was accepted and supported by the line-management from the beginning of change process but project group and project manager also needed project work skills as well as networking, co-operation and negotiation skills to redeem the acceptance and to convince different stakeholders during the change process. They also needed resilience to work for the change despite of setbacks or resistance.

### Discussion

The results of this study support the literature which sees the project management and project work something more than an adequate use of project tools. The results suggest that when recruiting the staff for hospital projects it is essential to take in to account other skills (networking, co-operating, negotiating skills) and character (resilience) than only adequate use of projects tools and techniques. The results also indicate that mid-level nurse managers' support has a great role in hospital projects aiming at change. The results of this study can be taken into account in education or supplement training of mid-level nurse managers as well as the project managers and project workers in hospitals.

## How administrative and professional ideologies shape the psychological contract of registered nurses. A qualitative study

Eva Deboever, Paul Gemmel, [Jeroen Trybou](#)  
Ghent University, Ghent, Belgium

### Context

Few studies have explored the content of psychological contracts of registered nurses. The concept refers to nurses' subjective belief, shaped by the organisation, regarding the terms of a reciprocal exchange between individual and organisation. It refers to the way the working relationship is interpreted, understood and enacted by individuals at the interface between themselves and their organization. Our study aims at investigating if nurses' perceived obligations are shaped by professional and administrative work ideologies.

### Methods

Semi-structured interviews were conducted with Belgian registered nurses to explore the content of their psychological contracts. Data analysis was based on the constant comparison method. Interview questions were of an open-ended, semi-structured nature designed to allow participants to address issues which they believed to be most significant. During the interviews probing questions were used to ensure the participant's experiences were grounded in concrete situations to increase the validity of the interview. All interviews were transcribed in full and analysis began whilst the data were still being collected. This provided the possibility to explore in further detail each theme that emerged in later interviews. The transcripts were read repeatedly. The initial open data exploration was followed by identification of concepts and their relationships.

### Results

Our analysis of the transcribed interviews builds on psychological contract theory and yields a rich understanding of how registered nurses interpret and experience mutual obligations. Our results demonstrate that a distinction can be made between administrative and professional obligations. This is induced by differences between models of organizing that are based on administrative and organizational (management) principles and those models that are based on professional and occupational (nursing) organizing principles which converge in a healthcare organizations.

### Discussion

This study is innovative in that it is among the first to study the content of the psychological contract of registered nurses. Our study confirms that both administrative and professional obligations exist. Nurse executives and leaders should recognize the needs of nurses with respect to both dimensions in order to develop and maintain effective relationships with their nursing staff. Future research should determine registered nurses' responses to perceptions that the organization is not fulfilling its obligations (psychological contract breach). Specifically, it would be interesting to (i) study the effects of breach to patients, colleagues and organizations, (ii) compare the sensitivity to unmet professional obligations compared to unmet administrative obligations and (iii) study how nursing managers can buffer the negative effects of unmet obligations.

## Improvement projects in junior doctors' management programme

[Santeri Huvinen](#)<sup>1</sup>, [Taina Mäntyranta](#)<sup>2</sup>, [Minna Kaila](#)<sup>1</sup>

<sup>1</sup>University of Helsinki, Department of Public Health, Helsinki, Finland, <sup>2</sup>Ministry of Social Affairs and Health, Helsinki, Finland

### Context

Effective clinical leadership improves patient outcomes, and patient and provider satisfaction. Since 2009 a management development programme of 30 ETCS is obligatory for all physicians and dentists in specialty training at the University of Helsinki. A mandatory component of the programme is participating in improvement projects and thereafter writing a reflection paper.

The purpose of this study is to find out which of the available 28 project topics are most often selected, and to further explore why these are selected, and whether and how the experience acquired from these projects may promote evidence informed management.

### Methods

We analysed 285 reflection papers written by 64 junior doctors who finished the programme by 2014, in which junior doctors reflect the content and lessons learned from the improvement projects. We conducted both quantitative descriptive statistics and qualitative content analysis. In the first phase of the content analysis, the improvement projects were classified into categories. This deductive classification was followed by a detailed analysis of data where new categories were created by inductive content analysis.

### Results

All of the available 28 example topics were selected by at least one junior doctor. The most used topics of improvement projects were "giving an effective lecture" (n=41) and "developing time management skills" (n=28). In further analysis, these two were categorised as "self-management". Very popular topics included "familiarisation of new personnel" (n=22), "development of house rules or care pathways" (n=19) and "managing work schedules and on call services" (n=18), that are linked to the development of processes at the workplace.

The preliminary results of the qualitative content analysis indicate that the junior doctors were beginning to understand the importance of management skills. They also reflected that such skills would enable them to more efficiently work in the service system as clinicians, especially when taking on the added responsibilities of the specialist clinician.

### Discussion

The most popular projects include ones that can be single-handedly done by the junior doctors. Some are in fact already included in the clinical curriculum and therefore easily adapted to the management training, e.g. the lectures. By contrast, team based projects were less often selected. As the management programme has not been part of training for long, it is not surprising that project work in a larger scale is not the norm. It suggests that junior doctors normally do not participate in the improvement efforts of the service system. There is clearly a need for further development of the project topics as well as efforts to support the realization of the potential of these junior doctors, and utilizing this resource in the system. Follow-up studies will be needed to find out whether junior doctors will be more often included in team improvement projects.

## Improving Safety of Drugs in Pregnancy and Breastfeeding

[Kae Shin Lim](#), [Jamie Stephanie Caleb](#)  
KK Women's and Children's Hospital, Singapore, Singapore

### Context

There is a plethora of information available on the internet regarding the safety of drugs in pregnancy and breastfeeding. However, some of these websites may not be reliable, and in many cases, there is not enough known to determine the safety risk of certain drugs in pregnancy and breastfeeding. As KK Women's and Children's Hospital (KKH) is the largest medical facility in Singapore that provides specialty care to women, it is imperative that patients here who are pregnant and breastfeeding are aware of the risks and benefits of the drugs consumed.

### Methods

The KKH Pharmacy Medication Safety Committee (PMSC) consulted reputable references which include Briggs' Drugs in Pregnancy and Lactation, Hale's Medications and Mothers' Milk and Micromedex Online 2.0. These references have more comprehensive information on safety in pregnancy and lactation. Based on the abovementioned references, a total of 1134 drugs were reviewed and classified according to the safety in pregnancy and breastfeeding.

### Results

Cautionary statements i.e. "Caution in pregnancy", "Caution in breastfeeding" and "Caution in pregnancy/breastfeeding" which were accompanied by an additional statement of "Consult a doctor/pharmacist before use" were inserted onto labels for dispensed drugs. These statements serve as a prompt or reminder to patients and staff during dispensing of the medications. Staff will be alerted to check on the safety of medications which have this statement when dispensing to a pregnant or breastfeeding patient, and the reason they were prescribed the drug.

### Discussion

The usual practice of prescribing certain drugs in pregnancy and breastfeeding for specific conditions in our institution were also accounted for as these references may not have considered use of these drugs in these conditions. Whilst these reflect general safety information and are not trimester-specific; it greatly helps to enhance awareness especially in a busy dispensary which is prone to error. Hence, the implementation of this safety initiative may promote mindful behaviour. It was enforced to all Pharmacy staff that these cautionary statements should not replace their clinical and professional judgement. To ensure continuity of this safety practice, all newly included drugs in the hospital formulary are currently reviewed using the same criteria. It is hoped that the implementation of these cautionary statements on the drug labels will prevent inadvertent administration of drugs that are unsafe in pregnancy and breastfeeding, as it concurrently raises patients' awareness on use of medications during this time.

## Improving the culture and practice of formation, adaptation and application of research findings for policy-making in the field of Health

[Vitaliy Koikov](#)<sup>1</sup>, [Gulmira Derbissalina](#)<sup>1,2</sup>, [Margarita Graf](#)<sup>3</sup>, [Ayagyozy Umbetzhanova](#)<sup>2</sup>

<sup>1</sup>Republican Centre for Health Development, Astana, Kazakhstan, <sup>2</sup>Astana Medical University, Astana, Kazakhstan, <sup>3</sup>The World Bank Project Implementation Support Team, Astana, Kazakhstan

### Context

At present information and its adequate and timely use are among the key factors determining the effectiveness of decision-making and the possibility of successful development of the individual, society and state. In this case, information becomes the determining resource and factor for governance and policy-making. Improvement of governance and policy-making, including in the field of Health, is one of the most urgent tasks for the Republic of Kazakhstan, which has taken a strategic benchmark for entry into the most competitive countries in the world.

### Methods

The experience of leading foreign countries and recommendations of the World Health Organization indicate the need for introduction of the policy-making practice based on evidence (research results of the highest quality). This requires the creation of national Knowledge Transfer Platforms (KTP) in the field of health care, providing proper receipt, processing and dissemination of the scientific research results, organization of the dialogue on priority health problems at the national level with the involvement of all stakeholders, improving the culture and practice of formation, adaptation and application of research findings. To solve these problems, we examined the strengths and weaknesses of the national health care system on the use of evidence for policy-making. For these purposes were surveyed makers managerial and policy decisions in the field of public health at the central level (Ministry of Health) and local health authorities.

### Results

Results of our study indicate that only 20% of respondents regularly use the results of scientific research of the highest quality (systematic reviews, official reports on research) in their managerial and policy decision-making. Also, the results of our study indicate not effectively working mechanisms for the exchange of research results both within the health sector, and between different sectors of the national economics; policy-makers in the field of health do not have sufficient experience and skills to use research findings for policy and decision-making; there are insufficient information and communication infrastructure in health system and the insufficient integration of existing information resources in the unified health information system.

### Discussion

To solve these problems we offer the following activities: 1. Study of existing practices of knowledge transfer between the generators of knowledge (researchers), health organizations and health authorities; 2. Improving understanding of all stakeholders about the importance and the need for research data as a resource for policy-making in the field of health; 3. Developing effective methods to identify and engage key actors in the policy-making process in the field of health; 4. Organization of forums and dialogue platforms to discuss issues of receipt, adaptation, dissemination and practical application of research results; 5. Development of the National Concept (Plan) of the KTP creation in the field of health; 6. Capacity building of key stakeholders on the practical application of research findings in their managerial and policy decision-making.

## Likelihood of Employment Status Change among Women with Postpartum Depression: A Ten-year Retrospective Matched Case-control Study with National Claims Dataset in Taiwan

Hui-Chih Chang <sup>1</sup>, Ning Lu <sup>2</sup>, Wei-Che Chiu <sup>3</sup>, Chu-Chen Chang <sup>1</sup>, [Kuo-Cherh Huang](#) <sup>1</sup>

<sup>1</sup>Taipei Medical University, Taipei, Taiwan, <sup>2</sup>Governors State University, Illinois, USA, <sup>3</sup>Cathay General Hospital, Taipei, Taiwan

### Context

Postpartum depression (PPD) happens frequently to mothers. In addition to the fact that PPD affects a mother's capabilities to cope with the care of her newly-born baby, it is important to recognize that PPD has detrimental effects on the quality of life of depressed mother's family, with serious personal, financial, occupational and health implications. However, the subject of probability of employment status change among women with PPD has rarely been explored. Therefore, the current study sets out to fill the gap in the literature.

### Methods

This study was based on data from the Longitudinal Health Insurance Database 2010 (LHID2010) in Taiwan. Subjects who were diagnosed with PPD the first time during pregnancy or within one year after childbirth between 2003 and 2012 were treated as the case cohort. To reduce the likelihood of confounding errors and selection bias, subjects in the reference control cohort were randomly selected and matched in 1 case : 4 controls ratio from remaining subjects in LHID2010 by age and income-related insurance amount. Multivariable Cox proportional hazards models was performed to assess the likelihood of changing employment status from income earners to non-income earners among women with PPD during the aforementioned ten-year period, adjusting for covariates. All analyses were performed by using the SAS statistical package, version 9.3.

### Results

Results of multivariable Cox proportional hazards models showed that the case and control cohorts were significantly different with respect to the probability of employment status change, after controlling hospital and physician characteristics, although the evidence was not quite strong ( $P = 0.0421$ ). Furthermore, variables of age, catastrophic illness patient, insured payroll-related amount, hospital accreditation level, and year were significantly associated with hazard ratios of employment status change.

### Discussion

Mental health issues (e.g., depression) have profound impacts upon indirect costs (such as productivity costs) besides direct care costs to a health care system. Change of employment status (such as changing from a steady job to an unsteady one) may imply negative impacts on economic productivity among patients with mental health needs. Generally speaking, the present study confirms that women with PPD are more likely to change their employment statuses from full-time to part-time, or even withdraw from labor force utterly. Principally, such an outcome should be considered as a negative impact on economic productivity (productivity loss). Accordingly, increased attentions and efforts from policymakers, clinical practitioners and hospital administrators upon women with PPD are clearly warranted.

## Link between primary care physician communication and post-hospital discharge events

[Anja Braet](#) <sup>1,3</sup>, [Caroline Weltens](#) <sup>2,4</sup>, [Walter Sermeus](#) <sup>1</sup>

<sup>1</sup>KU Leuven, Leuven, Belgium, <sup>2</sup>Flemish Hospital Network KU Leuven, Leuven, Belgium, <sup>3</sup>AZ Sint-Blasius, Dendermonde, Belgium, <sup>4</sup>UZ Leuven, Leuven, Belgium

### Context

The shortening of length of hospital stay requires improved care transition and optimal communication with primary care. Suboptimal communication with primary care can be a risk factor for postdischarge events.

The aim of the study was to compare the evaluation of primary care practices (PCPs) of the discharge of their patient out of the hospital whether or not a post-discharge event (emergency room visit, readmission, death) took place.

### Methods

In this multicentre prospective cohort study 275 patients were followed after discharge from hospital to home after discharge from 11 Belgian hospitals between August 2013 and July 2014. Patients were initially admitted to the hospital for total hip or knee prosthesis (4 hospitals, 116 patients), pneumonia (3 hospitals, 79 patients) or heart failure (4 hospitals, 80 patients). PCP's were invited to fill in a questionnaire three weeks after discharge. Patients were contacted 5 to 6 weeks after discharge to screen for postdischarge events. Post-discharge events were defined as a visit to the emergency department, a readmission or mortality. To evaluate whether PCP's evaluation and postdischarge events were independent we used Pearson Chi-square or Fisher's Exact test in case of small numbers.

### Results

We received 115 questionnaires that were sufficiently filled in; 27 of them corresponded with patients with a post-discharge event (23%). The results are presented in the table.

Table: PCP's evaluation of discharge process and post-discharge events

PCP's of patients with a post-discharge event had a more negative appreciation of the involvement in discharge planning, patient education and timeliness of discharge summary. This effect was only statistically significant for timeliness of discharge summary.

More than 70% of the PCP's received the definitive discharge letter in the first week after discharge; for most of them (97%) this was on time. 30% of the PCP's who received the discharge summary more than one week after discharge evaluated this time span as too long.

### Discussion

PCP's need to be involved more with the discharge planning during hospital stay. At this moment this is not structured in the Belgian healthcare system.

Education of patients or caregivers is often evaluated as suboptimal at the moment of discharge.

To ensure continuity of care it is extremely important that PCP's receive the discharge summary on time. PCP's confronted with patients with a postdischarge event need to have information about the hospital stay. The best way to ensure this timeliness is to give all patients a discharge letter at the moment of discharge. The PCP has to receive the definitive discharge summary in the first week after discharge.

The content of the discharge summary is perceived as sufficient to ensure continuity of care.

## Living with age-related macular degeneration (AMD) - The relatives' role in the support of AMD-patients: Needs and Burden

Wilfried von Eiff <sup>1,2</sup>, [Dennis Haking](#) <sup>1,2</sup>

<sup>1</sup>Center for Hospital Management (CKM), University of Muenster, Muenster, Germany, <sup>2</sup>Center for Health Care Management and Regulation, HHL Leipzig Graduate School of Management, Leipzig, Germany

### Context

The age-related macular degeneration (AMD) is a medical phenomenon that usually affects older people and which is a major cause of blindness and visual impairment. This phenomenon results in a loss of vision in the center of the visual field (the macula). The macular degeneration makes it difficult or impossible to read and recognize faces. Worldwide 25 to 30 Million people suffer from AMD. In Germany the incidence rate is 500.000 in one year. To cope with their disease, patients need support in their everyday life. Often they are supported by relatives, mainly spouses.

### Methods

To identify the amount of needed assistance and the thereby caused burden for the relatives, the Center for Hospital Management and the AMD Network Germany initiated a questionnaire-based study. The questionnaire is divided into three parts: 1. Demographic Data (age, sex, profession, status of AMD disease, secondary illnesses and housing), 2. Estimation of life quality (through Euroqol approach), 3. Limitations in everyday life (activities, needs, burden, external support). The questionnaire is handed out to the relatives after visiting a workshop organized by the AMD Network Germany. The workshop is especially designed for AMD patients and their relatives and has contents like "coping with everyday life", "medical insights", "exchange of experience", "technical aids", etc. It is an ongoing study. At this point four workshops with 34 participants were conducted. The evaluation of the 34 questionnaires gives initial hints for correlations and contents of further workshops.

### Results

Most of the patients suffering from AMD were male (68 %). Most of the relatives were female and spouses. The share of wet/dry/both forms of the AMD disease is equally distributed. 87 % of the patients (50% of relatives) suffer from secondary illnesses (diabetes, heart disease, etc.). The Euroqol analysis shows that the estimated life quality of AMD patients is not significantly worse than the average in Germany. Nearly 70% of the relatives feel strained by the support of the AMD-patients. The need for support is categorized into "high need", "average need" and "low need for assistance". The analysis showed that activities of the categories "Orientation and Mobility" and "Household" have a high need for assistance. "Taking part in community life" and "Media Use" indicate a low need for assistance. A correlation between the health status and the need/burden for/of assistance is not verifiable yet.

### Discussion

The relatives play an important role in supporting the AMD patients to cope with everyday life activities. The evaluation showed that there is usually no need for external support, e.g. by nursing services or housing services. But there is a burden of assistance for the relatives. This is not only related to the support activities themselves but also to the relatives' health status, mostly related to the age and the secondary illnesses. The results of the questionnaire are mainly used to redesign the workshops for AMD patients and their relatives according to the real needs. Therefore the workshop approach is focused on improving life quality both for the AMD patient and their relatives. The study started in 2014 and will be continued in 2015 and should give further hints for factors which influence the burden of assistance of the relatives.

## Modern management approaches to improve the effective use of scientific and innovative potential of health professionals

[Vitaliy Koikov](#)<sup>1</sup>, [Alma Syzdykova](#)<sup>2</sup>, [Nagima Issataeva](#)<sup>1</sup>, [Alma Aubakirova](#)<sup>1</sup> [Assel Abduazhitova](#)<sup>1</sup>, [Aigul Mergentai](#)<sup>1</sup>

<sup>1</sup>Republican Centre for Health Development, Astana, Kazakhstan, <sup>2</sup>Ministry of Health and Social Development, Astana, Kazakhstan

### Context

Shortage of the health researchers able to compete on the international market is one of key problem for medical science in Kazakhstan. Insufficient capacity of researchers and the lack of effective levers to increase the motivation for self-development, in terms of their low material and technical security lead to low productivity of scientific research. Also low wages of researchers lead to internal and external leakage of specialists and lack of young researchers in health system. All this points to the need for an effective system of formation and development of scientific and innovative potential of health researchers.

### Methods

To estimate effectiveness of management in the field of the scientific and innovative potential development we developed the questionnaire for researchers and research managers in health research organizations and universities. The questionnaire consisted of 25 questions and was posted on the electronic resource [www.surveymonkey.com](http://www.surveymonkey.com). 740 researchers and managers attended in the survey. Based on the research we have identified the strengths and weaknesses of management in the development of the scientific potential of the health care system.

### Results

Results of our study shown the following strengths: Implementation of international approaches to the training of scientists in the health system - Master's and PhD Programs; the presence of centers exercising training of health researchers on a regular basis; availability of budget program from the authorized body (Ministry of Health) in which is carried out annually training of researchers on the Master's and PhD Programs; the presence of a network of specialized organizations of medical science, the construction of modern scientific laboratories, intensive development of information technologies in all fields, including medicine and science. At the same time, the weak points are: lack of competitiveness and low relevance of the results of research; insufficient quality of research training in master's and doctoral studies, the lack of consistency and low efficiency of training programs of scientific personnel; lack of effective mechanisms to attract young professionals in the research process.

### Discussion

In order to improve the scientific and innovative potential of health professionals, we offer the following measures: 1. Creation of an effective system of reproduction of scientific personnel for the health system; 2. Formation of an effective system of continuous professional development of researchers and innovation-active professionals; 3. Creating an effective research environment for research and scientific-pedagogical personnel; 4. Establish effective mechanisms of motivation and evaluation of researchers and innovation-active professionals.

## Nurse management of pediatric primary care department

[Anna Mulero](#), [Griselda Calaf](#), [Paola Raventós](#), [Cristina Laserna](#), [Marta Calabia](#), [Sònia Fernàndez](#)  
CASAP, Castelldefels, Spain

### Context

Most primary health care centers in Spain employ pediatricians and nurses to attend the population until fifteen years of age. Our center, attends around 5000 children, with four pediatricians, two of them part-time, and five full-time pediatric nurses. To increase efficiency, reduce waiting time and reach more patients, we integrated nurse and pediatrician services. Nurses received full training, which included a theoretical part taught by our pediatricians focusing on the physical exams of children highlighting the concept of normal and abnormal and a practical part performed in the nurse office in the presence and with help of a pediatrician.

### Methods

Nurses perform the periodic checkup exams of children, using as the reference the Health Department guide, which lists the procedures and screening tests to be done at each specific age, stating those procedures will be carried out by a qualified health professional without indicating whether it has to be a doctor or a nurse. Activities performed by nurses also include group interventions, which consist of two detailed workshops for parents that reinforce the information given during regular visits, one for breastfeeding and one for newborns. They also handle the systematic school immunizations and provide support to the public kindergartens, giving health information to the personnel. To improve access to urgent care needs, the pediatric team designed a guidebook, selecting the most common health problems that could be solved by the nurse, as well as other possible interventions for emergency care, where decisions are shared with a pediatrician.

### Results

With this new management of the pediatric service we succeeded to increment from 45% the percentage of autonomously performed nurse check-ups in 2007 to 88% in 2013. For urgent care demands, now 65.7% of the visits are solved by the nurse without the input of a pediatrician. The most common visits were for wounds 87.8%, concussions 66.6%, and diarrhoea 60%. The most common cases that needed to be also visited by the paediatrician were abdominal pain 75%, vomits 75% and cough 62.5%. Nurse autonomous activities allow us to manage around 400 pediatricians' hours, now focused on other medical activities.

### Discussion

With this new approach, the pediatric nurse becomes the reference professional for children and their parents, leading the activities of health promotion and prevention. Using this management of the pediatrics department, gate-keeping in primary care is done by nurses who present a high resolution of clinic visits and allows pediatricians to focus on more complex tasks.

## On the way to out-patient multidisciplinary provider networks - A critical analysis of the Austrian out-patient care system and the key players

[Eva Krczal](#)

Danube University, Krems, Austria

### Context

A main topic of the current health care reform is the strengthening of out-patient care and the fostering of collaboration between the different care providers, financing institutions and regulatory authorities. Out-patient care providers such as physicians and non-physician health care professionals are mainly self-employed and are running their own-practices. Following the concept of integrated care they are expected to cooperate in the form of group practices, out-patient clinics or other provider networks. Implementing integrated care in Austria requires not only the acceptance and willingness to cooperate of all key players but also the adaption of the legal and regulatory framework.

### Methods

Starting with an analysis of the current legal and regulatory framework, the possibilities and limits of the development of out-patient multidisciplinary provider networks in Austria are being assessed. Also the key players in the provision of health care (care providers, financing institutions, regulatory authorities, interest groups) are being identified. Their different expressions of interest are being analysed in order to evaluate their willingness and their possible contributions towards the development of out-patient provider networks. The research is based on an analysis of relevant secondary data sources and supplemented by an interrogation of selected representatives of the different key players. Using the Delphi technique experts of the Austrian health care system are being asked to evaluate the opportunities and risks of the introduction of integrated care concepts. The analysis of the key variables includes hard factors like legislation and finance but also soft factors like mutual acceptance, individual concerns and preferences.

### Results

The provision of health care is characterised by a strong fragmentation of decision-making bodies, financing institutions and health care providers. Due to the different responsibilities of the federal government and the provinces concerning planning, regulation and organising hospital and outpatient care a number of obstacles to the development of cross-sectoral integrated care can be identified. The same applies to the fact that different financing parties and financing mechanisms do exist. Especially in the out-patient sector individual concerns and preferences of care providers create barriers to a closer collaboration between general practitioners, specialists and non-physician health care professionals. Out-patient care providers are used to run their own practice and enjoy high degree of independence compared to hospital personnel. Joining an out-patient provider network would mean giving up part of that independence. Furthermore different views and opinions between physician and non-physician health care professionals exist due to diverse educational and professional backgrounds.

### Discussion

The introduction of out-patient multidisciplinary provider networks creates a number of opportunities and possible positive effects for the Austrian health care system. Integrated care networks can contribute to an improvement in the quality of care provision, grant more patient-friendly opening hours as well as reducing waiting times and preventing unnecessary double examinations. At a current state indication-related and regionally limited integrated care projects seem to be quite manageable. For a broader nation-wide implementation of integrated care different system variables have to be adapted. On a micro-perspective the individual attitudes and preferences of health care providers as well as the patients have to be closer examined and taken into consideration. The Austrian health care system is at the beginning of implementing integrated care structures. Experiences and best practices from other countries or other health care systems would provide further input to the development of integrated care in Austria.

## Patient Preparedness and Enablers for Decision-Making of Dental Implant Adoption

[Ananthavalli Ramesh](#), [Prakash Sai](#)

Indian Institute of Technology Madras, Chennai, Tamil Nadu, India

### Context

The decision-making regarding medical comprises assessment of treatment options in the backdrop of patients' perceptions about treatment outcomes. Implant technology options are available in the market necessitate evaluation and selection of suitable implants by dentists based on the patient's specific requirements/expectations. As per research literature, patient readiness to adopt dental implants hinges on dentist-patient interaction and the concept of shared decision-making has been attracting great attention in academic research. Current study proposes to examine key decision-making phases that facilitate adoption of right choice of dental implants from both perspectives of dentists and patients.

### Methods

The study identified two phases of decision-making process namely, patient preparedness for treatment and patient enablers that facilitate dental implant adoption. Shared treatment decision-making was considered as one of the constructs, in terms of sharing quantity (medical, process, treatment options) and quality of information.

Phase 1 - Preparing the patients:

Interactive Qualitative Analysis (IQA) was employed to gather input from dentist to map the elements to prepare the patients for treatment. It captured the inherent knowledge of the dentist through brainstorming session and focus group interviews. 27 dentists were participated in the study.

Phase 2 - Enabling the patients for adoption:

Survey instrument was developed to gather input from patients (who decided to undergo dental implant treatment in near future (or) currently undergoing the treatment). 12 enablers were identified based on the phase 1 results and literature review. These 12 enablers were hypothesized to patient involvement, decision satisfaction and implant choice.

### Results

The current research in work-in-progress and expect to completion by March'15. However the following observations were made with the pilot data:

Result of Phase1: 11 affinities were identified and grouped in terms of drivers (primary & secondary) and outcomes (primary & secondary). Patient and Dentists characteristics were identified as primary drivers which drives the treatment process (such as constructive engagement, deliberation and information exchange). Establishing dentist-patient relationship was the secondary outcome and decision satisfaction and implant choice were identified as primary outcome.

Result of Phase 2: Four hypotheses were supported by this current study (with the significant level  $p < 0.05$ ). However, hospital environment was not moderating between the decision enablers and decision outcomes. (Refer Diagram).

### Discussion

This study brought out effective communication strategies for physicians that would enable the patients to adopt the suitable technology options. The components of shared treatment decision-making can be employed to patient education for them to get involved in the treatment. Policy makers will benefit by this study by employing the enabling components to facilitate the patients.

## Power trumps evidence!

Hans Maarse, [Maartje van der Aa](#)

Maastricht University, Health Services Research, Maastricht, The Netherlands

### Context

It is common to argue for a prominent role of evidence in policymaking. Healthcare policymaking must be evidence-based as much as possible, because evidence yields better policy and, as a consequence, better results. The main difference between policymaking and politics also relates to the role of evidence: whereas policymaking is associated with evidence, politics is associated with power, conflicting interests and ideology.

### Methods

Nevertheless, every insider will recognize the profound impact of power in healthcare policymaking. This is obvious for policymaking with significant ramifications such as 'reforms'. Reforms in healthcare are always less the result of a rational evidence-based design than the result of bargaining and political compromises between conflicting interests and/or ideologies. However, also in dealing with 'technical issues', power may come into play. Consider for instance debates in 'technical' committees for the development of evidence-based quality guidelines in medical care. These guidelines may have important consequences for the revenues of private doctors or provider organizations and, therefore, elicit a conflict of interests.

### Results

The problem goes even deeper because of the growing skepticism on evidence. The low vaccination rate for HPV in the Netherlands - strongly recommended by health professionals and said to be evidence-based - demonstrates the growing skepticism on the evidence-based opinion of professionals. Some go even so far to argue that evidence is not more than 'just one out of the many opinions' or that it covers up the interests of a powerful lobby. Power also influences which evidence is acceptable and which not.

The proposed paper will explore the relationship between evidence and power by making use of Hoppe's (2011) typology of public problems. This typology has two dimensions: a knowledge dimension ranging from low to high and a consensus dimension ranging from high to low. The combination of both dimensions gives the following typology (see attachment).

### Discussion

Our thesis will be that power trumps evidence not only in the case of moderately structured problems (ends) and unstructured problems (the most common situation in healthcare policymaking), but also in the case of structured and moderately structured (means) policy problems, although in a different way.

## Quality of life in nursing homes following the group-living principle. An empirical study measuring the quality of life from the subjective perspective of dependent-living elderly

[Anke Simon](#)

Baden-Wuerttemberg Cooperative State University, Stuttgart, Germany

### **Context**

The growing societal costs and increasing concerns about the quality of care for the elderly as well as the changing policies on housing and care in Germany pose great challenges for the re-designing of the traditional care homes. Group living in home-like care environments constitute a new form of nursing home setting. They have evolved as a reaction to the hospital-like environment of some traditional nursing homes. So far only a few studies investigating subjective quality of life in older people exist. Moreover there is a complete lack of studies in group-living nursing homes residents in Germany or elsewhere.

### **Methods**

The purpose of this study was to analyse the subjective quality of life in elderly people in nursing homes following the group-living principle. The Nottingham Health Profile was employed. A comparison with the German representative sub-sample of elderly living independently age-group over 75 was conducted. Psychometric properties and appropriateness were analysed.

### **Results**

The mean NHP scale scores suggest an acceptable perception of residents' quality of life (n=254). Our findings indicate that with exception of the NHP scale physical mobility, the perceived quality of life of group-living nursing home residents and independently living elderly over 75 years (German reference values) are nearly on the same level. With the exception of the subscale social isolation, the results of the current study show that the NHP is suitable for assessing the subjective quality of life in nursing home environments. The NHP should also be considered as a reliable, valid and useful alternative to resident satisfaction surveys.

### **Discussion**

We believe that this study contributes useful information about the subjective quality of life in group-living nursing homes. Firstly, our study focused on very old people with age-specific reduced physical and mental abilities. Secondly, the study includes participants diagnosed with dementia. Thirdly, it poses as the first comprehensive study in the research field of subjective quality of life in group-living nursing homes. The present study is intended to start a discussion, rather than a fixed and ideal concept of how to measure subjective quality of life in all nursing homes and for all elderly.

## The Diminishing Trend of b-Thalassemia in Southern Iran from 1997 to 2011: The Impact of Preventive Strategies

[Hassan Joulaei](#)<sup>1</sup>, [Mohammad Shahbazi](#)<sup>2</sup>, [Kamran Bagheri Lankarani](#)<sup>1</sup>, [Bahman Nazemzadegan](#)<sup>3</sup>, [Mohsen Rastgar](#)<sup>3</sup>, [Fariborz Ghaffarpasand](#)<sup>1</sup>

<sup>1</sup>Health policy research center, Shiraz University of Medical sciences, Shiraz, Fars, Iran, <sup>2</sup>Jackson State University, Jackson, Mississippi, USA, <sup>3</sup>Deputy for Health, Shiraz University of Medical Sciences, Shiraz, Fars, Iran

### Context

The marginal zones of the Caspian Sea and the Persian Gulf have a higher prevalence of thalassemia compared to other regions of Iran. This disease has disabled many people and resulted in increasing health care costs. The aim of this study was to assess the incidence of b-thalassemia (b-thal) and to evaluate the outcome of applied preventive strategies over a 14-year period in Fars Province, Southern Iran.

### Methods

This cross-sectional study comprised all new cases of b-thal recorded during 1997–2011. The data were obtained from the Non-Communicable Diseases Surveillance Department of Shiraz University of Medical Sciences, and are presented as mean ± standard deviation (SD). The preventive strategies included: (1) public education; (2) premarital screening; and (3) prenatal diagnostic testing. Health network system of Fars province has been used for implementing the program. With the overall goal of preventing approach the Genetic Counseling Centers in Fars Province performed the following three strategies: (1) identification and follow up-of thalassemia carrier candidates (2) identification of pregnant women and utilizing diagnostic tests prior to delivery; (3) identification and assessments of parents who had not been tested for thalassemia at the time of their marriage. Males and females contemplating marriage were required to be screened in one of the 27 Thalassaemia County Health Centres. The screening program followed the national algorithm.

### Results

The Health Centers screened 800 686 referred marriage candidates. Of the screened population, 4563 couples (about 5.7/1000 for this population) were carriers. Throughout the course of implementing the program (1997–2011), 50.5% (2304 couples) of total carrier couples decided not to marry, 42.5% (1939 couples) got married and 7.0% (319 couples) did not show up. Interestingly, the rate of cancelled marriages has been reduced, ever since 2000 when the prenatal diagnosis option was available to marriage candidates. The incidence of b-thal has declined from 101 cases in 1997 to only two cases in 2011. The family planning coverage rate among carrier couples was 92.8% in 2011. The main reasons for b-TM births in Fars Province during implementation of the program was due to poor care (55.0%), defect in premarital counseling (15.0%), mistaken premarital screening (11.0%), error in genetic counseling (2.0%), and other reasons (17.0%).

### Discussion

The results of this study demonstrate a significant reduction in the incidence of  $\beta$ -thal in the Fars region. This study has established that a holistic approach that combined regular consultations, premarital and prenatal genetic counseling and ongoing education through an integrated health network system played significant roles in reducing thalassaemic offspring. Maintaining this incidence rate of  $\beta$ -thal remains the main concern of the health care system. Decreasing the costs of laboratory investigations as well as prenatal diagnosis and probable abortions, would result in increased compliance of the carrier marriage candidates. Continuous communication with carrier couples with  $\beta$ -thal children further improves the efficiency and sustainability of this program. Lessons learned from such experience should be fully considered by the public health professionals for reducing and ultimately eliminating human suffering regardless of their abode.

## The effectiveness of an online intervention for monitoring anxiety episodes

Oscar Garcia, [Antoni Peris](#), Ionut Chiriac, Laura Sancho, Carles Bernades, Loli Torres CASAP, Castelldefels, Spain

### Context

In the past years we noted a sharp increase of adjustment disorders consultations, especially those related to anxiety. We relate this increase to the economical crisis and a change in society values. Patients look at their primary care clinic as a first resource that could solve their problems, which are in most cases not strictly medical. Considering this demand and the increase use of Internet and e-consultations, we decided to design an intervention using the service of an online portal that was just implemented in our health center, which is located in 20km south of Barcelona.

### Methods

During the initial visit, we identify the patients that present an anxiety adjustment disorder, and if they comply with the inclusion criteria, we randomly divide them into two groups. The control group will receive the standard care from his doctor, which may include psychological and/or pharmacological treatment and will be scheduled for two follow-up visits every 15 days. The patients in the intervention group will receive the standard treatment and will be signed up for the online portal that will allow patients to stay in contact with their doctor and receive 4 sessions of psychotherapy during a month, besides the scheduled follow-up visits at the clinic every 15 days. Each group will be evaluated during each visit at the center using the Hamilton Anxiety Rating Scale (HAM-A) to assess the severity of their symptoms.

### Results

After 3 months of implementation of the program, the preliminary data will be analysed. We will describe the demographic information together with the initial cause that induced the disorder. There will be statistically analysed the other variables such as the use of pharmacological treatment and the number of anxiety attacks for each group. The results of the Hamilton Anxiety Rating Scale will allow us to compare the progress of the condition for each patient and also evaluate the possible differences between control and intervention group.

### Discussion

The integration of the online portal in our clinic leads to an easier and faster communication with our patients and it also provides a new means of implementing intervention programs. The online visits may avoid unnecessary visits to the health center and saves time for both patient and health professionals, especially in our case where we have a geographically disperse population. We believe in this particular intervention the fact that the patients in the intervention group can be in almost direct contact with their doctor will be a protective factor to maintain under control their anxiety levels.

## The introduction of management in medical universities

[Vitaliy Koikov](#)<sup>1</sup>, [Alma Syzdykova](#)<sup>2</sup>, [Nagima Issataeva](#)<sup>1</sup>, [Maral Kalieva](#)<sup>1</sup> [Zaure Baigozhina](#)<sup>1</sup>

<sup>1</sup>Republican Centre for Health Development, Astana, Kazakhstan, <sup>2</sup>Ministry of Health and Social Development, Astana, Kazakhstan

### Context

Management is an important component of ensuring the effectiveness and proper functioning of the national health system and its some sectors, including medical education. This means good managing resources used in medical education; learning management and management between the different partners involved in the selection, education and continuing education of health professionals. Until now, in many countries the management of medical education has received little attention, but the situation is changing rapidly. The introduction of management in medical universities of the Republic of Kazakhstan aims to provide improvement of the medical education effectiveness and provide health system by competitive professionals.

### Methods

To strengthen the management in the medical education system we must first of all understand the current level of competence in the management of medical universities. Therefore we organized process of self-assessment in Kazakhstan's medical universities. Survey tool was divided into five areas of competence and 17 subareas: 1. Communication and Management - relationship management, communication skills, leadership and negotiation, post vision, change management; 2. Leadership - leadership skills and behavior, organizational climate and culture; 3. Professionalism - personal and professional accountability, professional development and training throughout life, contribution to the community and the profession; 4. The general awareness of the health care environment - systems and health organizations, healthcare workers, community and environment; 5. General business knowledge and skills - general management, financial management, human resource management, strategic planning and marketing, information management, risk management, quality improvement. The study involved managers working at various levels in the medical universities.

### Results

Analysis of questionnaires filled in the process of self-assessment clearly indicates that the managers of medical education point to a lack of competence in such areas as management principles of operation, projects and budgeting long-term projects, financial control and audit principles, principles of financial management, financial planning methodology, approaches to generate revenues main activity and productivity measurement, basic accounting principles, the principles of cost recovery, including the installation of tariffs and contracts, maintaining compliance with the tax laws and the provision of documentation, development and use of indicators for monitoring performance.

### Discussion

The results of our research indicate the need for capacity building of managers in medical education system. In this case, first of all persons occupying manager positions at medical schools need to build its capacity as in general management and the management of certain areas corresponding duties. To meet these competencies, it is recommended that managers in the medical universities must be trained, minimally, at the following courses - Teamwork, Conflict Resolution and Negotiation, Building trust and ethical organization, Communication skills, Understanding of budgeting and financial management.

## The Italian National Observatory on good practices: a learning cycle to improve patient safety

Giovanni Caracci, Barbara Labella, Quinto Tozzi, Roberta De Blasi, [Vanda Raho](#), Angela Angelastro  
Agenas, Rome, Italy

### Context

The patient safety program herein outlined was initiated in 2008 through the setting up by the Italian National Agency for Regional Health Care (Agenas) of an Observatory on Good Practice for Patient Safety.

Agenas is a scientific and technical body of the Italian NHS, whose main responsibilities include supporting national and regional health planning with analyses of need and supply, assessing the costs and effectiveness of health care, supporting innovation, evaluation and disseminating good practices and supporting Regions experiencing financial deficit to comply with fiscal consolidation requirements whilst maintaining the accessibility and quality of services.

### Methods

The work of the Observatory is based on the assumption that continuous quality and safety improvement could be effectively pursued by promoting top-down and bottom-up actions aiming at identifying innovative practices and at accelerating their diffusion to the community of healthcare professionals. The objective of the Observatory is to improve patient safety through a cyclic model of collecting, classifying and disseminating safety improvement activities across Regions and Autonomous Provinces. It has been designed and implemented on the basis of principles and tools shared among Agenas, the Ministry of Health, Regions, health organisations and professionals, who are periodically asked to give their feedback.

Every year, the Observatory issues a Call for good practices, and provides a standard platform in which to report their content, outcomes and costs. The practices are then classified and published on a web searchable database and disseminated in an annual publication.

### Results

All the Italian Regions have been actively participating since the first Call for Good Practice. Altogether, 2056 experiences of patient safety improvement were submitted between 2008 and 2014 by 800 professionals. The experiences reported (an average of 300 per year) are published [online](#).

Giving a look at the practices reported in 2014, 30% of them have been successfully implemented in a different setting than originally designed for and 45% of them saw the direct involvement of patients' and citizens' organizations. As per the main topics of the practices reported in 2014, some data are in figure 1.

The Call 2014 has given special attention to three practices whose implementation is promoted at the European level in the frame of PaSQ project. Here follow some results: 28 out of 298 practices reported in 2014 are about hand hygiene, 6 about medication reconciliation and 15 about implementation of the surgical checklist.

### Discussion

According to the OECD, whose Review of Health Care Quality: Italy has been recently published, "the Observatory in an excellent demonstration of the Plan-Do-Check- Act cycle in action".

The OECD Report also identifies two features that make the Observatory a good demonstration for how coordinated action which transcends institutional boundaries should occur. First, the fact that it was designed based on the input of multiple stakeholders and second the underpinning philosophy that bottom-up and top-down actions are complementary in the quest to improve patient safety.

The participation in the PaSQ project gave us the opportunity to share the results achieved by the Observatory with other Member States and the interest raised by our work make us believe that it could be an example of a sustainable initiative to foster quality and safety in healthcare.

## The Italian Observatory on Cancer Regional Networks: establishing an evidence-based monitoring and evaluation system

[Vanda Raho](#)<sup>1</sup>, [Angela Angelastro](#)<sup>1</sup>, [Giada Ricca](#)<sup>1</sup>, [Giovanni Caracci](#)<sup>1</sup>, [Giorgia Duranti](#)<sup>1</sup>, [Flavia Cardinali](#)<sup>1</sup>, [Barbara Labella](#)<sup>1</sup>, [Giovanni Amunni](#)<sup>2</sup>

<sup>1</sup>Agenzia Nazionale per i Servizi Sanitari Regionali (Agenas), Roma, Italy, <sup>2</sup>Istituto Toscano Tumori (ITT), Firenze, Italy

### Context

The Italian Healthcare System is decentralized into National, Regional and Local levels. Regions have great autonomy in their organization of healthcare assistance. Consequently, Cancer Regional Networks (CRNs) display marked differences in terms of development, organization, and assistance. Agenas works also on clinical networks and pathways, aiming to support local planning, building&management interventions, and quality evaluation of CRNs. Recently, Agenas received mandate from the Standing Conference on the relations between the State and Regions and the Ministry of Health for planning and developing the national Observatory on CRNs, to establish a platform for monitoring, evaluating and supporting cancer patients management.

### Methods

The methodology is based on wide stakeholders engagement and inputs from international experts (OCSE, WHO) in the fields of cancer networks and quality assessment. In addition, literature analysis has been conducted to identify best practices of permanent observatories in healthcare worldwide. Alongside, the relevant indicators and other quantitative assessment tools for the Observatory are being developed in the context of a specific project, promoted by the MoH, involving Agenas and R&AP. Within the realm of this project, an assessment tool (online questionnaire) has been developed and validated by a panel of healthcare professionals and experts. The purpose is to detect the state of the art (either real or perceived) of CRNs, and identify both best practices and gaps within and across R&AP, and this is why the questionnaire is being filled in by each R&AP's referent of the cancer network. The data collection phase will stop in February 2015.

### Results

The first valuable result of this project is the questionnaire itself: a comprehensive tool able to reduce the great variability and complexity of CRNs governance into assessable organizational models. The discussion with professionals and experts and the solid normative basis on Networks (Cross-border Directive 2011/24/UE, Italian Guide on CRNs) shaped a well-structured questionnaire. It includes 97 items among 7 dimensions: network's aims and results; management model; continuity and integration; sustainability; monitoring and evaluation; communication; research and training. Specific focus on managing rare cancers was also included. While analyzing data collection results, the consultation process for the Observatory proposal will be performed. The questionnaire initiative received enthusiastic participation and great attention by all the stakeholders involved at any level (institutional and professional, national and local), as a recognition of the issue's priority.

### Discussion

A proactive Observatory will be established, valuable for R&AP, policy makers, patients and professionals: anyone will be able find/share information and good practices, as well as community initiatives and innovative solutions to overcome common obstacles, so as to finally trigger the inter-regional collaboration that would generate positive spillover effects for everyone. The process of questionnaire development showed how many the dimensions to take into account in oncological field are. This is particularly important thinking about patients (and families) experiences in cancer care, that are usually characterized by fragmentation, displacement and sense of abandonment. Therefore, the Observatory will necessarily entail tools and dedicated virtual spaces for patients to receive information, give comments, be engaged and feel empowered. Some tools already developed within previous Agenas projects will flow into the Observatory, such as the questionnaires developed for patients and professionals to assess their perception of the continuity of care in oncology.

## The vital aspects of human capital for health-care professionals in the communication process with clients during the value creation in the extramural health-care in the Netherlands

[Sascha Kraus-Hoogeveen](#) <sup>1,2</sup>, [Pascale Peters](#) <sup>1</sup>, [Els Van der Pool](#) <sup>2</sup>, [Beatrice Van der Heijden](#) <sup>1,3</sup>

<sup>1</sup>Radboud University, Nijmegen, The Netherlands, <sup>2</sup>HAN University of applied Science, Arnhem and Nijmegen, The Netherlands, <sup>3</sup>Open Universiteit, The Netherlands

### Context

The focus in the Dutch health-care sector is on client-centered health-care, clients' participation and client empowerment (Van Rijn, 2013; Van Rijn & Blok, 2014). More than ever, health-care professionals have to communicate with clients in order to align health-care delivery to the care demand and create client satisfaction. However, which affective and cognitive communication aspects influence client satisfaction? The expectation is that both affective aspects, such as showing compassion, making eye contact and smiling, and cognitive aspects of communicating about the care actions have positive effects on client satisfaction (Bensing & Meeuwesen, 1996; Bensing, 1991).

### Methods

The observation data used in this quantitative study was derived from 39 interactions between health-care professionals and clients in the extramural health-care in the Netherlands. Two dimensions of affective communication were measured: 1) nonverbal and 2) verbal. The nonverbal affective-communication dimension was measured by two items: making eye contact; and smiling at the client (Cronbach's Alpha .684), measured by 5-point likert-scale (1= low frequency; 5 high frequency). The verbal affective-communication frequency was measured using two items: showing compassion and personal questions (Cronbach's Alpha .637), measuring their frequencies per minute of client contact. The verbal cognitive-communication dimension was measured using one item: care-related questions, measuring its frequency per minute of client contact. The dependent variable, the client-satisfaction scale, consisted of three items: client's perception of 1) care quality; 2) the communication; and 3) the interest for the client shown by the specific health-care professional (Cronbach's Alpha .858).

### Results

In the multiple regression-analysis ( $R^2=.271$ ), the nonverbal affective-communication dimension was the only significant variable ( $\beta=.516$ ,  $p=.001$ ). Neither the verbal affective-communication dimension nor the verbal cognitive-communication dimension were significantly related to client satisfaction.

### Discussion

Bennington (1991) concludes that communication quality is mainly affected by the nonverbal affective-communication dimension. The present study indicates that within extramural healthcare professionals' affective communication, and indeed specifically the nonverbal affective-communication dimension, has a significant and large impact. The current research supports the findings by Bennington (1991) that the affective communication-dimension has a larger influence than the cognitive-communication, seeing the significance of the nonverbal affective-communication dimension in comparison with the verbal cognitive-communication dimension. The current definition and operationalization of human capital, which is strongly related to the Resource Based View (RBV) (Boselie & Brewster, 2013), strongly focuses on the cognitive aspects (Van der Heijde & Van der Heijden, 2006). The results of this study, however, showed that, within the extramural healthcare in the Netherlands, more emphasis should be given to human capital aspects of healthcare service delivery which focuses on the affective-communication dimension.

## Urban-rural differences in hospitalisation rates among elderly patients in two long-term care settings in Tuscany, Italy

[Anđelija Arandelovic](#)<sup>1</sup>, Bruno Federico<sup>2</sup>, Paolo Francesconi<sup>3</sup>, Francesco Profili<sup>3</sup>, Matilde Razzanelli<sup>3</sup>, Daniele Mascia<sup>1</sup>, Boccia Stefania<sup>1</sup>, Walter Ricciardi<sup>1</sup>, Gianfranco Damiani<sup>1</sup>

<sup>1</sup>Department of Public Health, Università Cattolica del Sacro Cuore, Rome, Lazio, Italy, <sup>2</sup>Università di Cassino e del Lazio Meridionale, Cassino, Lazio, Italy, <sup>3</sup>Agenzia Regionale di Sanità della Toscana (ARS), Florence, Tuscany, Italy

### Context

Patients who are in nursing homes or homes in community-based settings that belongs to the category of elderly in long-term care (LTC) often have complex needs that require different kinds of support because of their functional and cognitive limitations, as well as their need for medical care for acute and chronic conditions. Our aim was to see if there are any differences between hospitalizations in high and low density areas for the patients who are in an LTC program, in nursing homes or in home care.

### Methods

This study is an ecological study using data sources from the Tuscany region during the period 2012-2013. In our study we measured the percentage of hospitalization. We measured the use of hospitalization by the dependent elderly in home care and nursing homes, taking into account that they have complex needs. Our analysis has drawn on administrative health data for those aged 65 and over with complex needs who are in an individual planning program in Tuscany, Italy. Hospital discharge data were obtained from the Agenzia regionale di sanita della Toscana (ARS).The denominator was the elderly in home care and residential care, during the given period (1000 person-years). Levels of rurality were measured using OECD REGIONAL TYPOLOGY, 2010, which is based on the criteria of population density and size of the urban centres located within a region. Descriptive and inferential statistics were performed.

### Results

Our sample size was 13,869 patients in the Tuscany region who were in the LTC program during the period 2012-2013. The median rate of hospitalization in low density areas was 49.33% (per 100 person-years) for the elderly in home care, and 51.08% (per 100 person-years) from more densely populated districts. For elderly people in residential care, the median rate of hospitalization was 42.48% (per 100 person-years) in low density areas and 47.36% (per 100 person-years) in high density districts. The p-values for low vs high density areas are 0.120 for the first indicator, and 0.358 for the second indicator.

### Discussion

Our findings show that there are not significant differences of health disparities between elderly in Long term care program in rural and urban areas, which may derive from free access to care and more healthcare programs in rural areas. Although certain disparities still exit, like a higher hospitalization rate in more densely population districts, especially in home care, the health care system has effectively reduced rural-urban disparities when it comes to the elderly with complex needs. Further steps are needed to be performed in order to delve this preliminary evidence.

## Use and accessibility to medications in elderly in Lithuania

Aurima Stankuniene <sup>1</sup>, Mindaugas Stankunas <sup>1</sup>, Rita Mikalauskiene <sup>1</sup>, Raimondas Radziunas <sup>1</sup>, Algirdas Baranauskas <sup>1</sup>, Jutta Lindert <sup>2</sup>, Joaquim Soares <sup>3</sup>

<sup>1</sup>Lithuanian University of Health Sciences, Kaunas, Lithuania, <sup>2</sup>University of Emden, Emden, Germany,

<sup>3</sup>Mid Sweden University, Sundsväl, Sweden

### Context

Studies from all around the world argue that elderly people are the main users of health care services and consume disproportionately for all prescribed drugs. There is also the problem of inappropriate use of pharmaceutical drugs, a factor that can also result in hospitalizations. However, increasing prices and proportion of out-pocket payments in purchasing necessary pharmaceuticals leads to situations where some elderly people refrain from buying prescribed medications. This issue is very relevant in countries which undergo a rapid transition, i.e. Lithuania. The aim of this study – to evaluate use and accessibility to medications in elderly in Lithuania.

### Methods

Randomly selected women and men aged 60–84 years (n=624) were involved in the survey “Elder abuse: A multinational prevalence survey, ABUEL”. The study was carried out in Kaunas (Lithuania). Mean response rate across countries was 48.9%. The design was cross-sectional. Recruitment and data gathering were performed during January-July 2009. The data were collected through face-to-face interviews of the respondents. In several cases, the data were collected through a combination of interviews and self-response. The participants completed a standardized questionnaire. Data were computed, coded and analyzed using the Statistical Package for the Social Sciences for Windows, Version 17.0 (SPSS Inc.). Associations of need of help with medications and social-economic factors were measured using logistic regression analysis. Associations were measured using odds ratio (OR) and calculating the 95% confidence interval (CI). Differences in results at the p<0.05 level were considered statistically significant.

### Results

Our findings suggest that 50.8% (n=317) of respondents used at least one drug daily. For the use of “daily” medications, older age (OR=1.33; 95%CI:1.15–1.53) was associated with using medications daily. An opposite association was observed for respondents having no paid work (OR=0.48; 95%CI:0.26–0.82). The study showed that 32.7% of the respondents refrained from buying prescribed medications. The most common reasons (respondents could select several options) for this decision were financial problems (48.0%), disappearance of problems (40.7%), and fear of side effects (22.5%). Refraining from buying prescribed medications was positively associated with age (OR, 0.85; 95% CI, 0.74 to 0.99). An opposite association with worries about daily expenses was observed.

### Discussion

Our study suggests that more than half of older persons in Lithuania use medications every day. Use was associated with socioeconomic factors (gender, age, and employment status). One-third of Kaunas inhabitants in the age group of 60–84 years refrained from buying prescribed medications. The main reasons for this were financial problems and disappearance of the health problems. Moreover, older age was associated with a reduced risk of refraining from buying prescribed medications. Higher education was associated with a reduced risk of refraining from buying prescribed medications due to financial problems and an increased risk of refraining from buying medications due to the disappearance of health problems, whereas an opposite association was observed with worries about daily expenses.

## Using Business ecosystem concept to analyze the healthcare in France: Focus on the macro-environmental efficiency sources

Nour Alrabie, Sandrine Fernez-Walch

University of Toulouse, School of Management, Center of Research in Management, Toulouse, France

### **Context**

Healthcare managers and policy makers tend to focus on finding solutions for healthcare economical and managerial challenges; they pay less attention for deep diagnosis. However, the use of simple tools to analyze complex health systems leads to miss the expectations (Atun, 2012).

In France, multiple reforms were held since 1990's to adjust social security budget. This goal is still far to achieve. The context gets more critical and the need of effective macro-environmental efficiency is overriding.

The aim of this research is to develop an analytical framework that permit to understand the French healthcare system and its sources of efficiency.

### **Methods**

This is an inductive research adopting qualitative methods of design and analysis (Gioia, 2012). It has started in October 2013. It is composed of three stages:

1st stage is the preliminary one composed of internal documents review and 35 hours of observation and open interviews with health service managers, political decision makers, financing and academic organisms.

2nd stage is the literature review of existing health systems frameworks (WHO, 2000, 2007; Hsiao, 2003; Arah et al, 2006; Atun & Menabde, 2008), strategic management theories and the concept of business ecosystem (Moore, 1993, 1996, 2006; Iansiti & Levian, 2004, Guguen & Torres, 2004; Ben Letaifa, 2012).

3rd stage is the ongoing one and is composed of 60 semi-directed interviews analyzing the healthcare system through the ecosystem scope.

### **Results**

Our initial results of the grounded study allowed us to elaborate a simple mapping of the actors of the French healthcare system. The literature review showed that it could be interesting to apply the concept of business ecosystem to healthcare system. This concept, first born in ecological sciences in 1935 and successfully transferred to business and management world by Moore in 1993, is not applied, up to date, to services of public interest like healthcare services.

The 1st and 2nd stages allowed the creation of a heuristic framework for the semi-directed interviews.

The results are expected to be communicable by this summer.

### **Discussion**

We suggest that the healthcare system wouldn't be viewed as a static map of multiple components nor limited to the physical aspect of movements and interactions but rather includes a living dimension marked by a culture of an evolutionary process and a common destiny as an ecosystem. In an ecosystem; organisms are engineers (Jones et al, 1994). Some unexpected actors initiate slightly visible changes while others with more obvious actions are actually responding.

In a healthcare ecosystem, managers and policy makers would better develop the physician's diagnostic logic that leads to the decision of treatment procedure and drug of choice. They would also enhance the sense of nature's balancing intervention to undertake optimum actions of either cooperation or competition.

## Workforce changes of integrated care interventions for people with chronic diseases: a literature review

[Loraine Busetto](#)<sup>1</sup>, [Katrien Ger Luijkx](#)<sup>1</sup>, [Stefano Calciolari](#)<sup>2</sup>, [Laura Guadalupe González Ortiz](#)<sup>2</sup>, [Hubertus Johannes Maria Vrijhoef](#)<sup>1,3</sup>

<sup>1</sup>Tilburg University, Tilburg University, The Netherlands, <sup>2</sup>University of Lugano, Lugano, Switzerland,

<sup>3</sup>National University of Singapore, Singapore, Singapore

### Context

The demand for health care is on the rise and changing from acute, short-term to chronic, long-term care. This is due to the growing number of older people, increased prevalence of lifestyle factors conducive to chronic disease and change in the definition of illness to include also those at risk of disease. Integrated care has been suggested as a solution to these challenges. This study aims to provide an overview of the workforce change elements of integrated care interventions for people with chronic conditions as described in the international literature.

### Methods

We employed a four-step approach for the literature search: 1. systematic database search; 2. unsystematic database search; 3. secondary analysis of two previous literature reviews; and 4. unsystematic hand searches. A systematic literature search was performed between July and August 2014 in PubMed/Medline, CINAHL, Science Direct, and Business Source Premiere. Three groups of search terms were used describing chronic conditions, integrated care interventions and workforce changes. When the systematic database search failed to yield a sufficient number of relevant studies, an international expert committee provided another set of health workforce related search terms. We combined them in the previously used search string and repeated the search in PubMed, CINAHL and ScienceDirect. As a third step, we re-assessed two previous literature reviews examining integrated care interventions for diabetes and geriatric conditions. Finally, unsystematic hand searches of reference lists and via Google were conducted by all researchers.

### Results

Two studies were included through the systematic database search, 6 through the unsystematic database search, 12 through the case studies and 1 through the unsystematic hand searches, resulting in a final inclusion of 21 studies focusing on workforces changes of integrated care interventions for chronic conditions. The following workforce change elements were found in the included articles: nurse-led care / nurse as main care provider, multidisciplinary protocols / pathways, multidisciplinary staff, nurse involvement, pharmacist involvement, team meetings, case manager / care coordinator, provider training, new position, task re-distribution, and shared medical appointments.

### Discussion

The systematic database search yielded a surprisingly low number of relevant studies and even though adding (mostly nurse-related) search terms yielded additional articles, most articles were retrieved via previous literature reviews without specific workforce related search terms. Examining the terminology used in those articles, none of the expected health workforce search terms were found. It is therefore likely that the set of included studies is incomplete and not representative. Nonetheless, this review identified a diverse set of workforce elements prevalent in integrated care interventions as described in the international literature. Given the importance of the healthcare workforce for combatting the increasing number of people with chronic diseases, future research into this area should apply more universally applicable terminology and frameworks in order to support informed policy making.

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