

**EUROPEAN HEALTH  
MANAGEMENT  
ASSOCIATION**

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**ABSTRACT  
BOOK**

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**20<sup>th</sup> – 22<sup>nd</sup>**

**June 2018**

**EHMA**

Annual  
Conference **2018**

**MAKING IT  
HAPPEN**



**BUDAPEST  
EOK** 1094 Budapest,  
Tűzoltó utca 37-47.

# Table of Contents

Wednesday 20<sup>th</sup> June

## Good Governance ..... 9

Regional Health Care Data in the federated health care policy system of Switzerland - a promising tool to optimize governance? .....	10
Health system governance in Small Island Developing States of the English-speaking Caribbean: A critical review.....	12
The implementation of the Evidence-Informed Health Policy: the vision of Kazakhstan ...	14
Proposed leadership repertoire for healthcare boards: learning from changes in governance in English hospitals since 2013.....	15
Performance Measurement in Dutch Hospitals: Exploring Use and Performance Effects	17
Next steps: Innovation in the governance of integrated care .....	18
Implementation of the 2017 system of basic hospital services provision in Poland – what is the impact on the sector governance? .....	20
360° Feedback at ISMETT – UPMC Italy .....	21
Good HTA practice - can we make it happen? .....	23
Looking into the mechanisms of a Dutch governmental stimulation program for nursing homes.....	24
A possible experience with the English Weighted Capitation Formula .....	26
Good practices of horizon scanning to identify the possibilities for a future Hungarian system .....	28
Can buddying arrangements in the NHS be effective in driving improvement?.....	29

## Improvement Science ..... 31

eLearning for Quality Improvement: A mixed methods evaluation.....	32
Quality Improvement through Interactive Simulation .....	34
The role of lean leadership in the lean maturity – second-order problem solving relationship: a multiple case study .....	36
Health services research in Germany: an analysis of funding criteria.....	38
Clinical Led ‘Disruptive Innovation’ in Healthcare Delivery: A Case study of the Northumbria NHS Foundation Trust.....	39
Improving patient safety language through developing an internationally agreed upon definition of “good patient safety practice” .....	41
Budget Impact Analysis (BIA) of breast cancer screening programmes in Italy .....	43
Grassroots Approach Gives Surgical Breakthrough .....	45
Learning from mistakes - a useful tool for supporting management in order to improve safety culture .....	46

Characterisation of the users of an Emergency Department in a Portuguese Hospital: Analysis of the impact of non-urgent patients and frequent users on waiting times .....	47
<b>Health &amp; Social Care Interface .....</b>	<b>48</b>
Collaboration between formal and informal carers in long-term care in the Netherlands ..	49
Optimizing Integrated Care Pathways for Elderly After Hospital Admission.....	51
Scaling up in staff engagement processes. Best practices detected in ACT@Scale project .....	53
European patterns of child-focused health policy .....	55
Risk of elderly nursing home admission: individual and system-level factors .....	57
Social innovation and change in the evolution of health systems .....	58
Does market matter? An institutional perspective on purchasing of chronic care .....	59
Good practices in health promotion for older people and their significance for evidence in health policy.....	61
A tool of performance analysis and management of Day Care Centres for disabled people .....	63
Successful nursing-home leadership: congruency & involvement in all layers of the organization .....	65
How to improve sustainable long-term care? Outcomes and reflections on a nation-wide improvement program.....	67
<b>Patient-Focused Hospitals of the Future .....</b>	<b>69</b>
New methodologies for service improvement in a one stop venous clinic .....	70
Diversity and dilemmas - managing risk and resilience in dynamic, globalised healthcare organisations .....	72
Current Status and Effect of Quantitative Classification Management for Small-scale Medical Institutions in China : Taking Shiyuan City as an Example .....	74
Henry Ford's Lean Vision of a Health assembly line: Can Europe Learn from India's Low- Cost and High-Quality Care? .....	75
A Care Model for People Affected by Cancer: combining Lean Principles with People Centred-Care .....	77
Improving the efficiency and quality of care by establishing a virtual hernia clinic .....	78
Tariff Optimisation in delivering patient care: Can we do better?.....	80
What is known of Unplanned Re-Operations after Surgical Procedures in a Large University Hospital .....	82
Implementing an antibiotic stewardship information system to improve prevention and control of antibiotic resistant infections.....	84
Process improvement in a Hospital Outpatient Clinic using Lean.....	86
Valuable Governance? How the Notion of Public Value Helps Policy Makers, Practitioners and Evaluators to Make Sense of a Policy Experiment in Dutch Healthcare .....	88

## Thursday 21<sup>st</sup> June

### Patient & Public Involvement ..... 89

Co-production in healthcare services: the evaluation of economic and organizational impacts .....	90
Developing a participatory quality improvement method for assisted living services .....	91
Patient satisfaction in public hospitals: a secondary data analysis from Romania. ....	93
Improving quality and safety of hospital care through a national participatory assessment program .....	95
Stakeholder Involvement in Health Technology Assessment: The EUnetHTA experience .....	96
Experiencing dependency: an auto-ethnographic study .....	98
Evaluation of a Questionnaire to Measure the Satisfaction Level Perceived by the Patients of a Hospital.....	100
Refining the Patient and Public Involvement Questionnaire (PPIQ), a questionnaire to evaluate engagement in resource allocation decisions .....	101
Patients, are you ready to vote? Giving health a voice by giving German patients representatives voting right in respective health policy institutions .....	103
Enhanced patient involvement with context-based patient choice management .....	105
Supporting Improvement through Creative Dialogue: Experience from the Partner Priority Programme of the National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care North West Coast (NIHR CLAHRC NWC) .....	107

### Best Practices in Clinical Process and Innovation Management..... 109

3.6 million people, 12 hospitals, 7 trusts, 5 champions,4 years, 1 pathway: how the numbers add up in system wide change .....	110
Leading Patient Safety into Digital Age: A Smart Collaborative Antibiotic Stewardship Decision-making System .....	111
Implementing Best Practices in a Laparoscopic Hepatectomy Patients' Care Process – Healthcare Professionals' Perspective of Benefits to Patients.....	112
Supply chain performance measurement and management: Application in the Maltese health care system.....	114
Innovation Programs as Performative Accomplishments; a Process Analysis of How Programs Work in Practice .....	115
Business Process Reengineering (BPR) and Multi Criteria Decision Analysis (MCDA) in Oncology: the establishment of an Individualised Oncological Supportive-care Unit (IOSU) .....	117
International comparison of health technology reassessment to improve the current Hungarian processes.....	119
How to translate best practice to sustainable innovation? .....	120
Direct referral pathway for temporal artery biopsies in DGH.....	122

Towards a better management of resources and organizational appropriateness: a tool for performance analysis and management in Neurological Departments .....	123
The role and influence of management on the effectiveness of educational programs... 125	
Adherence to Current Care Guideline of shoulder tendinopathy at the Tampere University Hospital district in Finland .....	127
Patient Safety in Care Primary Health Care Case study .....	128
<b>Primary Care .....</b>	<b>129</b>
Primary care workforce in Romania – current and future challenges.....	130
Growing general practices and the need for staff and skill mix design rules.....	132
Making skill-mix innovations in primary and chronic care happen! Trends and policy options. ....	134
Is orthopaedic care suitable for substitution of outpatient hospital care with primary care? A retrospective analysis of referral data. ....	136
Integrating Professionals in French Health Homes: From Local to Territorial Collaboration .....	138
Healthcare Innovation Scoreboard (HIS). A tool to manage innovation potential in Primary Care Teams.....	139
Improving primary health care in Abu Dhabi towards patient centeredness with Chronic Care Model .....	141
Deep-frozen bloodproducts: Lessons learned and civil-military cooperation in a pre-hospital environment.....	142
REBOA: Vascular accesstraining for direct bleeding control in hemodynamic unstable patients in the pre-hospital setting.....	144
A novelty in the distribution of incontinence devices in the Lombardy Region, Italy: the voucher system.....	146
Improving quality in healthcare: Design and development of a Pilot Quality Management System for a public pharmacy of the Greek National Organization for Health Care.....	148
Differences in key elements of primary care models to inform an appraisal framework for primary care for children .....	150
Shifting hospital care to primary care: an evaluation of a cardiology Primary Care Plus intervention .....	151
Hungarian Primary Health Care System in Transition. Lessons for international consideration .....	153
Evidence-based approach to child health policymaking. European perspective .....	154
The Innovation Lab. A model to engage primary care professionals in the design and promotion of community health initiatives.....	156
<b>Integrated Care .....</b>	<b>158</b>
Implementation of Integrated Care for People with Multiple Complex Problems.....	159
Assessing the performance of integrated care implementation .....	161
Assessing the maturity of integrated care systems as a means to accelerate adoption: lessons learned in using the SCIROCCO tool across Europe .....	163

Basque health service- Osakidetza integrates care: Scaling-up process of integrated care program for multimorbid patients within ACT@Scale project.....	165
Implementing and evaluating an integrated care programme in acute provision. A VANGUARD programme evaluation .....	167
The Impact of Implementing an Integrated Model of Care on Hospitalized Older Persons' Quality of Life, Quality of Care and Health Indicators in Palestine / West Bank.....	168
Understanding the development of integrated care and its workforce using scenario analysis.....	170
The coordination of care for children with intractable epilepsy across the EU/EEA: A MOCHA study.....	172
The European Initiative on Breast Cancer: Development of the Guidelines Platform .....	174
Improving diagnostic pathways for patients with suspected colorectal cancer.....	176

## Friday 22<sup>nd</sup> June

### Mental Health..... 178

Coproduction in mental health organizations: how to make it work .....	179
Speaking on behalf of the person with dementia in home-based care.A qualitative study of collaboration between formal and family caregivers in Sami and Norwegian municipalities. ....	181
The emergence of the coordination function in the governance of health systems. The case of the Belgian forensic mental health sector. ....	183
Comparisons of the Risks of Suicidal Behavior among Patients with Depressive Disorders Using Different Antidepressants in Taiwan.....	185

### Health Futures ..... 186

Operationalization of organisational innovation as a concept to identify, compare and analyse health services transformation : from literature to empirical test in the French context.....	187
Unraveling the business models of perinatal care – a multiple case study .....	189
Health workforce imbalances in Hungary .....	191
Reconfiguring Health Workforce through Mundane Care: How New Professional Roles Transform Institutionalized Healthcare Practices .....	192
Drones for process optimisation: the case of a Swiss multisite hospital .....	194
The impact of anti-smoking policies of the 2010-2014 Hungarian government.....	196
Impact analysis of cervical screening and self sampling vs. cervical cancer treatment...197	
Change Management in the Emergency Department: How to implement innovative technologies successfully .....	198
Health promotion as an important specialisation of medical staff or even a discrete job among the health workforce.....	200

Crew Resource Management in military medical teams .....	202
Perceptions of practitioners and experts on value-based healthcare: a mixed-methods study .....	203
Pilot projects as public policy instruments: the case of integrated care pilot projects for chronic patients in Belgium .....	205
<b>Health Workforce .....</b>	<b>207</b>
The Evolution of New Zealand's Health Workforce System.....	208
Noncommunicable diseases and human resources for health: A workforce fit for purpose .....	209
Examining ethical leadership in healthcare organizations and its impacts on employees' behavioral outcomes – An empirical analysis from Austria.....	210
Anesthesiologists' shortage at ISMETT – UPMC ITALY .....	212
Identifying training requirements for nursing children with complex health care needs in the community: A European study .....	214
Portuguese Human Resources in Public Health: a critical step towards a national reform .....	216
Length of employment of technically efficient surgeons .....	218
Satisfaction of European physicians - state of the evidence across European Union countries .....	220
Promoting Research: New Generations Engagement Value .....	222
Mental health and diagnosis of Healthcare organizations – how to make treatment happen .....	224
Implementation of project management to improve the effectiveness of training of health workers: the experience of Kazakhstan.....	226
Workforce development strategies in a Primary Care Team .....	227
<b>eHealth &amp; Big Data.....</b>	<b>229</b>
Accreditation mechanisms for eHealth as a health promotion tool .....	230
Identification and quality assessment of core outcome sets in prostate cancer and their 'mapping' into real world data sources .....	232
Integrated Control System (ICS): An innovative tool for an accountable, reliable, effective, and ethically responsible governance of health care organizations .....	234
IMI Big Data for Better Outcomes Programme – Supporting the evolution towards outcomes-focused, sustainable healthcare systems in Europe .....	236
MyVITALcoach: Versatile and personalized approach for “more good years” through mHealth .....	238
InDemand – a model for demand-driven eHealth co-creation' .....	240
Personal exposure monitor as a citizen's tool for big data and health awareness improvement.....	242
Improving Health Workforce Performance with eHealth and mHealth: Looking forward into the future of healthcare .....	244

How Big Data could improve the performance of health care systems in Europe.....246

**PhD Session ..... 248**

Professional's attitude and behaviour in an accountability context: the physician's case249

Real lives on paper plans. Individual support planning for people with intellectual disabilities. ....251

Differences in health economic modelling guidelines in Germany and the Netherlands: a case study of one intervention .....253

The Impacts of Economic Crisis On Health: The Case of Turkey.....254



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**Wednesday**

**20<sup>th</sup> June**

## Regional Health Care Data in the federated health care policy system of Switzerland - a promising tool to optimize governance?

Author: Prof. Dr. Ulrich Wagner

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### Background: legal setting and public discussion

In Switzerland political responsibility for the health care system is divided vertically between the Confederation and the Cantons. In the general public each year there is an increasingly heated debate about rising premiums for sickness funds (4.7% growth per year on average since major health law revision in 1994). The actions taken by federal authorities have – to formulate positively - slowed down the total expenditure growth to only 3.2%. Of course – like everything in Switzerland - this growth is different from canton to canton. This is valid for total expenditure as well as for sickness fund premiums.

### Problem description

The Swiss discussion about rising health care costs (78 bn in 2015) has from a governance perspective the following limitations:

- Federal government is held responsible for rising health care costs but is limited to regulate sickness funds (with minor exceptions).
- A narrowed focus in the public debate on mandatory health insurance, which finances only 35% of total health care costs (28bn).
- A high percentage of out-of-pocket payments (28%, 22bn), which is not fully understood in its effects.
- The political responsibility of the Cantons for health care services (as understood not only in the financing (18%) but in the provider's perspective) is only met in respect to hospital data.
- A standardized dataset which corresponds with these responsibilities on the regional level is missing.
- This problem is underestimated, although these datasets would allow an appropriate data-based governance on the cantonal level, to benchmark and thus foster the traditional strength of Switzerland to generate innovation out of the decentralized structure.

### Research questions:

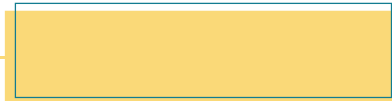
1. Which characteristics should be identifiable with potential instruments and methodologies (datasets) to match the managerial respectively political responsibilities?
2. Are already instruments or methodologies in use and in which extent do they match the beforehand identified criteria?

### Findings:

The dataset “costs and financing of the health care systems”, an application of the international “system of health accounts” incorporates many of the necessary characteristics but is not yet regionalized. However, there is an exception in the canton of Vaud (VD) and the interest for regional health accounts seems to increase in other Cantons (BS, GE).

Discussion:

The development of cantonal health accounts is promising but needs coordination to accentuate their full potential. The FSO could play a helpful role to maintain intercantonal comparability, just like the OECD does on the international level. Federal and cantonal bodies with well-established processes are in place to define the desired role and its governance. It is not clear yet, if the interested cantons would accept such a role and its outcome, since the information generated would imply action, that doesn't suit the sovereign in the cantons affected. Up to now politicians which tried to develop their system structural on the cantonal level didn't survive the following elections. But there seems to be an exception here too: Surprisingly the canton of Vaud.



# Health system governance in Small Island Developing States of the English-speaking Caribbean: A critical review

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## Short Paper

Over the last decade and a half, small island developing states (SIDS) of the English-speaking Caribbean have been embarking on initiatives to buttress the quality of delivery of their health services. Notably, there has not been a consistent focus on health system governance. Health system governance is thought to be the capacity to guide and coordinate the health sector's institutions, and mobilization of its many stakeholders, organizations and social groups. An assessment of health system governance is an initial step towards good governance. There are numerous challenges that affect good governance of health systems of Caribbean SIDS. Such challenges are associated with their inimitable cultural, organizational and political characteristics.

## Purpose

The purpose of this paper is to explore and assess governance arrangements in the SIDS of the English-speaking Caribbean, and the challenges they face. These challenges will be examined in the context of changing perceptions of the functions of government and the role of the state. This comes against the backdrop of less clearly defined boundaries of the health sector. Given their current political, social socio-economic and cultural context, health systems would have to undergo much needed transformation.

## Design/methodology/approach

The study utilized grounded theory to collect and analyze data on the experiences and perceptions of 20 senior health managers on the governance arrangements of health systems from seven ministries of health across the region. It used semi-structured, in-depth interviews comprising open-ended questions. Data analysis comprised open, focused and theoretical coding.

## Findings

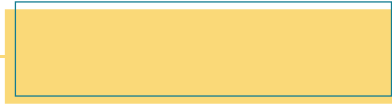
Health system governance arrangements are inimical to quality delivery of services. The challenges that constrain efficient organization of these dynamic, complex health systems are tied to the unique cultural, organizational and political characteristics of island states. Indeed, the processes of governance serve to constrain the activities of senior managers who hold responsibility for an array of governance functions. The results of the study also highlight the need for investigation into competencies that senior health officials responsible for governance demonstrate, and perceive they need, to effectively steer the governance apparatus of these health care delivery systems.

## Originality/Value

There is a dearth of literature on health system governance of the SIDS of the Caribbean. This paper is concerned with the approach to governance of health systems across island states and lends compelling support to its core function and its role in the quality delivery of health services, and the wellbeing of populations served. It provides useful directions for policy makers, and senior officials of these systems, as the gateway to good governance.

Keywords

Health Governance, Small Island developing States of the Caribbean, Health Systems, Senior health managers, Governance arrangements, Governance framework



## The implementation of the Evidence-Informed Health Policy: the vision of Kazakhstan

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### Context

One of the key goals of the State Health Development Program of the Republic of Kazakhstan "Densaulyk" for 2016-2019 is the modernization of the national health system in Kazakhstan focused on efficiency, financial sustainability and support of social and economic growth. Achievement of this goal is planned to be provided, first of all, by increasing the efficiency of management and financing of the health system. One of the mechanisms to improve effectiveness in the health system is the implementation of Evidence-Informed Policy (EIP). The implementation of these measures is planned to be ensured through the active inclusion in the Evidence-informed Policy Network (EVIPNet), formed at the level of the WHO European Region.

### Methods

The beginning of EVIPNet in the country was the conduct of a situational analysis (2016-2017) to assess the current situation with the use of evidence in the development of health policy.

### Results

The situational analysis showed that, despite the role of evidence in managerial decision-making is still secondary and there is no systematic approach to this process. Despite the lack of commitment to the formation of EIP, there is a wide range of opportunities for changes in this area. These include supporting the key principles of the EIP by all stakeholders, including government, practical experience in implementing programs and reforms, the scientific potential of the health system and the practice of involving experts (practitioners, researchers, non-governmental organizations (NGOs), etc.) in the processes policy-making.

### Discussion

Results of the situational analysis points to the need to take effective measures to introduce EIP in the health system of Kazakhstan. According to the recommendations of the WHO Regional Office for Europe, it is necessary to ensure:

1. Capacity building of key stakeholders - "knowledge generators" (researchers) and policy-makers - in the dissemination and use of research results in policy-making;
2. The creation of an effective Knowledge Translation Platform, which makes it possible to reduce the existing gap between the results of scientific research and the field of political decision-making;
3. Implementation of EIP tools in the Republic of Kazakhstan, ensuring the provision of high-quality factual data for policy makers.

## Proposed leadership repertoire for healthcare boards: learning from changes in governance in English hospitals since 2013

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Following the suffering of so many patients in Stafford Hospital in England between 2005-2009, the Francis Inquiry report (2013) identified serious failings in governance and made a series of recommendations for all hospitals. We report on a study which identified what hospitals have done in response to Francis. We draw conclusions with regards to what constitutes good governance, best practices in improving accountability, transparency and responsiveness, and how to develop an effective governance scheme. We use the findings to propose a suite of roles and associated behaviours for healthcare boards and senior hospital leaders, with international relevance.

The research sought to identify how hospital boards implemented the Francis report recommendations, what actions resulted in improvements to leadership, and hence to better patient care and staff engagement, and how the findings contribute to fresh insights about effective healthcare board governance. The mixed methods study included a scoping phase in 2015, which comprised 13 interviews with key opinion formers and an updated literature review, a national survey of hospital board members (n= 381) and senior leaders in 2016, followed by an indepth case study of six hospitals during 2016 & 2017, and concluded with a synthesis of findings across these work packages.

The main self-reported challenges for hospitals were patient safety, finances, dealing with the demands of regulators and workforce challenges, which are similar to findings from the international literature on pressures in the health sector. Despite this difficult context, we found that hospitals had revised a whole raft of policies. The impacts of these policies varied according to the emphasis played on robust governance systems and processes and maturity of the board, which was connected with greater stability. Practices of listening to, and acting on patient and staff feedback were more advanced than partnering with patients and staff to improve care. We also found that senior leaders were more visible to staff and patients, but a culture of quality improvement was emergent and variable.

The research demonstrates the importance of having a strong human resource and organisation development function, the use of complaints and incidents as part of a wider programme of learning, and leadership which is able to sustain reliable, consistent and clear messaging. We speculate that boards leading the more successful organisations had a higher internal locus of control, that is that in addition to responding to external pressures, they had a belief that they can continue to have a direct impact on patient safety and experience of care inside their organisation.

The study provides insights into what constitutes good governance, improving transparency and responsiveness, and the development of effective governance schemes. The evidence points to the value of a dynamic, diligent and restless healthcare board and senior leadership. We have conceived of five main roles which are relevant for effective hospital governance: senior leadership which acts as conscience, sensor, diplomat, shock absorber and coach. These relate closely to the literature on board governance in relation to agency, stewardship, stakeholder, resource dependency and power theories, developed specifically to relate to the context and pressures of the healthcare sector.

In addition, we suggest a repertoire of leadership behaviours which connect with these five main roles, and with the main aims of hospitals in the promotion of patient safety, long term sustainability, enhanced reputation, performance excellence, and in managing different interests



# Performance Measurement in Dutch Hospitals: Exploring Use and Performance Effects

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## Context

Many public sector organizations apply a business-like performance measurement system (PMS) in their organizations, including budgets and performance metrics. Although PMS may under some circumstances contribute to organizational efficiency and effectiveness, the current management accounting literature also shows that traditional PMS is rather ill-suited for organizations in the public domain and may yield adverse effects (Speklé & Verbeeten 2014). For example, public sector studies associate performance measurement with more formalization and bureaucratization (Diefenbach, 2009), lower intrinsic motivation (Frey, Homberg, & Osterloh, 2013), cognitive dissonance (Van der Kolk & Kaufmann, 2018), stress and lower work satisfaction (Diefenbach, 2009). The adverse effects may not only be due to the design of the PMS (e.g.: how many performance measures, the type of performance measures), but also because of the way in which the PMS is used (e.g.: to incentivise employees or to optimize processes) (Speklé & Verbeeten 2014). In this paper we will extend this line of research by further exploring PMS amongst Dutch hospital managers, particularly focusing on the different uses and users of PMS. In our study, we distinguish between medical managers (i.e. manager with a clinical background or education) and business managers (i.e. managers without a medical background, but rather a business background). We seek to contribute to accountability and effective healthcare management in hospitals, by studying effective PMS use in hospitals in The Netherlands.

## Methods

We use a survey to collect data from hospital managers. The survey draws on existing measures where possible (e.g.: Speklé & Verbeeten 2014; King et al., 2010) and other questionnaire items that are tailored to the specific situation of healthcare management. We measure amongst others different types of PMS use, manager type (e.g.: medical manager vs business manager), as well as outcomes (performance, work culture and quality of care).

## Results

Currently, we are collecting data. The data collection process is scheduled for completion in May 2018. Preliminary findings will be available at the EHMA conference.

## References

- Diefenbach, T. (2009). New Public Management in Public Sector Organizations: The Dark Sides of Managerialistic Enlightenment. *Public Administration*, 87(4), 892–909.
- Frey, B. S., Homberg, F., & Osterloh, M. (2013). Organizational Control Systems and Pay-for-Performance in the Public Service. *Organization Studies*, 34(7), 949–972.
- King, R.; Clarkson, P.M.; Wallace, S., 2010, Budgeting practices and performance in small healthcare businesses, *Management Accounting Research*, 21 (1), pp. 40 - 55 (16).
- Speklé, R.F.; Verbeeten, F.H.M., 2014, The use of performance measurement systems in the public sector: Effects on performance, *Management Accounting Research*, 25 (2), pp. 131-146.
- Van der Kolk, B., & Kaufmann, W. (2018). Performance Measurement, Cognitive Dissonance and Coping Strategies: Exploring Individual Responses to NPM-Inspired Output Control. *Journal of Management Control*, forthcoming.

## Next steps: Innovation in the governance of integrated care

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### Context

The interest in integrated care is growing all over the world. WHO's conceptual framework for people centered and integrated health services embraces the need for integrated care for persons with complex needs. At the same time, we know that integrated care takes a long time frame to develop, takes multiple actions and does not sustain automatically. Knowledge is needed about how to govern integrated care, whereas multiple professionals and organisations have to cooperate in dynamic networks. This session presents the results of an innovative study about the governance of integrated care networks in the Netherlands; mechanisms, lessons and future directions.

### Methods

To gain insight into the governance of integrated care networks, data were collected by conducting a questionnaire research. The content was based on literature about network governance (Bevir, 2011) and conceptual frameworks about interprofessional Collaboration (D'Amour et al, 2008) and the Development Model of Integrated Care (Minkman, 2017). Based on a national inventory of collaborative networks in health and social care, 353 integrated care networks were invited to participate of which 135 (38%) did. Topics were about organizational structures, commitment, decision making, trust, accountability, leadership, supervision and future developments of integrated care. The results are discussed at a conference with 30 CEO's about the innovation of governance of integrated care that can also be shared.

### Results

The research showed that in most cases the collaboration in integrated care networks was signed up in a collaborative agreement between involved providers. Governance often was quite project based, with steering groups and task forces not always embedded in managerial or boardroom dynamics. Commitment towards the network was not automatically present (about 46% scores sufficient or much commitment); organizational interests predominate and often one of the partners is dominant in the network that may result in reduced levels of cooperation. Although the shared aim of these networks was to serve clients better, results showed that in one-third of the networks the interests of clients are not taken into account. If clients are involved, this often was via the professionals (46%) or by questionnaires (26%). Accountability was mainly towards each other in the network, not towards clients or the society.

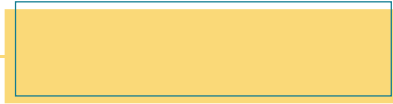
### Discussion

Overall, the inventory shows that the governance of integrated care and effective interorganizational networks needs further development. The networks explore and also struggle with scale issues in integrated care; how to effectively organise (population level, or target group, geographical area). Traditional governance within organisations often does not match the needed governance between organisations. Network governance is more horizontal, non-hierarchical, and focuses on trust as a basic value. In our view, the quality of the relationship between involved people and organizations and underlying values could be a crucial factor in the governance of integrated care networks. In the session also the results of a recent congress with 30 CEO's of Dutch health care organisations (all sectors) can be shared that reveal themes for the future regarding innovation in governance that suits integrated care and

the needed knowledge. Themes are for instance accountability, ownership, legal issues, collaborative models but also uniformity in language.

### References

- 1.WHO (2015). WHO global strategy on people-centred and integrated health services.
- 2.Bevir, M. (2011). The SAGE Handbook of Governance. London: Sage.
- 3.Minkman M (2017). Verlangen naar integraliteit. Innovatie van organisatie en governance van langdurende integrale zorg. Tilburg University/TIAS. ISBN: 978-94-6167-303-9



## Implementation of the 2017 system of basic hospital services provision in Poland – what is the impact on the sector governance?

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### Context

Beginning in October 2017 a system of basic hospital services provision, popularly called ‘hospitals network’ was implemented in Poland. It covered approx. 600 hospitals from a total number of 920 functioning in 2017. The regulation official objectives were as follows: “to improve the organization and coordination of services delivered by hospitals; to improve access; to optimize the number of specialist wards; to improve hospitals’ management”. The aims of the analysis is to assess the regulations impact on the hospital sector governance at three levels: macro - health system (1); mezzo – regional policy (2) and micro – individual hospital management (3).

### Methods

A mixed methods approach was applied, including: desk analysis of the key national regulations related to hospital sector functioning (1); international and national literature review on hospital sector governance (2); analysis of available statistical data on Polish hospital sector (3); in-depths interviews with hospitals’ managers and regional health policy decision makers (4).

### Results

Although the official term ‘hospital network’ is used to describe the 2017 hospital sector reform in Poland, its actual meaning is not consistent with commonly accepted definition (as it do not involve the element of cooperation between hospitals). The regulation main feature was changing the financing principles for pre-defined scopes of services (from per-case to global budget method). The major controversy is the lack of quality of care, health outcomes and/or efficiency measures in the network inclusion criteria. The assessment of the reform impact on hospital sector governance requires long-term analysis, yet the initial results suggest that: at both the system and regional level the regulation provided the basis for building hospital sector capacity planning mechanism, yet its monitoring, evaluation and better connection to the actual health care needs are of crucial importance while at the level of individual hospitals it allowed for more flexible financial management.

### Discussion

Hospitals throughout the world operate in heavily regulated environments. For the hospital sector governance to be effective - the strategic decision at the macro and/or mezzo level must be complemented by appropriate individual hospitals’ management. Polish hospital sector is characterized by historically oversized infrastructure and major fragmentation of the ownership structure. The former contributes to divided responsibility. Thus, from the system point of view creating a proper set of incentives is of crucial importance. Recommended strategic directions are: centralization of highly specialized hospital services (1); shifting to out-patient and/or coordinated care models (2); and reducing or restructuring (for example by transforming into long-term care) excessive infrastructure (3). The network regulation provided a tool by which these objectives can be pursuit, yet its efficiency depends on the practical details of implementation. Regular monitoring, impact evaluation and incorporating quality of care measures are of crucial importance.

## 360° Feedback at ISMETT – UPMC Italy

Authors: Mrs Giulia Padovano <sup>1</sup>; Maria Gebbia <sup>2</sup>

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### Context

ISMETT is an institute for scientific-based care and research (IRCCS) in end-stage organ failure treatment and research. Located in Palermo, Sicily, it is a reference hospital for the Mediterranean area. ISMETT is included in the Italian National Health System. In its governance: the Region of Sicily, UPMC (University of Pittsburgh Medical Center), and Ri.MED Foundation. ISMETT is JCI certified. It counts about 800 employees, has 78 beds and hosts 5 operating rooms. Patients treated at ISMETT are very complex and require highly specialized skills (average DRG weight 3.79 vs. a 1.19 national reference). The hospital has a 94.4 occupancy rate.

### Methods

Good governance in health care is characterized by strong values based on patient rights, equity, transparency, accountability, and participation. The main goal of the project is to develop managers' competencies and interpersonal skills, aligning them with the above-mentioned values.

Survey divided into three sections (Trust, Teamwork, and Goal Orientation); 30 questions, administered anonymously using an online platform.

### Target

Leadership (directors, coordinators, educators) of nursing, medical, and administrative areas: total of 88 people to be assessed.

### Evaluators

- Self-evaluation
- Direct supervisor
- Peer level
- Direct Reports
- Other supervisors

### Phases

- Meeting with participants to illustrate the project
- Evaluators' identification
- Data collection, analysis, and reports
- Feedback to participants

### Timeframe (December 17- October 18)

- Pilot: OR and PACU nursing (December 17)
- Nursing area (February 2018)

- Medical area (April 2018)
- Administrative area (June 2018)

### Resources

- 1 Project Manager
- 2 HR staff

### Results

Through 360° Feedback, employees playing key roles in the organization are provided with a balanced overview of how other people (co-workers, supervisors, peers) see their behavior. Results are compared with the employee's self-evaluation.

Pilot project involved nursing leadership in the OR and Peri-Anesthesia Care Unit for a total of 9 managers assessed and 81 raters. Preliminary meetings, evaluators' identification, and data analysis were completed between December 2017 and early January 2018, and these are the emerging strengths of the assessed group: customer orientation; confidentiality; integrity and ethics; knowledge sharing. Main areas for improvements are: communication; stress management; change management, and innovation; supporting/developing co-workers; and teamworking in general. In the pilot group, self-assessment tends to be slightly higher than other stakeholders' assessment. Answers are based on respondents' perceptions.

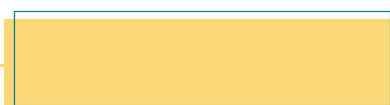
Next steps are the feedback meetings between HR and participants, and subsequent outline of specific training sessions and personal development plans.

### Discussion

The project is innovative because, in addition to the supervisor's perspective, it also explores perceptions of people working closely with the manager. The focus is not performance evaluation. Personal development and feedback make managers aware of strengths and weaknesses as perceived by others, so moving towards equity, transparency, accountability, and participation, values that make the difference in a good governance in healthcare. The survey also analyzes the following areas: transparent and direct communication; clear values; inclusion; accountability, integrity and ethics; collaboration and team-working, respect for people at all levels...

The project is part of a broader program of improvement of organizational well-being. It promotes transparent open-communication processes and develops a culture of responsiveness, continual improvement, and accountability.

360° Feedback is a tool to make ISMETT more accountable, transparent, and responsive: it drives behavioral change and promotes a culture based on developing skills for good governance in a highly complex environment.



## Good HTA practice - can we make it happen?

Authors: Antoniya Yanakieva <sup>1</sup>; Mariela Deliverska <sup>2</sup>; Stamatios Priftis <sup>3</sup>; Stefan Velikov <sup>4</sup>; Svetlin Georgiev <sup>5</sup>

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### Context

Health technology assessment (HTA) is a multidisciplinary activity that systematically examines the technical performance, safety, clinical efficacy, and effectiveness, cost, cost-effectiveness, organizational implications, social consequences, legal, and ethical considerations of the application of a health technology. The HTA agencies are continuously evolving to adopt the best tools and techniques in order to make high quality decisions about the place of new medicines in their jurisdiction. While they are undergoing evolution with regards to their policy, procedures and infrastructure, challenges arise for adopting good practice in to their work in terms of process organization.

### Methods

In a 12-month period we used the method of document analysis from different sources combine with global survey of HTA bodies all over the world. A process for verification of the information used was developed and implemented. All the communication was done by e-mail. The survey contents questions regarding number of experts, background of experts, expert education, transparency of the process, time needed for statement on HTA report. Limitation of the survey were defined.

### Results

Most countries have a process of collecting and analyzing information about health technologies or interventions and assessing their impact. HTA bodies have differences regarding their organization, however some trends can be defined. Staff members were usually doctors and pharmacists. Other experts indicate their basic education as economists, lawyers, specialist of Public health, experts on medical ethics and statisticians. In most of the countries the main part of experts come from academic community and have PhD degree (more than 50% of all respondents). Organizations in high-income countries were better resourced than those in low-income countries.

### Discussion

Countries reported that number of experts, their background and management of the experts were the main components of HTA process organization. Good practice guideline is possible regarding capacity building taking in mind the experience of HTA bodies worldwide. A lack of qualified human resources appeared to be the main barrier for producing and using HTA. Most countries did not have academic or training programs to build HTA capacity. Providing support to the strengthening of national systems for HTA research is needed.

## Looking into the mechanisms of a Dutch governmental stimulation program for nursing homes

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<sup>1</sup>*Vilans, Utrecht, Netherlands;* <sup>2</sup>*Vilans, Utrecht, Netherlands, VU University Amsterdam, Amsterdam, Netherlands*

In 2016, the program Dignity and Pride has started. The program is initiated by the Dutch ministry of Health, Welfare and Sport (VWS) to improve the quality of nursing home care. It has an explicit focus to strengthen the position of clients and care professionals. One part of the program – Enlarging space for nursing homes (ESHN) - aims at providing support and (policy) conditions to nursing homes in developing and achieving innovations. In this presentation, we will reflect on the mechanism of this part of the program by looking into the outcomes and the follow-up activities.

### Methods

168 nursing homes (with more than 800 facilities) participated in ESHN. The participants worked on innovation projects in 13 thematic groups. The themes ranged from 'client at the centre', to 'quality of care', 'domain cross-cutting funding' and 'food safety–HACCP'. They were supported by so-called theme coordinators. Besides attention for (substantive) progress of the individual projects, there was attention for resolving policy barriers. As such, the government and other system organizations (such as the Inspectorate and long-term care insurers) were active stakeholders in the program. The program will end in June 2018.

Extensive knowledge exchange and management were key processes in the program. A digital national knowledge infrastructure was set up (with 20,000 visitors monthly). Many gatherings (>500) were organized, ranging from small scale thematic meetings to large scale conferences in which knowledge exchange and mutual learning was facilitated. Moreover, experiences and lessons-learned are bundled in thematic (digital) knowledge publications.

### Results

ESHN has led to substantive results on both project level and thematic level, varying from the development of instruments to gain better insight into the (perceived) quality of life, the development and implementation of family care plans, experiments with various models for personal budgeting to the improvement of the hygiene code for small scale nursing homes and an experiment for a shortened eligibility procedure. Effects for both clients and professionals are predominantly positive, based on analyses of progress and final reports

Transcending the concrete results, participants point out that the program contributed to a movement towards more 'Dignity & Pride' as experienced by their staff. During the many meetings and in conversations, it was frequently mentioned that their participation stimulated a culture change to more client-centered care. Beside the innovation projects, many nursing homes started parallel initiatives to expand and/or secure the change that has been made.

### Discussion

The mechanism of the program seems successful at first sight. Besides the substantive results, the program has contributed to motivation for change. The sustainability of the outcomes is the largest challenge for the years to come as well as the dissemination to the entire sector. Various follow-up activities are already visible, which will be further concretized in the coming period. Also, knowledge management needs to be continued.

A limitation of the present paper is that the data are mainly collected by self-reports. Social desirability as well as the governmental attention (to continuing support) may have coloured the data in a positive sense. However, the number of planned follow-up activities, within and between organization, seem to underline the successfulness of the program.



## A possible experience with the English Weighted Capitation Formula

Author: Ms Petra Fadgyas-Freyler

<sup>1</sup>*National Health Insurance Fund, Budapest, Hungary*

### Importance of strategic resource allocation

Strategic allocation (with appropriate needs assessment) of health care resources is an essential tool for good governance. It is expected that the ideal allocation supports both efficiency and equity of the health spending.

In Hungary resource allocation is mainly based on historical relations. There is no need assessment formula, albeit great health inequalities across different population groups. Spending could be made more efficient with a good need assessment formula.

### Methods

In England the weighted capitation formula has been used since the 1970-ies for the risk-adjusted distribution of health resources to regional entities (CCGs). Resources according to need were determined with a stratified linear regression model, by which the independents variables are the determinants of health utilisation, both for need and supply.

I have tried to set up a similar model to the English one in order to determine and quantify the relationship between needs and supply factors in Hungary.

I had difficulties with finding the right territorial unit of the model. Dependent variable was the one-year total health expenditure, recorded by the National Health Insurance Fund (OEP)<sup>1</sup>.

Matching the independent variables was also a challenge. Data protection is an issue. Identification and matching data of different sources is exhausting, finding the right aggregation level is not less problematic. I have introduced new independent variables when I thought them plausible.

### Results

In most strata my model had statistically acceptable results, and it has proved itself capable to adjust the effects of excess supply. This can be extremely useful. It seems that mortality and supply have a high correlation with the utilisation.

Unfortunately, out of eighteen age groups three could not give statistically acceptable results. Adjusted R<sup>2</sup> values are low, though they grow by the age groups. (Highest 0,26, age group 85+.)

<sup>1</sup> Within the framework of a social health insurance system in Hungary the sole National Health Insurance Fund (OEP) is responsible for nearly 10 million inhabitants of the country. Outpatient and inpatient care, provision of pharmaceuticals is mainly paid according to performance, other types of care (GP, preventive care providers, etc) are financed on a capitation basis. DRG has been in use since 1993, German point system was introduced in the same year. Data available by the Fund go back as far as 1998 and are stored and manipulated in RDBMS. Due to a unique patient identifier the databases allow to trace back the patient history across all types of care. Profound statistical analysis is possible with a breakdown to single drug level or on the level of geographical units, sorted by chronological order, patient numbers, provider groups, ICD-10 codes, etc. However, limitation of the analysis can be the missing data from private sector providers. It has also to be considered that data are produced for reimbursement purposes therefore they do not refer to all medical aspects of care such as laboratory results, disease progression status - in case the ICD-10 does not implicate them.

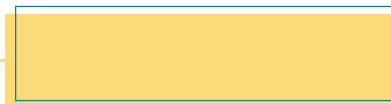
## Further development of the regression model

The English have used aggregated territorial data to determine health need and allocate resources accordingly. Their model is a result of long cooperation between stakeholders, it has been developed for decades.

In Hungary we have much more detailed data on personal level, and little experience with need-assessment. A lot more work has to be done for an acceptable model adjusted to our system.

The comparison with the English model had following results:

- We could not run the regression for the maternity model, because in roughly 50% in the cases newborns by birth are registered with a temporary identification number.
- We need to find an appropriate method or level for the regional breakdown.
- We assume that young adults do not live at their registered residence. We have to find a method to allocate those people properly.
- We have to find out what factors determine health care utilisation in Hungary. Are there any more than the 'equivalents' of the English indicators?



## Good practices of horizon scanning to identify the possibilities for a future Hungarian system

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<sup>1,2,3,4,5</sup> *National Institute of Pharmacy and Nutrition, Budapest, Hungary*

### Context

Horizon scanning is becoming a crucial part of health technology assessment systems in advanced countries. Hungary does not have a horizon scanning system; this study examines good practices and possibilities for a Hungarian guideline.

### Methods

A literature search was conducted on PubMed to identify the countries eligible for data collection. After the identification of 9 countries of which 4 were European, a database was made according to the attributes of the found horizon scanning systems. Data were collected and assessed to examine the good practices to later make a suggestion for a Hungarian guideline.

### Results

There were mostly similar approaches. In terms of scope the focus was mainly on pharmaceuticals, but there are programmes with wider area of focus. The processes show similarities, the time horizon was between 1 and 4 years before market authorisation. Information sources and filtration were mostly identical. The target group of the assessments were decision makers used mostly for internal use. All found guidelines can be a starting point for the rethinking and analysing the Hungarian practices.

### Discussion

The analysed systems are all able to help to improve the effective use of resources. By the help of this study and the available guidelines, stakeholders will be involved to develop the Hungarian practices. Further research is needed to analyse the possible impacts on the current Hungarian system, also the production/adaptation of good practices must be a future step.

## Can buddying arrangements in the NHS be effective in driving improvement?

Authors: Christopher Smith<sup>1</sup>; Andrew Corbett-Nolan<sup>2</sup>; Kevin McGee<sup>3</sup>

<sup>1</sup>Consultant, GGI; <sup>2</sup> Chief Executive, GGI; <sup>3</sup> Chief Executive, East Lancashire Hospitals NHS Trust

### Introduction

The experience of organisations entering into ‘buddying’ arrangements in the NHS has, to a large extent, been positive and successful. Despite this, there is, to date, scant literature exploring the merits of the ‘buddying’ approach to improvement, and no evidence base has been developed. This is perhaps because of ‘buddying’s’ relative newness, that only a limited number of organisations have experience of ‘buddying’ (and often these have adopted differing approaches), as well as the various contextual issues that need to be considered and that will likely impact on the success of a buddying arrangement.

Given this, there is a need for, and an interest in work that can demonstrate the effectiveness of ‘buddying’ arrangements and similar improvement methodologies. The Good Governance Institute (GGI) in collaboration with East Lancashire Hospitals NHS Trust (ELHT), who have recently entered into a ‘buddying’ arrangement with North Lincolnshire and Goole NHS Foundation Trust (NLAG), are seeking to generate an evidence base for ‘buddying’ in a planned and distinct manner. This qualitative study explores why previous ‘buddying’ arrangements in an NHS context have been successful represents the first stage of this work, with subsequent studies evaluating emergent data from the partnership between ELHT and NLAG.

### Objectives

The vision for the NHS as set out in the Five Year Forward View is increasingly one of partnership and collaboration. Through qualitative analysis this report adds to the body of knowledge around partnership working and ‘buddying’ arrangements in an NHS context, and highlights key factors in the success of previous arrangements.

### Methods

This qualitative analysis of the effectiveness of ‘buddying’ arrangements in an NHS context has been developed through:

- A substantial review of existing literature
- Consultation with a range of senior stakeholders from within the NHS and academia with experience of ‘buddying’ or partnership working
- Engagement with the leadership team at ELHT to explore success factors in a live context
- The development of a working group to test emergent findings

### Results

The report, by drawing on the experience of those in both successful and less successful ‘buddying’ partnerships in the NHS, reveals important findings for health leaders. It concludes that in the right circumstances, ‘buddying’ can be an effective improvement methodology and argues that ‘buddying’

should be explored further within the NHS as a cost-effective alternative to consultancy, and not just as a response to failure.

The report also highlights the importance of the following in pursuing 'buddying' or partnership arrangements in a healthcare setting:

- Clarity of purpose
- Leadership
- Mutual benefit
- Good governance
- Capacity and resource
- Regulatory support

This learning is being applied in ELHT's ongoing work with NLAG.

### Conclusion

This important work adds to the body of knowledge around 'buddying' and partnership working in healthcare, and will have significant learning for leaders working in a variety of settings. The study concludes that, in the right circumstances, 'buddying' can be an effective improvement methodology. It calls on organisations to pursue partnership working as a cost-effective and pre-emptive improvement method, rather than as a result of a recognised failure within the system.



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## eLearning for Quality Improvement: A mixed methods evaluation

Authors: Dr Catherine French<sup>1</sup>; Professor Derek Bell <sup>2</sup>; Mr Ganesh Sathyamoorthy <sup>3</sup>; Mr Vimal Sriram <sup>4</sup>

<sup>1</sup> NIHR CLAHRC NWL, London, United Kingdom, <sup>2</sup> NIHR CLAHRC NWL, London, United Kingdom, Imperial College, London, United Kingdom <sup>3,4</sup> NIHR CLAHRC NWL, London, United Kingdom

### Context

Quality improvement (QI) is a systematic approach to improving health care. Learning and feeling confident in using QI methods is an essential part of healthcare practice and ELearning provides a cost effective way of building QI capacity in a large cohort including clinicians, academics, patients and managers. The National Institute of Health Research (NIHR) Collaboration for Leadership in Health Research and Care (CLAHRC) Northwest London has developed a suite of eLearning modules (QI4U)<sup>1</sup> based on empirical research to support an introductory understanding of key QI methods (e.g. Long Term Success, PDSA cycles) through clinical service improvement project examples.

### Methods

A mixed methods evaluation was conducted. QI4U website interactions, usage and learner demographic data was extracted for learners from November 2016 until December 2017, with further data collected through qualitative feedback. We examined the number of learners registered, number of modules commenced, modules completed, time taken to complete modules, weekday/weekend learning patterns and pre- and post-test scores. Qualitative feedback focused on experience of learning QI methods through QI4U and self-reported intent of applying this learning in practice.

### Results

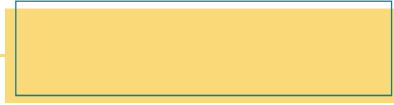
Over 13 months, 730 users were registered on the website. Clinicians were the biggest cohort (56.3%), followed by managers, academics, industry, patients, carers and third sector. Learners spent on average between 16 minutes [Long Term Success] to 173 minutes [Action effect method] completing the modules. Learners who had lower pre-test and post-test scores spent less time completing the modules and learners with the highest post-test scores spent 60 minutes or more on each of the modules. Three main themes emerged from qualitative feedback. (a) Ease of navigation and graphics- learners reported a good experience of interactive learning and ability to access modules within organisational IT restrictions. (b) Time taken to complete modules - depended on knowledge differential prior to commencing the modules, especially for clinicians new to the concepts of QI. (c) Ease of applying learning in practice - availability of downloadable templates allowed transfer of learning into practice and learners who had a 'live project' made better use of the in-built reflective diary.

### Discussion

This paper describes the learning experience and use of the eLearning platform among learners registering and completing QI modules (currently eight) on QI4U. There is a UK wide mandate for improving knowledge in healthcare QI. It is important to identify and evaluate learning experiences and for healthcare organisations to have assurance on return on investment of staff time. This becomes even more important in usually unmonitored eLearning environments, to ensure appropriate learning activity is undertaken. Interactive eLearning modules are one way of building capacity in QI for large cohorts of learners at different levels and from varying backgrounds. We present a practical way of building QI knowledge and use of data from the eLearning platform and learner feedback that can create a conducive virtual environment for QI learning, which in-turn can help shape future curriculum design in QI eLearning.

## Reference

1. QI4U Website: <http://bit.ly/2CfwGwz>



## Quality Improvement through Interactive Simulation

Authors: Dr Grazia Antonacci <sup>1</sup>; Prof James Barlow <sup>2</sup>; Prof Julie E Reed <sup>3</sup>; Mr Vimal Sriram <sup>4</sup>

<sup>1</sup> National Institute of Health Research (NIHR) Collaboration for Leadership for Applied Health Research and Care (CLAHRC) Northwest London, Imperial College, London, United Kingdom, CHEPI (Centre for Health Economics and Policy Innovation), Imperial College Business School, London, United Kingdom; <sup>2</sup> CHEPI (Centre for Health Economics and Policy Innovation), Imperial College Business School, London, United Kingdom; <sup>3</sup> National Institute of Health Research (NIHR) Collaboration for Leadership for Applied Health Research and Care (CLAHRC) Northwest London, Imperial College, London, United Kingdom; <sup>4</sup> National Institute of Health Research (NIHR) Collaboration for Leadership for Applied Health Research and Care (CLAHRC) Northwest London, Imperial College, London, United Kingdom

### Context

Training healthcare professionals on Quality Improvement (QI) is essential for creating a supportive environment to underpin successful improvement initiatives. Research shows there are deficiencies in QI education because it often focuses on individual QI methods and implies their rational linear application in practice, failing to account for the reality of healthcare improvement. We explore the value of a simulation approach based on real QI cases, to understand: (i) whether participants perceive this useful to understand healthcare improvement, and (ii) the key elements that make this learning approach successful.

### Methods

We used an inductive multiple methods study design to investigate use of a novel experiential learning approach to QI, “A Year in an Hour: Quality Improvement through Interactive Simulation” (QIIS). [<http://bit.ly/2Eo1Wj7>, <http://bit.ly/2CfwGwz>]

A QIIS session mixes theory and case-study discussion in small groups. Learners explore the practical reality of healthcare improvement using project documentation and quotes from project team members and people affected by improvement.

Seventeen teaching sessions were conducted over 2 years (2016 – 2017), involving 634 attendees from different healthcare backgrounds. Qualitative and quantitative data were triangulated and compared with existing research on health system complexity and QI learning to draw conclusions on benefits and success factors.

### Results

Most participants reported that the approach was useful (mean quality rating 8.1/10, SD: 1.07) and they would use its insights to improve their QI practice. Success factors relate to the format and content of the approach.

The interactive nature and experience of facilitators were seen as essential for allowing participants to “look at a project from different angles”.

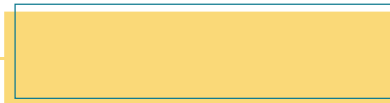
Key lessons reflect the characteristics of complex systems. Uncovering system interdependencies (interconnectedness) helped learners be “mindful of relationships, constraints and how to manage them”. The emergence of unexpected challenges in QIIS exercises (unpredictability) allowed learners to appreciate the importance of experimentation with small-scale QI interventions. Relationship and communication problems between different professional groups in projects (agency) helped learners to reflect on the human and social aspects of QI and build empathy.

## Discussions

Concepts that sound simple in the classroom can be difficult to apply in practice and require a ‘lived experience’. QIIS helps enhance participants’ knowledge of the reality of QI in complex healthcare environments in a way that it is applicable to their daily practice. Unlike most QI training, it is focused on experiential case study learning, allowing participants to acquire practical skills of reflection on their actions.

The closer the case-study is to problems that learners face in their daily practice, the more this approach is effective, as participants are more engaged.

The benefits of QIIS were reported to go beyond training on technical and social aspects of QI practice. The opportunity to work in groups with colleagues from different backgrounds but experiencing the same challenges allows participants to gather diverse perspectives on problems and share practices, feelings and emotions – “I thought it was only me (...) I feel less alone”.



# The role of lean leadership in the lean maturity – second-order problem solving relationship: a multiple case study

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## Keywords

Lean maturity, second-order problem solving, Lean leadership

## Context

One of Lean's aims is to sustainably improve processes through second-order problem solving. This involves in-depth questioning of work practices in order to remove the root causes of problems (Tucker and Edmondson, 2003). Meijboom et al. (2016) have shown that second-order problem solving is more prevalent in ward teams that have high levels of Lean maturity, but evidence from a larger sample of wards is needed.

In response, this research investigates the relationship between Lean maturity and second-order problem solving and further explores the meaning attached to Lean leadership and how this affects the relationship.

## Method

Our study takes place in a Dutch hospital where ward teams are in different phases of a comprehensive lean-based 'Productive Ward' programme (PW). The study design comprises 15 retrospective case studies with a range of maturity levels. In December 2016, for each ward team, we conducted interviews with the team leader and two nurses. The interview protocol was designed: (1) to assess the Lean maturity level using Malmbrandt and Åhlström's instrument (2013); (2) to assess the level of second-order problem solving using five scenarios of problems that nurses daily face (Meijboom et al., 2016); and (3) to explore the meaning attributed by the respondents to the concept of Lean leadership.

We analysed all the Lean leadership data inductively. The resulting second-order concepts and aggregated dimensions provided insight into the dynamics of Lean leadership. Using cross-case analyses, we compared contrasting cases to establish the moderating role of Lean leadership.

## Findings

A strongly significant positive relationship was found between Lean maturity and second-order problem solving ( $\beta=1.79$ ,  $SE=0.26$ ,  $R^2=0.52$ ,  $p<0.001$ ). More mature ward teams are better able to tackle the root causes of problems. A limitation is that our findings are based on a relatively small sample of interviewees ( $n=45$ ).

The analysis of the meanings attached to Lean leadership reduced 359 in vivo codes to 29 second-order concepts and 7 aggregated dimensions: (1) getting started, (2) unlocking individual and team potential, (3) listening and appreciating, (4) solving problems systematically, (5) enthusing, visualizing, actively participating, inviting, (6) self-managing teams taking responsibility, and (7) sensing as orchestrator what is needed for change. These dimensions appear to be closely connected to the transformational leadership dimensions described in literature (e.g. Bass, 1999). The cross-case analyses show that Lean leadership enhances the second-order problem solving level of ward teams.

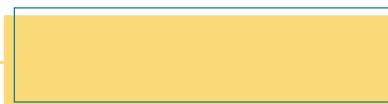
## Discussion

We have identified a significant relationship between Lean maturity and second-order problem solving and shown that Lean leadership strengthens this relationship. Interestingly, a top-down introduction of a long-term Lean programme seems to result in an increase in bottom-up problem-solving ability.

Previous research has shown that Lean leaders go to the Gemba, are modest, work in a spirit of openness (Aij et al., 2015), align goals, coach and develop others, support daily Kaizen, are committed to self-development (Poksinska et al., 2013), empower employees, foster participation, support continuous improvement and organizational learning (Van Dun et al. 2016) and build a culture that is data-based, questioning and challenging (Goodridge et al., 2015). This study reveals seven dimensions of Lean leadership and positions it in contemporary leadership theories (e.g. transformational leadership). Further, it contributes by showing significant differences in leadership practices between ward teams starting out and those further along the Lean journey.

## References

- Aij, K.H., Visse, M. and Widdershoven, G.A.M. (2015), "Lean leadership: an ethnographic study", *Leadership in Health Services*, Vol. 28, No. 2, pp. 119-134.
- Bass, B.M. (1999), "Two decades of research and development in transformational leadership", *European journal of work and organizational psychology*, Vol. 8, No. 1, pp. 9-32.
- Goodridge, D., Westhorp, G., Rotter, T., Dobson, R. and Bath, B. (2015), "Lean and leadership practices: development of an initial realist program theory", *BMC Health Services Research*, 15:362.
- Malmbrandt, M. and Åhlström, P. (2013), "An instrument for assessing lean service adoption", *International Journal of Operations & Production Management*, Vol. 33, No. 9, pp. 1131-1165.
- Meijboom, B., Gemmel, P. and Van Beveren, S. (2016), "The impact of lean on the problem-solving behaviour of nurses: a quasi-experimental study", *Proceedings of EurOMA 2016 Conference*.
- Poksinska, B., Swartling, D. and Drotz, E. (2013), "The daily work of Lean leaders—lessons from manufacturing and healthcare", *Total Quality Management & Business Excellence*, Vol. 24, No. 7-8, pp. 886-898.
- Tucker, A.L. and Edmondson, A.C. (2003), "Why hospitals don't learn from failures: organizational and psychological dynamics that inhibit system change", *California Management Review*, Vol. 45, No. 2, pp. 55-72.
- Van Dun, D., Wilderom, C., Brown, S. and Hill, A. (2016), "Lean-team effectiveness through leader values and members' informing", *International Journal of Operations & Production Management*, Vol. 36, No. 11, pp. 1530-1550.



## Health services research in Germany: an analysis of funding criteria

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### Aim

The aim of this study was to identify assumptions which were implicitly made by the German Innovation Committee in funding decisions for health services research projects.

### Methods

Analysis of funding areas and publicly available summaries of funded projects (n = 116).

### Results

Six implicit assumptions were identified: 1) Improving the quality of care has negligible opportunity costs; 2) Health services researchers are better qualified in finding solutions to deficiencies in the provision of health care than profit-driven players; 3) Health services research has negligible opportunity costs; 4) Improving the quality of care requires a negligible amount of labor; 5) Promoting communication between health care providers yields better outcomes than incentivizing providers; and 6) For implementation strategies the require quality of evidence is the same as for drugs.

### Conclusions

Controversial assumptions about health services research were identified which require a discussion of the regulatory framework of the health care system.

# Clinical Led 'Disruptive Innovation' in Healthcare Delivery: A Case study of the Northumbria NHS Foundation Trust

Authors: Prof. Barrie Dowdeswell <sup>1</sup>; Dr Nancy Bolous <sup>2</sup>

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## Context:

At a time of public sector austerity and increasing demand, hospitals are under pressure to improve their responsiveness without compromising quality. Innovation rather than incrementalism may offer better strategic and sustainable solutions. This study reviewed the theory of disruptive innovation in healthcare, then examined the reform of the Northumbria NHS Foundation Trust in order to explore the history and evolution of the former business model into its current form and to verify if it fits into the definition of disruptive innovation theory. Moreover, the study examined the relationship between Northumbria's clinician led management system and the adoption of the innovative reform.

## Methods

The Northumbria NHS Foundation Trust in the United Kingdom provides the case study site. The study incorporated generic secondary research into the twin dimensions of disruptive innovation and organizational management systems, values and cultures together with a three months on-site research placement to provide the primary research evidence. The placement involved immersion in the day-to-day management of the Trust hospitals, open access to all policy and strategy documents and a programme of semi-structured one-hour face-to-face expert interviews with a cross section of managers, clinicians, nursing and allied health professionals staff members. The accumulated evidence, including 27 hours of interviews transcriptions, is verified through analysis of the Care Quality Commission surveys, the Trust Board formal accountability reports, its operational performance, the results of patient quality feedback data and discussion with the CEO of the Trust.

## Results:

Northumbria NHS Foundation Trust provides services to one of the largest geographic areas of any NHS organization in England. The former three hospital configuration presented significant challenges in sustaining a safe and effective emergency service in face of financial austerity and skills shortage. Therefore, a stand-alone dedicated emergency care hospital was developed at the most accessible location to amalgamate the workforce and achieve a 24/7 consultant cover. The three main district general hospitals of the Trust were reconfigured to concentrate on inpatient recovery, elective care and 24/7 urgent (walk-in) care. Substantial blurring of professional boundaries empowered highly trained nursing staff to fully utilize their capabilities to lead the district general hospitals. The data show that these changes have reflected positively on; responsiveness to emergency patient needs, patient safety & quality and patient & staff satisfaction. It demonstrates how local values and local initiatives can transcend top down targets to improve care.

## Discussion

The Trust reform fits into the definition of disruptive innovation theory. The success of the strategy results from long-term investment in bringing clinicians and nurses into a central management role in the Trust. There are now five autonomous clinical business units, each with a clinician and

manager sharing the leadership position. This closer integration between clinicians and managers is cascaded throughout all the levels of the organization, helping overcome professional tribalism evident in many healthcare settings. The cohesion created by the new organizational structure and clarity of accountability was a critical factor in this courageous and radical solution. The soft (cultural) dimensions of change are as critical as (hard) formal processes and cannot be easily replicated without local leadership that is trusted. The vision was demonstrably created by the front line staff and this was a key factor in the local community endorsing and owning such a dramatic change in the role of their local hospitals.



## Improving patient safety language through developing an internationally agreed upon definition of “good patient safety practice”

Authors: Phd Barbara Labella <sup>1</sup>; Mrs Flavia Cardinali <sup>2</sup>; Dr Giovanni Caracci <sup>3</sup>; Mrs Roberta De Blasi <sup>4</sup>; Mrs Vanda Raho <sup>5</sup>

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### Context

Despite the identification of “good practices” to be routinely applied in clinical practice, in order to improve health outcomes is one of the action considered as crucial to enhance patient safety, we still lack an internationally agreed upon definition. The AHRQ, for example, defines patient safety practices as “those that reduce the risk of adverse events related to exposure to medical care”, while the International Classification of Patient Safety of the WHO talks about “actions taken to reduce, manage or control the harm, or probability of harm, associated with an incident”.

### Method

The Italian National Agency for Regional Healthcare Services (Agenas) has in place a National program for patient safety practices (PSPs) dissemination and promotion since 2008. To carry out such program we have developed, through carrying out an expert consultation, our own definition of “good PSP”, that is to say: Evidence-based interventions that have been implemented at regional/local/organization level and proved to improve patient safety. Furthermore, they are

- carried out in accordance with CQI principles and
- reported according to international guidelines (SQUIRE-PaSQ)
- evaluated from the point of view of effectiveness and costs
- sustainable over time
- transferable to other settings

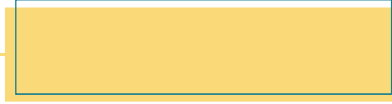
The aim of the work herein outlined is to develop an internationally agreed upon definition through comparing the above definition with the state of the art of knowledge in the field. To do so, an expert consultation process has been launched.

### Results

Yet 18 years after “To err is human”, we don’t have a common patient safety language. The internationally renowned experts involved in the consultation process provided very enlightening inputs about the diverse aspects of the mentioned definition: some of them stress the need to include patient centeredness in the definition, others argue that there is no need that the practices is carried out according to CQI principles. The next steps in the process will be to integrate the feedback received into the definition, which will be sent back to the experts for further comments and refinement. The final results of this work will be available in a few months.

## Discussion

The interest in contributing to our work shown by experts makes us believe the need to agree upon a common patient safety language is strongly felt. Therefore, we will be happy to share the definition resulting from the process herein outlined, so that a small piece will be added to the “puzzle” of patient safety concepts and terms.



## Budget Impact Analysis (BIA) of breast cancer screening programmes in Italy

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<sup>1,2,3,4,7,8</sup> *LIUC-Università Cattaneo, Castellanza, Italy;* <sup>5,6</sup> *Fondazione IRCCS Istituto Nazionale dei Tumori, Milano, Italy*

### Context

12.5% of women in Italy experienced a breast cancer during their life, with an incidence of around 48,000 new cases per year. Prevention is crucial, even if screening programmes activated in the national context differ, due to Health Authorities and Hospitals' resources availability.

Furthermore, the best screening programme, optimizing organizational aspects and economic resources, based on patient characteristics, has not yet been determined.

The present study aimed to evaluate, from an economic perspective, the introduction of ABUS Invenia™, a diagnostic tool based on automatic acquisition of ultra-sound images, as an additional technology for dense breast women screening pathway.

### Methods

A three-year budget impact model was developed, taking into consideration a Regional Healthcare Service perspective (Lombardy Region, Northern Italy).

Two different comparative scenarios were simulated: the “as-is” scenario (mammography and ultra-sound for recalls), and the innovative (“to be”) scenario (the introduction of ABUS for women with dense breast, into the screening programmes).

The model considers not only the costs related to the screening programmes, but also the costs of the pathways of women developing breast cancer, and related incidence, for “as is” and “to be” scenarios. Information on processes and incidence were collected according to the “real-life” data, from Fondazione IRCCS Istituto Nazionale dei Tumori, Milan.

The cost items were evaluated in accordance with the Lombardy Region outpatients and hospital admissions Reimbursement Tariffs. Drug costs were derived from the officially published NHS price list. Population data was gathered from regional institutional sources.

### Results

According to collected data, 1,352,228 women were invited to participate in screening programmes in the Lombardy Region in 2016, but only 46.42% (equal to 293,428 subjects), accepted and started the programme. Therefore, 293,428 subjects were considered to be entered in the model during the first year.

The Budget Impact Analysis reported that during the screening phase, considering a three-year time horizon, the innovative scenario absorbed more resources (+ 39.5% compared to the “as-is” scenario).

However, during the second phase (i.e. the taking in charge and the treatment of women who developed breast cancer) the innovative scenario was the most convenient showing a saving of 16% (equal to 120 million of euros), considering a three-year time horizon.

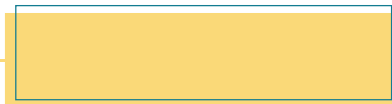
Overall, considering both phases, the innovative scenario allowed a better resource usage, registering a saving of more than 105 million euro (-13% compared with the “as-is” scenario).

### Discussion

The results of the study demonstrate that the introduction of ABUS was a sustainable scenario for the Regional Healthcare Service, from an economic point of view: it should be seriously taken into consideration, given the existing gaps in the screening programmes.

Indeed, ABUS is able to detect invasive cancers, not visible using mammography, often of small size and with a favorable prognosis; recognizing cancer in the early stages implies a decrease in the mortality rates, improving the treatment to patients.

From an organizational perspective, an examination using ABUS may be performed by trained radiology technician, thus releasing the radiologist from problems related to timing (in this case the interpretation and reporting could be postponed to another time) and reproducibility.



## Grassroots Approach Gives Surgical Breakthrough

Authors: Mr Bogdan Ivanov <sup>1</sup>; Dr Curtis Emordi <sup>2</sup>; Miss Helen Pardoe <sup>3</sup>; Mr Sher Kayani <sup>4</sup>

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### Aims

UK Emergency departments are measured on achieving a standard of 95% of all patients being admitted or discharged within 4 hours. Type 1 ED departments in the UK only achieve this standard in 77.3% of case. The Princess Alexandra Hospital Trust's achievement is only 66.4% and is in the bottom 5 trusts in England. The Quality Improvement (QI) Team at Princess Alexandra Hospital Trust (PAHT) in Harlow worked alongside colleagues from General Surgery and the Emergency Department to reduce the time for surgeons to review patients on the Emergency General Surgery (EGS) Pathway.

### Methods

The Quality Improvement team at PAH undertook a 4 month quality improvement project. The methodology consisted of first identifying the outcome measure and process measures. Followed by collecting to understand current performance on which the team was to improve. And then process mapping the existing pathway and the working practices and behaviours associated to the pathway.

### Results

The process mapping exercise uncovered the challenges of the pathway. From this, opportunities for improvement were identified; changes were proposed, agreed, delivered and then embedded and finally, results were celebrated. Prior to the intervention the time from referral to review was on average 66 minutes (variation 92–35 minutes). The process mapping exercise identified there was no escalation procedure when patients were not seen in a timely manner by the surgeons and also identified the negative behaviour. Adding an escalation pathway improved behavioural practices and professional behaviour improved. The average time it took for patients to be seen by the surgeons improved by 28% and the median time it took for patients to be seen by the surgeons improved by 48%. This reduced the median time it took for patients to be seen by the surgeons to 27 minutes (variation between 61mins and 35 minutes). The improved performance has been sustained for >6 months since go live.

### Discussion

The success of EGS pathway project demonstrated to a trust in difficulty the potential for improvement using QI methodology and a frugal approach. No additional staffs were employed and there was no financial investment needed to improve the performance significantly.

## Learning from mistakes - a useful tool for supporting management in order to improve safety culture

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<sup>1,2,3,4</sup> *Semmelweis University Health Services Management Training Centre Patient Safety Unit, Budapest, Hungary*

According to the recommendation of the WHO on patient safety published in 2005, it is suggested to collect information on adverse events and learn from the incidents thus improving the safety of the healthcare process. In order to meet this goal, many European countries have developed and implemented reporting and learning systems. Different countries have implemented different ideas, the existing systems are diverse with different advantages and disadvantages. Hungary has too developed a reporting and learning system as a part of the national patient safety programme called NEVES. It has proven to be unique on the international level in more than one aspect, as it is not only capable of collecting event-specific and detailed information on the different types of adverse events, but can also provide immediate feedback to the users in the form of descriptive statistics which aim to support root cause analyses.

The system started by collecting data on 6 more commonly known types of adverse events (patient falls, decubitus, sharps injuries, delayed elective surgery, medication errors, unexpected patient death), and by now, thanks to development opportunities, there are 21 report forms available, with approximately 19.000 reported events.

The NEVES reporting and learning system allows users to conduct thorough root cause analyses. The data available in the system can help to define the areas of improvement thus promoting and supporting patient safety development.

Our experience suggests that the methodological knowledge regarding statistical analyses and data interpretation is lacking, and healthcare workers usually lack resources for conducting literature reviews or studies as well.

We consider it important to help healthcare institutions in their goal to explore the causes of adverse events and through that, to find the appropriate solutions.

Receiving funding from the Hungarian EFOP-1.8.0-VEKOP-17 governmental project allowed the expert group of the NEVES program to conduct detailed root cause analyses in 8 of the available 21 topics. These analyses are preceded by literature reviews and apply a versatile methodology. Focus group discussions in each topic aim to explore the current situation in hospitals including existing protocols, organisational culture and overall knowledge on the topic in question. The knowledge learnt in these discussions will serve as the starting point of the targeted root cause analyses. The results of these will be used for creating educational material to support the hospital staff to conduct their own, institution-level analyses. The first topic to address was the issue of sharps injuries. The lessons learnt in this process will be introduced on the poster.

Managerial support and dedication to improvement remain crucial for real changes, but this tool serves as a useful aid for improving safety culture.

# Characterisation of the users of an Emergency Department in a Portuguese Hospital: Analysis of the impact of non-urgent patients and frequent users on waiting times

Authors: Ms Carla Amado <sup>1</sup>; Ms Cláudia Baptista <sup>2</sup>; Mr Sérgio Santos <sup>3</sup>

<sup>1,3</sup> *Universidade do Algarve, Faro, Portugal, CEFAGE, Faro, Portugal;* <sup>2</sup>*CEFAGE, Faro, Portugal, Centro Hospitalar do Algarve, Faro, Portugal*

## Context

Overcrowding of Emergency Departments (ED) is a growing international problem. Nowadays, ED's are being used as primary care facilities instead of dealing exclusively with emergencies. This fact has strongly compromised the ability of these units to provide quality services to critical patients as they are systematically operating above their capabilities, face increasing costs and experience increasing waiting times for medical care.

The growing number of "non-urgent" users is one of the causes for the overcrowding of the ED. The main reasons for admission to the ED presented by these users are: low confidence in primary health care, work schedules not compatible with primary care working hours and the perception that their clinical situation should require another level of care. There is, however, another group of users – the "frequent" users (with 4 or more admissions in one year) - who also exacerbate the problem above.

This article aims to characterise the users of the ED of a major hospital in Portugal in order to assess their impact on the waiting times and to identify suitable policies aimed at reducing their admissions. In doing so, the study has the potential to lead to considerable cost savings and improvements in the quality of care provided by the ED.

## Methods

In order to characterize the users of the emergency department a retrospective study is going to be performed, where the sample group will be collected from all patients over the age of 18 admitted to the ED. The data will be analysed through the SPSS Statistical Software. A questionnaire will be used for both non-urgent patients and frequent patients in order to ascertain the most common reasons for admission to the ED. In doing so, we also aim to explore the extent to which there is similarity in the reasons taking these patients to the ED. Based on the information collected, it is also our objective to simulate the impact that the removal of these patients from the ED would have on the waiting times for medical observation.

## Contribution

This article will make an important contribution to the literature as, by characterizing the non-urgent and frequent users of the ED and by identifying the reasons that lead them to the ED we will be able to design appropriate strategies to provide these patients with the care they need while reducing the misuse of resources of the emergency departments.

The logo for the EHMA Annual Conference 2018 is positioned in the upper right corner. It features the acronym 'EHMA' in a large, bold, black sans-serif font. Below it, the words 'Annual Conference' are written in a smaller, lighter font, followed by the year '2018' in a large, bold font. At the bottom of the logo, the slogan 'MAKING IT HAPPEN' is written in a bold, black, sans-serif font. The background of the logo area consists of numerous thin, curved lines in shades of yellow, orange, and teal, creating a sense of motion and energy.

**EHMA**  
Annual Conference 2018  
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**Health &  
Social Care  
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**Wednesday  
20<sup>th</sup> June**

## Collaboration between formal and informal carers in long-term care in the Netherlands

Authors: PhD Henk Herman Nap <sup>1</sup>; PhD Marjolein Herps <sup>2</sup>; Prof. Mirella Minkman <sup>3</sup>

<sup>1,2,3</sup> *Vilans, Utrecht, Netherlands*

### Context

Long-term care in The Netherlands has undergone major transitions to (1) improve quality of care; (2) enhance caring for each other in the community; and (3) ensure the financial sustainability. Part of the reform was the replacement of the Exceptional Medical Expenses Act (Algemene Wet Bijzondere Ziektekosten, AWBZ) with the Chronic Care Act (Wet langdurige zorg, WLZ). A main focus of this Act is the involvement of and collaboration between formal and informal (family, friends, volunteers) carers, even when a person receives residential care. This study evaluated how people who receive Wlz-care, informal carers and professionals experience the new Act.

### Methods

The study is an explorative, descriptive policy evaluation. We combined qualitative and quantitative methods. The qualitative part focused on how the client, their informal carers, professionals and volunteers experience the Wlz in practice. The quantitative part consisted of an online survey for managers of care organizations and focused on their experiences with the Wlz in practice.

Participants were selected from a representative stratified sample in elderly care and care for people with disabilities. We interviewed 84 people in individual interviews. Twenty focus groups were organized: 16 with care professionals and four with volunteers. A total of 104 care professionals (e.g. nurses, psychologists, team leaders, support staff) and 24 volunteers were involved in the focus groups. The quantitative results are based on the completed questionnaires of 228 respondents in elderly care (n=82), care for people with disabilities (n=136) or both (n=10).

### Results

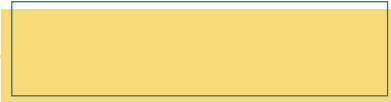
Respondents experience increasing involvement of the social network and volunteers. Informal carers are essential as they can perform tasks that staff is unable to do, mostly related to well-being, activity support, and practical support. In the care for older people, staff also involves family in personal care, while this is uncommon in the care for people with disabilities. Clients that are supported by a volunteer are positive to a great extent about the support they receive.

Involving the social network can be difficult when family members have little time to provide care due to work commitments, or when the living distance between them is relatively far. Both professionals and relatives reported care burden. In these instances, staff feels reluctant to involving relatives. Furthermore, for some clients it is difficult to find volunteers. In these cases, respondents feel that the quality of life of people is negatively affected.

### Discussion

The Wlz stimulates collaboration between formal and informal carers for people needing residential care. Though this is a development that started before the introduction of the Wlz, the Wlz provides professionals a legal basis for involving family and volunteers. Collaboration with informal carers is essential, but that difficulties may arise. With clients staying home longer before living in residential care facilities, strain is felt by family, a risk often described in literature. Furthermore, clarity is

needed about the tasks that can and can't be done by informal carers and how responsibilities are shared. Finally, it is not always desirable to involve family, because family is sometimes used to 'take over' whereas independency and autonomy is strived to. Sometimes family or volunteers are also not available. In these instances, measures need to be taken to prevent the absence of informal carers resulting in decreased quality of life of clients.



## Optimizing Integrated Care Pathways for Elderly After Hospital Admission

Authors: Doctoral Candidate, MSc (Health), RN Anna-Maria Hiltunen <sup>1</sup>; DSc (tech), MSc (Econ) Iiris Hörhammer <sup>2</sup>; DSc (tech) Miika Linna <sup>3</sup>

<sup>1,2,3</sup> HEMA Institute, Department of Industrial Engineering and Management, Aalto University, Espoo, Finland

### Context

Growing amount of elderly citizens creates a burden for health services in western countries. The burden is even bigger, if the care pathways are uncoordinated across primary, secondary and social care. We investigated a seven-item intervention optimizing the elderly citizens' integrated care pathways starting from hospital admission. In order to expedite patients' return to home, regional services were developed: management system and performance indicators were updated, daily work of nursing staff were re-organized, and home care department to take care of all the patients immediately after discharge from hospital was established. Coordination between institutions and home care was also developed.

### Methods

The aim of this study was to investigate the costs, hospital days and inpatient days in other institutionalized care of the integrated care pathway in comparison with previous standard care in Finland. A retrospective individual-level register linkage study covering primary, secondary and social care was conducted with follow-up of one year and comparison to matched controls. The data included all health and social care services for the followed cohorts in 2015-2017.

### Results:

The average days in hospital and other institutionalized care decreased by an average 7,4 days and days spent at home increased in the integrated model. The total annual costs of care decreased 1000€ per elderly patient. The amount of patients moving to permanent long-term care decreased by 20%.

### Discussion:

It is possible to achieve marked results by coordinating the integrated care pathways from specialized care to home. More patients could be discharged back home immediately, and more patients were able to stay at home during one-year follow up. This intervention brought substantial savings and more time spent at home.



## Scaling up in staff engagement processes. Best practices detected in ACT@Scale project

Authors: Mrs Montserrat Moharra Frances<sup>1</sup>; Mrs Núria Rodríguez Valiente <sup>2</sup>; Mr Tomàs Salas Fernandez <sup>3</sup>

<sup>1,2,3</sup>Agency for Health Quality and Assessment of Catalonia (AQuAS), Barcelona, Spain

### Context

Increased life expectancy and longevity, and declining birth rate, have led to an ageing Europe. The challenge is how to adapt the growing demand in health services and its sustainability. The main objectives are to gather iterative information from the staff engaged in the ACT@Scale programs, to score stakeholder engagement through the assessment of the overall staff engagement across programs and regions, and to identify good practices already in place.

### Methods

Online questionnaires were addressed to program managers and frontline clinical staff. The questionnaires were composed by seven domain: leadership, awareness, motivation (achievement, authority-power and affiliation), workforce development, psychological ownership and organizational change. Data collection took place from January to June 2017, and a range of descriptive statistics produced. To allow a high-level overview of response variability between questions, programmes, and regions, a score was generated for each response and survey using a scoring rubric in which each answer was awarded a mark ranging from 1-5. Questions with yes/no responses were normalised by assigning the same value of the Likert scale adapted to the normalisation value. In addition, a qualitative analysis was performed of the free text responses to identify themes that might clarify the apparent patterns emerging from the quantitative data.

### Results

Seventeen program managers answered the survey and in all, 173 responses were received from frontline clinical staff (Response index, 36.20%). The global staff engagement average was 3.7 (over a value of 5), 60% of programs were above the average and 40% were below.

In program managers' responses, the domains identified most positively were: frontline clinical engagement (average 4), the effective communicational processes (average 4) and the staff training (average 4.5). However, the domains identified below the average were, project success (average 3) and addressing organizational and cultural barriers (average 3).

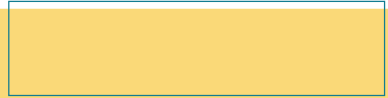
Most frontline clinical staff (90%) agreed that coordinated care and telehealth programs benefited patients. Around 70% agreed to be able to influence the way of delivering care and 55% supported the program's implementation. Regarding to workforce development, there was not consensus in training, and teaching methods developed, 70% perceived that the training received was not linked to a formal academic award.

### Discussion

There is a high variability in the average scores in all the domains and all the programs. Best practices identified by program managers were related to the following domains: staff awareness, engagement and satisfaction, encouraging involvement, and access to training and education by the staff. The areas of improvement identified were effective communication in relation to project

successes and good practices and identifying the project planning process addressing organizational and cultural barriers. Best practices mentioned by clinical frontline staff were related to leadership, awareness, organizational change and Creating psychological ownership domains.

Regarding with workforce development domain, some diverging points of view between program managers and frontline clinical staff have been detected. Clinical staff felt that more innovative educational methodologies are needed and adapted to their needs, and that they should be linked to formal academic recognition.



## European patterns of child-focused health policy

Authors: Dr Kinga Zdunek <sup>1</sup>; Prof Michael Rigby <sup>2</sup>; Prof Mitch Blair <sup>3</sup>

<sup>1</sup> Medical University of Lublin, Lublin, Poland; <sup>2,3</sup> Imperial College London, London, United Kingdom

### Context

The Models of Child Health Appraised (MOCHA) project, funded within the Horizon 2020 strategy, aims to assess the varied patterns of children's primary care in EU+EEA Europe. The main objective of the project is an appraisal of the models of primary child health care in Europe. In order to complement the analysis of contextual determinants of child health policy, which was undertaken on the first stage of the research, analysis of policy content and process was conducted. This study focuses how contextual determinants affect the process and content of child health policymaking.

### Methods

The methodology of the MOCHA project relies on experienced Country Agents (CA) in each of the 30 countries. CAs are national experts in the child health field who provide the research data. Research questions are raised by the researchers, validated by an independent Expert Advisory Board, and issued to CAs. A questionnaire designed as a semi-structured survey instrument asked CAs to indicate examples of policies that seem to have developed due to public, cultural or political pressure rather than from an evidence-base of effectiveness. The data were collected between July 2017 and January 2018.

In order to perform analysis a qualitative approach was used. The data were incorporated into qualitative analysis software Nvivo 11, coded and categorized. The final stage was constructing the analytical schemes.

### Results

In the first stage of the research, we identified issues which provoked societal movements and reactions in order to affect child-centred initiatives. They were the signs of needing to take into account the voice of civil society in the decision-making process, and included e.g.: anti-vaccination movement across Europe, defending the rights of children with special needs, infringement of children's rights, and the problem of child poverty. The second stage of the research indicated the level of political reactivity to citizens' demands. The patterns of child-focused health policy vary between different European contexts. Two directions were observed - on the one hand the child-focused policies are part of wider health care and policy context, on the other they are devoted to children as a stand-alone approach. The first group includes, for example, national child and youth programmes whereas the second contains health care reforms.

### Discussion

The content of policy varies from country to country and together with the analysis of contextual factors is the baseline for developing the map of the current status of child healthcare in Europe. The awareness of child issues is measured by the level of activity of actors who play the main role in the theatre of child health care.

The process of policy making, which is understood as the way in which policies are initiated, developed or formulated, negotiated, communicated, implemented and evaluated (Buse, Mays, Walt 2005), is tangible proof of potential compatibility of children’s needs, the voice of civil society and real actions on the child health care.



## Risk of elderly nursing home admission: individual and system-level factors

Authors: DSc. (Tech.), MSc. (Econ.) Iiri Hörhammer <sup>1</sup>; MD, MSc. (Econ. and BA) Katariina Silander <sup>2</sup>; Ph. D., Adjunct Professor Miika Linna <sup>3</sup>; M.Sc.(Tech.) Olli Halminen <sup>4</sup>

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### Context

Aging populations challenge healthcare systems around the world; tackling the increase of elderly nursing home admissions (NHA) is one of the greatest system-level challenges in healthcare as it increases costs of care and may simultaneously reduce the quality of life of an elderly person. This study aimed to identify factors affecting the risk of nursing home admission in elderly.

### Methods

We performed a retrospective individual-level register linkage study using national data repositories. We employed a logistic regression analysis to assess the factors associated with higher risk of NHA. We researched individual and system-level characteristics of 231 551 elderly in 37 Finnish mid- or large-sized municipalities during the years 2013-2014 and the factors that were associated with higher levels of transition during this time period. The data included all over 75 year old citizens in these municipalities. Routinely collected individual-level registry data including all social and healthcare service usage and diagnosis information, marital status, and taxable income were analysed.

### Results

Alzheimer's disease (OR 6.05,  $p < 0.001$ ) and femur fractures (2.91,  $p < 0.001$ ) were associated with higher admission risk. High levels of taxable income were associated with a lower admission risk (OR 0.86,  $p < 0.01$ ). Elderly receiving help from family caregivers were at significantly higher admission risk (OR 3.243,  $p < 0.001$ ). Any secondary care episode during the study period increased the admission risk (OR 2.243,  $p < 0.001$ ). Based on the preliminary system-level analyses, the elderly residing in mid-sized municipalities had a lower admission risk compared to large-city residents (OR 0.917,  $p < 0.01$ ).

### Discussion

Based on the research, we present a framework for detecting segments at higher admission risk using service usage data, and also reflect on the system-level strategies to be employed to tackle this phenomenon.

## Social innovation and change in the evolution of health systems

Author: Dr Péter Gaál

*Health Services Management Training Centre, Faculty of Health and Public Administration, Semmelweis University, Budapest, Hungary*

### Context

One of the most complicated challenges of health systems in the 21<sup>st</sup> century is how to meet the special health needs of the ageing population. Chronic diseases and multimorbidity require coordination and integration of service provision, which is made especially difficult by the fragmentation of providers as a result of the ever increasing specialization, induced by the fast pace of technological innovation.

### Methods

The study compares the traditional health system typology and the functional approach of health systems analysis in addressing the problems and challenges of an ageing population, based on two illustrative case studies from the Hungarian health system.

### Results and discussion

The still commonly used traditional health system typology is misleading, when it comes to the analysis and addressing of efficiency problems due to fragmentation. The examples of recent Hungarian health system reforms for improving coordination show that social innovations based on functional analysis and the theory of functional deconstruction can bring about improvement and open the way to the development of more resilient, “smart” health systems.

### Keywords

Health systems, environmental analysis, demographic challenges, health systems typology, functional analysis, theory of functional deconstruction, smart health systems

## Does market matter? An institutional perspective on purchasing of chronic care

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*University of Groningen, Groningen, Netherlands*

### Context

Improving task division and collaboration between care providers benefits chronically ill patients. In many countries, third party purchasing organizations like health insurers or governments are expected to drive care improvement through their contracting responsibility. Still, patients often receive services which lack integration, both in government- and insurance-driven healthcare systems (Propper, 2012). Research has tried to understand the purchaser's role in driving healthcare improvement in different countries, mainly by focusing on policy aspects like financing and regulation (Sheaff, 2013, Thomson, 2012). This paper takes a broader institutional perspective to improve understanding of purchaser's thinking and actions in different healthcare systems.

### Methods

This multiple case study researches how regional purchasing organizations manage chronic care chains. We focus on the use of different steering mechanisms and the influence of institutional environment. We conducted interviews with people working at purchaser and provider organizations in regions in three countries with different healthcare system characteristics. 1. England. Purchasing by a Clinical Commissioning Group, responsible for the regional care budget provided by national taxation. Led by General Practitioner member bodies. 2. Sweden. Purchasing by a County Council administration, responsible for the care budget provided by regional taxation. Led by elected council members. 3. The Netherlands. Purchasing by multiple insurance companies, based on their regional market share of insurees. Led by a board of directors. (Here; focus on the largest regional insurer, 60% market share). Between-case variation of institutional characteristics is expected to explain purchasers' actions, success or difficulties in improving task division and collaboration between providers.

### Results

Case 1 (England). The purchaser's strategy is driven by a professional focus and a strong market position. The purchaser is highly involved in facilitating collaboration between providers and developing and improving care pathways. Measuring outcomes is quality-driven. Financial interests and incentives of providers are aligned by enforcing new contract types.

Case 2 (Sweden). The purchaser's care chain management is politically driven and shaped by limited influence due to free patient choice. The purchaser steers patients to the right provider through informing, training, incentivizing patients and facilitating family doctor enlisting. The purchaser moved back to budget payment to increase control over healthcare spending.

Case 3 (the Netherlands). Purchaser competition limits influence on providers and drives focus on increasing insuree market share. The purchaser actively manages provider relationships to increase influence. To reduce insurance fees, there is focus on costs and less on quality. Purchasers debate moral appropriateness of steering with bonus-type incentives.

### Discussion

We find two main institutional factors which shape the purchaser's strategy in managing it's chronic care chain; market power and the organization's source of authority. High power and professional

authority relate to a medically driven focus on providers. Limited power and political authority increase attention on the patient's role in care delivery. Limited power and insuree (or market)-based authority relate to a cost-focus and high efforts to gain influence on providers. Institutional theory literature supports the importance of institutional forces in shaping different rationalities or logics within organizations (DiMaggio 1997, Thornton 2002). Particularly the role of authority, which in this case had a professional, political or insuree (market) origin, has had limited attention in healthcare purchasing literature (Sheaff, 2012, Thomson, 2013). Policy makers are advised to take institutional factors like power and sources of authority into account when considering the organization of their healthcare system.



## Good practices in health promotion for older people and their significance for evidence in health policy

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### Background

Evidence confirming the effectiveness of health promotion for older people comes from both scientific population studies and good practices analysis. The significance of good practices in health promotion is to determine the real outcome and health results for a target group, which, in the case of evident benefits (defined during evaluation), renders the programme credible and worthy for dissemination.

The main goal of the research was to emphasise the role of the good practices approach in health promotion policies addressed to the elderly and to describe the criteria used for considering an intervention/activity a good practice in this area.

### Methods

A literature review on health promotion, including health promotion for older people was performed, aimed at defining good practices and criteria used for their selection. The analysis was based on scientific papers, grey literature and available guidelines dedicated to good practices in health promotion for older people. Authors also sought information from websites of leading organisations dealing with issues related to the analysed topic and international projects focused on healthy and active ageing. Moreover, a detailed review was also performed using international databases dedicated to health promotion activities for the elderly, e.g. European Innovation Partnership on Active and Healthy Ageing, the WHO Age-friendly World, HealthProElderly, EuroHealthNet, JA-CHRODIS and ProFouND.

Authors also used the results of the Pro-Health 65+ project. To confirm a selection of activities and interventions recognised as good practices, national experts from selected countries were contacted in order to collect the overall country-specific information concerning research objective.

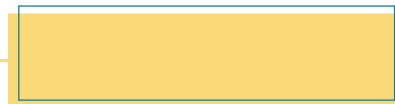
### Results

Evidence-based public health policy is essentially supported by the results of empirical research, but a good practice approach and evidence derived from public health programmes implemented in real-life settings is likely to be a better source of evidence for inspiring and realising health programmes. Practical evidence based on real implemented programmes is becoming valuable for health promotion programmes and their management. According to the literature review and analysis of health promotion programmes presented in reliable databases, the following criteria are shown to allow a programme to be considered a good practice: relevance, community participation, stakeholder collaboration, ethical soundness, replicability, effectiveness, efficiency and sustainability. Creation of databases on good practices helps in promoting the sustainability of already implemented activities and enhances their applicability by other organisations and in different settings.

## Discussion

Healthy and active ageing are becoming increasingly important in regional, national and European strategies. The evidence-based benefits of health promotion for older people have recently been the subject of many scientific publications. Gathering and sharing information on good practices in a particular place and settings can become an inspiration, reference or model for other institutions and authorities, a basis for recommendation and a reason to broaden their implementation.

Collecting and analysing different programmes, interventions and actions, then indicating and selecting good practices leads to the creation of databases. Such databases have been initiated and developed on both national and international levels. They are a reliable source of knowledge for inspiring bottom-up initiatives focused on healthy lifestyle for older people. Access to professional databases on such practices addressed to older people is provided by emerging networks of institutions, experts and practitioners. Further activities in dissemination of these practices are recommended.



## A tool of performance analysis and management of Day Care Centres for disabled people

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### Context

Nowadays, performance analysis and management are crucial for all organisations, especially for those in healthcare at a local level: a context constantly evolving and that has struggled to formalise, characterised by complexity, heterogeneity and fragmentation.

Thus, being aware of one's own performance is fundamental, and the implementation of useful tools to support decision-making processes is required in order to improve services offered in healthcare.

However, considering Day Care Centres for disabled people, performance analysis seems to be more difficult, due, first of all, to the type and severity of disability and to the management of the workforce.

### Methods

The present abstract aimed to design a tool of performance analysis and management to be used in the setting of the Day Care Centre for disabled people.

A literature review around the theme of performance analysis and management in the healthcare organizations was conducted.

An analysis of 5 experiences of provision of healthcare services was then conducted at a local, national, and international levels (Lombardy, Veneto, Sardinia, United Kingdom, and Finland). A framework of performance analysis, deriving dimensions and sub-dimensions from the literature was designed and adjusted in the setting of the Day Care Centre for disabled people; specific KPIs for each dimension were also designed. This tool was then tested in seven Day Care Centres for disabled people, referring to an Health Authority in the Lombardy Region.

Finally, data and information related to year 2016 was collected in order to feed the set of above mentioned KPIs.

### Results

The performance analysis tool was composed of two dimensions (outcome and efficiency of health and social activities).

The macro-dimension of the outcome was divided into two sub-dimensions (appropriateness and quality). Appropriateness of the care pathway was evaluated by means of support and improvement in the abilities of the disabled people.

In terms of quality, the following were taken into consideration: the number of educational, rehabilitative and recreational activities offered, the customer satisfaction, and the percentage of absenteeism of the workers.

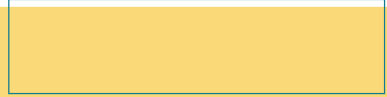
The macro-dimension of efficiency was divided into technical and economic sub-dimensions. In terms of technical efficiency, the standard of care that should be guaranteed to users, opening

times, and the resources saturation were considered. In terms of economic efficiency, the total costs incurred and operating income were considered. All the dimensions, sub-dimensions and indicators were summarised in the following table.

Discussion

As mentioned above, the tool was applied to conduct a performance analysis of seven Day Care Centres for disabled people: the results provided a better understanding of activities, processes, and dynamics of all the involved variables.

Indeed, the tool has the ability to monitor the performances, giving an immediate overview to the decision maker and thus allowing a trade-off between outcome and efficiency. Although the presented tool was designed for the setting of a Day Care Centre for disabled people, it could be adjusted and transferable also to be used for the performance analysis of other organisations that provide health and social care



## Successful nursing-home leadership: congruency &amp; involvement in all layers of the organization

Authors: Dr Carina Pittens <sup>1</sup>; Prof. Dr. Mirella Minkman <sup>2</sup>; MSc Nick Zonneveld <sup>3</sup>; Dr Paulien Vermunt <sup>4</sup>

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'Good' leadership in nursing homes is a crucial precondition for quality care. However, recent studies on 'good' leadership draw attention to the multiple and complex task that leaders in long-term care face. Long-term care is faced with the challenge of offering quality and more person-oriented care – with a limited team of care professionals and sometimes shortage of staff - to elderly with an increasingly complex care demand. Our study focused on gaining insight into appropriate leadership styles with regard to the current developments in long-term care in the Netherlands. Thereby, leadership is not limited to the management team, but involves all layers levels? of the organization.

### Methods

To gain insight into leadership styles, we applied the participatory approach of Reflexive Monitoring in Action (RMA) in three Dutch nursing homes. RMA is a form of action research, specifically aimed at the integration of both monitoring (evaluation) and action.

Data were collected in a 8-month period by applying (in)formal interviews, group discussions and reflection meetings with managers, team leaders, care professionals and client representatives, supplemented with participatory observation and document analyses. All activities were carried out by the different steps of a fixed cycle: (1) observation, (2) analyses, (3) reflection, and (4) activities. As such, learning of all involved is encouraged. Using key concepts on leadership – based on an earlier performed systematic literature review on leadership in nursing homes – and the Levels of Leadership Consciousness (of Barrett) leadership styles were evaluated in three Dutch nursing homes.

### Results

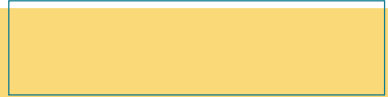
The studied nursing homes all aim for a more client-oriented approach and more (team)responsibility for their care professionals. The accompanied leadership should therefore have a transformational basis with characteristics of coaching, facilitating and taking responsibility of all involved. The extent to which the nursing homes effectuate this mission and leadership varies.

Our study shows that 'good' leadership does not depend on a specific leadership style. 'Good' leadership is about congruence in and involvement of all layers of the organization. And about the changing interplay between 'letting go of management' and taking control & responsibility of care professionals. To realize this 'new' interplay, mutual relationships between all involved are essential, as well as a 'community feeling' wherein all work from the same values. 'Critical' aspects in this interchange concern e.g. the involvement of clients and family (How to?) and (quality) accountability (Who is responsible? How do you inform and be responsive to address each other?).

### Discussion

The results reveal that there is no such thing as one best leadership style. The current long-term care context is complex and dynamic. Every nursing home – even every location and team – faces

its own challenges which requires a customization of actions (in the interplay) of leaders, management and care professionals. The Levels of Consciousness proved to be of added value in the reflection on leadership. It showed that a balanced organization should have both a strong internal fundament (relationships, processes, systems), as well as a value-driven and community-based external focus. The model helps to reflect on the congruency of leadership and situation, and thereby on the developmental steps towards an optimal leadership context. In the presentation we discuss our findings in an interactive way, to invite participants to reflect on their own situation.



## How to improve sustainable long-term care? Outcomes and reflections on a nation-wide improvement program

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### Context

The Dutch Ministry of Health, Welfare and Sports initiated the In voor zorg! Program. It ran from 2009-2017. Its aim was to improve sustainability of the long-term care (LTC) sector, because of expected reduced budgets, shortages of staff and more demands for client-centeredness. Nation-wide communication and knowledge-exchange strategies were set up, with hundreds of meetings and conferences, digital platforms and intense in-kind coaching to LTC providers. The program used available knowledge and facilitated mutual learning among participating organizations. Moreover, it intended to reduce the gap between national policy makers and the 'field' in order to better align policy and practice.

### Methods

The key objective is to study the effectiveness of the design of the program: if and how this national program contributed to systematically improve of the sustainability of LTC.

The effectiveness of the design of the program was studied by qualitative descriptive data (document analyses and interviews) and quantitative program data were analysed to study efficiency gains, quality of care and quality of work. Nine so-called claims were tested, for instance with regard to issues as how in-kind support by a coach provided by the program worked out, what the impact was of the particular contracting model, how the relationship between government and field developed, what happened in participating organizations and whether sustainability improved. Data on participation in the generic elements of the program were collected by program statistics such as digital participation (analyses of web use, use of social media) and attendance of meetings.

### Results

433 organizations received intensive in-kind coaching at professionals', organisational and governance level, often two or three days a week over a period of 1.5 to 2 years. The intended improvements aimed at:

- business/operations management;
- empowerment of professionals;
- technology in care processes;
- inter-organizational collaboration.

The digital knowledge platforms had at the top of the program more than 100,000 visitors a month. The meetings and conferences ranged from small scale intervision groups (<10 participants) to large scale conferences (> 2000 participants).

There were strong indications that in a significant number of participating organisations, overhead costs and other costs decreased, efficiency increased, as well as informal care increased and time for client care.

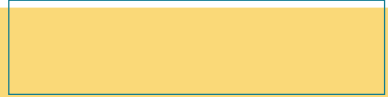
The program’s key in-kind support mechanisms by-and-large worked as intended: contracting mechanisms, providing coaches to the participating organizations, not taking over hierarchical responsibilities, offering support backed up by knowledge managers. Also, the commitment of the Ministry worked out well.

Discussion

One point for discussion is whether the program can be seen as a new policy instrument, in addition to legislation and funding. It indeed adds to a better understanding of policy makers and the field, making the implementation of traditional policy measures more visible to policy actors. However, it requires an atypical attitude of the civil servants involved.

A second point is the sustainability of the outcomes and the lessons learned. Participation is no guarantee for good outcomes over a longer period. Questions arise as: was the program sufficient, did it achieve a tipping point ‘of no return’ and did it contribute to a long-lasting movement? Was the impact sustainable itself?

Further, there were methodological complexities in measuring outcome and impact. As each participating organization had its own specific plan, targets, context and contextual factors over time, it turned out to be very difficult to draw valid cause-effect conclusions.





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## New methodologies for service improvement in a one stop venous clinic

Authors: Ms Carol Allgrove <sup>1</sup>; Mrs Chetna Patel <sup>2</sup>; Ms Helen Pardoe <sup>3</sup>; Mr Jamie Hyde <sup>4</sup>; Mr Jonathan Refson <sup>5</sup>; Ms Julie Matthews <sup>6</sup>; Mr Pranav Somaiya <sup>7</sup>; Mr Robert Ayers <sup>8</sup>

<sup>1,2,3,4,5,6,7,8</sup> *The Princess Alexandra Hospital NHS Trust, Harlow, United Kingdom*

### Context

Varicose vein management pathways traditionally have been lengthy and disjointed, requiring patients to attend the Trust for multiple appointments and lead to a long wait for clinical decision making in patients.

Last year (2016/17) the vascular clinic at PAHT saw 182 varicose veins patients, with around 12 patients per clinic. Approximately 30-40% of the vascular clinic's work is veins. The patients would normally come through Choose and Book, have a scan (currently a 12-16 week wait). The patient would then be seen in a follow up clinic (currently a 4-10 week wait). At this appointment a decision for surgery/discharge would then be taken and where appropriate the surgery is undertaken. The time taken from patient first referred to the completion of the pathway is extremely long, particularly due to the time lags between appointments.

UK healthcare policy means increasing targets against the backdrop of shrinking budgets and resources (a £9m budget decrease for our hospital).

### Objectives

We wanted to improve the pathways for varicose veins, improve patient experience by significantly reducing waits (an average of 168 days for varicose veins), and deliver excellent value for money, implementing a world class service in the face of restrictive budgetary policy.

### Methods

At The Princess Alexandra Hospital NHS Trust (PAHT), UK, we have developed a Volume, Cost and Risk (VCR) model to cross-reference the volume of a service with its risk level and cost, to inform innovation and organisational strategy. This helped confirm the need to innovate in General Surgery.

Using Lean methodology, we process mapped our varicose vein pathway in the hospital and identified the non-value adding steps, then seeking to eliminate or at least reduce them.

Having invested in three state of the art scanners, we are now establishing a one stop venous clinic (OSVC) that allows patients to have an appointment, have a scan and be listed for a procedure all in one visit to the hospital.

### Results

For the OSVC, three surgeons operate the scanners, with potential for 9-12 to use them in the future. Patient waits for a scan have been reduced to almost zero and the service's overall efficiency has been increased. This is the country's first ever one stop venous clinic.

## Discussion

Procedures don't necessarily need to be changed, but efficiency can be improved by streamlining them. Can streamlined one stop clinics and virtual health networks be a new paradigm of patient centred care?

Do we need a more sophisticated, unified methodology to determine best practice? This could form the bedrock of a learning health system that promotes continuous improvement

Can we expand and harness the power of the VCR model not only to evaluate service value, but also create a policy effectiveness engine on an organisational, regional and national level?



## Diversity and dilemmas - managing risk and resilience in dynamic, globalised healthcare organisations

Authors: Assoc Prof Margaret Brunton <sup>1</sup>; Dr Catherine Cook <sup>2</sup>; Dr Leonie Walker <sup>3</sup>; Dr Jill Clendon <sup>4</sup>

<sup>1,2</sup> Massey University, Auckland, New Zealand; <sup>3</sup> Massey University, Manawatu, New Zealand; <sup>4</sup> Ministry of Health, Wellington, New Zealand

This research examines the cross-cultural communication interface between Registered Nurses (RNs) from diverse ethnicities in the Aotearoa-New Zealand (A-NZ) health sector. This study is the first in A-NZ to include voices beyond the sole focus of adaptation experiences of internationally qualified nurses (IQNs). Such studies are valuable, but as with much healthcare research, the voices of others are largely absent - a significant limitation as competent inter-professional communication underpins effective and safe teamwork. A combined thematic analysis and principal components analysis provided findings that underscore the criticality of managers in facilitating a resilient organisational culture in healthcare organisations.

### Methods

The study used an exploratory approach involving a 2-phase mixed-method study over 3 years. The first phase entailed obtaining qualitative feedback from semi-structured interviews with 36 Internationally Qualified Nurses (IQNs) and 17 New Zealand registered nurses (NZRNs). Critical incidents were included to generate insight into the type of events that occurred that were meaningful to respondents. The five primary themes that resulted were used to inform phase 2.

In phase 2, the phase 1 data were used to inform the development of an online questionnaire survey tool to seek responses from a national sample of RNs. The survey was sent to a random sample of 2,500 practitioners on the NZ Nurses' Organisation database. Critical incidents were included and a thematic analysis carried out to help explicate the findings from the principal components analysis of the quantitative data.

### Results

A thematic analysis of the phase 1 data provided insight into a number of paradoxes that are causing very real and tangible challenges for RNs in today's workplace, including polarisation, ethnocentrism, value-based conflict, institutional distancing and loneliness. A secondary focus group with seven respondents affirmed the findings.

A principal components analysis of the resulting phase 2 survey data demonstrated there were three areas that accounted for 57.23% of variance in the sample: teamwork, managers and organisational culture. The qualitative analysis of the CI data illustrated the critical role of managers in creating a resilient organisational culture as they navigated the risks of care-rationing and resource constraints.

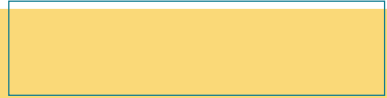
The search by RNs for information and understanding illustrate that with small changes managers can benefit from the willingness of many RNs to engage with change and participate in initiatives to help foster collaborative working relationships.

### Discussion

A time and resource constrained healthcare environment compounded difficulties with communication and practice in diverse teams. A-NZ nurses report struggling with heavy workloads

and the concurrent need to help others adapt to their familiar workplace is in some cases, the final straw. IQNs felt constantly judged as lacking. Disengagement is too high a cost to risk. When culturally-diverse teams are having ongoing difficulties working together, the risk to patient safety is ever-present.

The willingness of managers to both navigate and negotiate situations of conflict and ambiguity among staff is fundamental to creating a resilient culture. However, this emotionally intelligent leadership requires commitment to both self-learning and willingness for managers to challenge the influence of ethnocentric cultural biases. It is not easy within a care-rationed resource-constrained environment of short staffing, time pressures and shift work. However, there is much to be gained.



## Current Status and Effect of Quantitative Classification Management for Small-scale Medical Institutions in China : Taking Shiyan City as an Example

Author: Prof. Shangcheng Zhou

*School of Economics and Management, Guangzhou University of Chinese Medicine, Guangzhou, China, Center of Health Administration and Development Studies, Hubei University of Medicine, Shiyan, China*

### Background

Small-scale medical institutions in China are small and numerous and hard to management. Quantitative classification management mode in food industry has obtained certain achievements, but in the healthcare is still in pilot. This study summarizes the actual practice and effect of quantitative classification management of small-scale medical institutions in Shiyan City and puts forward reasonable suggestions for further implementation.

### Methods

By gathering in recent 7 years of rating data, the author analyzed the variation of 2008-2014 general grade distribution. By means of stratified random sampling, the study used a self-made questionnaire to survey 197 medical institutions leaders and 350 patients. Statistical analysis methods are performed by the frequency distribution statistics and chi-square test and the test level is set to 0.05.

### Results

From the pilot program of Shiyan City, the risk classification changed obviously after quantitative classification management. A grade and B grade showed an increasing trend in the number of units with C-level units decreasing, D-level units significantly stable following decreasing sharply. All aspects of small-scale medical institutions have been effective supervised. There were 97.14% patients who supported quantitative classification management. After 7 years of quantitative and hierarchical management, 70% of small-scale medical institutions have now reached the middle and above levels. But only 7% of their leaders clearly understand the quantitative grading index, only 29% strongly agree with the current quantitative graded index, 54% attach great importance to the grading results and only 44% of small-scale medical institutions are very much aware of their publicity. There is a significance ( $P < 0.05$ ) at the level of awareness of quantitative grading knowledge between the respondents post in the medical institutions and the length of service. At present, there are still many problems in this pilot program: using non-technical personnel for technical work, out of practice area, weak control management system and existing the lease contract phenomenon that prohibited by the law.

### Conclusions

Quantitative classification management for small-scale medical institutions has enhanced institutions' service capacity and quality. In future the government should strengthen the concept of the rule of law and promote practice in accordance with the law and the establishment of the integrated management of HACCP(Hazard Analysis Critical Control Point) and TQM(Total Quality Management) and other measures to speed up the development and improvement of the quantitative classification management system.

**Keywords:** Small-Scale Medical Institutions; Quantitative Classification Management; Pilot Program; Effect; China

## Henry Ford's Lean Vision of a Health assembly line: Can Europe Learn from India's Low-Cost and High-Quality Care?

Authors: Giao Linh Vu Thi

*Mentalmed, Cologne, Germany*

Hospital care remains to be the "cost driver" for health expenditures in Europe.<sup>1</sup> Efforts are being made to search for innovative care delivery models that lower costs, improve quality, and increase access to services. A unique approach developed by Devi Shetty, the so-called "Henry Ford of health care" because of his persistent focus on process improvement, efficiency, high-quality, affordable, easily accessible and profitable healthcare for all transformed India. By applying Henry Ford's principles of mass production and lean production to healthcare delivery, India may have discovered the best way to cut costs while still delivering high quality in healthcare. Even with this common aim to improve healthcare- European Countries and India could not be more dissimilar: In culture, historical and demography.

The purpose of this paper is to discuss if Lean-Thinking of Henry Ford in India can be applied to European health systems?

### Keywords

Management engineering, innovation management, health assembly line, lean management, constraints, low-cost healthcare, efficiency, Indian health system

### Background

In November 2017 The Commonwealth Fund published a Case Study of the Indian approach: combining innovative technology and highly efficient delivery system and being able to optimize productivity and minimize costs- described as best-known examples of a health system for low-cost and high-quality care. The success is achieved through the adoption of Lean Thinking: leveraging economies of scale, assembly line concepts, reducing the average length of stay, re-engineering the design, materials, and use of medical equipment.<sup>1</sup>

### Challenges

#### Quantity and quality

Scale, standardization, technology, more efficient use of staff, this assembly line- approach in health will be challenging and create tension between production of healthcare and patient-protection<sup>2</sup> Adopted lean visions can help healthcare organizations improve processes and outcomes and counter a shortage of high-skilled people: With high volume drives costs will reduce and bring better quality outcomes, splintering of professional practice: members work at the top of their scope of practice can increase satisfaction among patients, providers and staff, but vice versa this health assembly line can lead to harm: burnout, dissatisfaction, intention, worsening of therapeutic-patient relationship.<sup>3</sup>

#### Costs

Costs threatened to hinder the success of the application of the model. Local work culture, supply chain logistics and higher operational costs differ between Indian and other health systems.

Towards a lean-model alternative payment model are necessary and taking into account the staff morale.<sup>4</sup>

### Demography

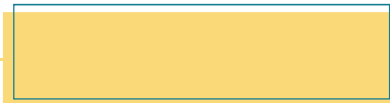
India's population (1.3 billion) can apply Lean-models to cutting costs with high volume drives. With a population of 741.4 million, Europe will face a problem of sufficient patient volume to achieve efficiencies.<sup>2</sup>

### Conclusions

High costs, shortage of workers and a lack of affordable, accessible healthcare can be countered with the help of lean-thinking. European payers and providers could learn from the Indian approach to substantially reducing costs without sacrificing quality. At the same time, there are considerations in work culture, costs and demography to be taken into account if this model is applied successfully in European health systems.

### References

1. Eurostat. "Health care expenditure by provider", Time 24 Jan. 2018. Web. [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hlth\\_sha11\\_hp&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hlth_sha11_hp&lang=en). . Eurostat. 23 February 2018.
2. Taylor, E. Escobar, K. Udayakumar, "CASE STUDY. Frugal innovations in healthcare delivery. Expanding Access to Low-Cost, High-Quality Tertiary Care: Spreading the Narayana Health Model Beyond India", Time Nov. 2017. Web. [http://www.commonwealthfund.org/~media/files/publications/case-study/2017/nov/taylor\\_expanding\\_lowcost\\_highquality\\_model\\_narayana\\_cs.pdf](http://www.commonwealthfund.org/~media/files/publications/case-study/2017/nov/taylor_expanding_lowcost_highquality_model_narayana_cs.pdf). 23 February 2018.
3. S. Winch, A.J. Henderson, "Making cars and making health care: a critical review", MJA Volume 191 Number 1; 28-29, Australia, 2009.
4. Institute for Healthcare Improvement. Going lean in health care. IHI Innovation Series white paper. Cambridge, Mass: IHI, 2005:3.
5. T. Joosten, I. Bongers, R. Janssen, "Application of lean thinking to health care: issues and observations", International Journal for Quality in Health Care, Tilburg, The Netherlands, 2009.



## A Care Model for People Affected by Cancer: combining Lean Principles with People Centred-Care

Authors: Isabel Aragoa<sup>1</sup>; Maria Inês Abreu <sup>2</sup>; Sandra Melo <sup>3</sup>; Sara Torcato Parreira <sup>4</sup>; Sónia Santos <sup>5</sup>

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Lean principles and practices are being integrated in the healthcare settings few years from now. Healthcare institutions are seeking for better results and quality, better patient outcomes, minimal waste and lower costs, in order to maintain a sustainable healthcare system. In Hospital CUF Infante Santo, Portugal, lean principles are being adapted to the oncology setting along with people centred-care.

The number of people affected by cancer (PABC) is rising, so hospitals need to restructure their cancer units, to deliver effective and timely resources, minimizing patient needs and improving their outcomes. Also, the cost of cancer therapies is increasing, so cancer units/centres need to find new ways of balancing their budgets.

Hospital CUF Infante Santo created a care model for PABC, which combines lean principles along with people centre-care, where an Oncologist Nurse Specialist (ONS) is coordinating patient flow, from the moment of diagnosis to survivorship or end-of-life.

The aim of this model is to deliver individualized high quality care to PABC (and relatives) according to their current (and possible future) needs, assuring safety, ethical, efficient and continuous care.

This Oncology Nurse Specialist is responsible to follow-up the patient, from the moment of diagnosis until survivorship ou palliative care, through a process that is organized to deliver a seamless experience of health care. ONS must deliver high quality care based on what matters to the patient. ONS is a direct contact for PABC and other health professionals. ONS presence in multidisciplinary meetings is fundamental, as he/she advocates for the patient. ONS must also be responsible to coordinate the care that is provided to the patient, assuring its continuity and effectiveness (by, for example, acting as a facilitator to schedule appointments and exams for the same day: "one-stop", or as a reference to other health professionals when the patient is in another care setting).

Another feature of this ONS is the collection of PABC indicators. Several Patient Reported Experience Measures (PREM's) are being defined for this model, as well as Patient Reported Outcomes Measures (PROM's), some based on ICHOM.

Hospital CUF Infante Santo is the pioneer on the use of this model in Portugal, which hopefully will change patient management and cancer care, as soon as we see the first results from revenues, PREM's and PROM's.

## Improving the efficiency and quality of care by establishing a virtual hernia clinic

Authors: Ms Carol Allgrove <sup>1</sup>; Ms Helen Pardoe <sup>2</sup>; Mr Jamie Hyde <sup>3</sup>; Mr Jonathan Refson <sup>4</sup>; Mr Pranav Somaiya <sup>5</sup>

<sup>1,2,3,4,5</sup> *The Princess Alexandra Hospital NHS Trust, Harlow, United Kingdom*

### Context

Inguinal hernia management represents a large proportion of general surgical referrals to hospitals. However existing systems are significantly non-uniform and patient care is often delayed due to multiple hospital attendances. There is a significant burden places on resources such as clinics and patients are put at risk by the lack of clarity in identifying the at risk patients early. Waiting times were long, uncomfortable and increased patient risk.

UK healthcare policy means increasing targets against the backdrop of shrinking budgets and resources (a £9m budget decrease for our hospital).

### Objectives

We wanted to improve the pathways for inguinal hernias, improve patient experience by avoiding unnecessary appointments, and deliver better value for money, implementing a world class service in the face of restrictive budgetary policy.

### Methods

At The Princess Alexandra Hospital, UK, we developed a Volume, Cost and Risk (VCR) model to cross-reference the volume of a service with its risk level and cost, to inform innovation and organisational strategy. This helped confirm the need to innovate in General Surgery.

Using Lean methodology, we process mapped our hernia pathways in the hospital and identified the non-value adding steps, then seeking to eliminate or at least reduce them.

We have moved towards a virtual healthcare network by creating a virtual hernia clinic (VHC) where patients have assessments by phone, reducing the number of clinic appointments needed for decision making.

### Results

The VHC means that 55% of patients only need to come into hospital once for their procedure (compared to many appointments before), 36% do not need to come in at all (unless they choose to) and 9% come in for a clinic and a scan. Under the existing systems all patients would have needed to come in at least twice before. Patient choice is enhanced and waiting times have decreased; we have also lowered health inequities by making the service more easily accessible to all

### Discussion

Procedures don't necessarily need to be changed, but efficiency can be improved by streamlining them. Can streamlined virtual health networks be a new paradigm of patient centred care?

Do we need a more sophisticated, unified methodology to determine best practice? This could form the bedrock of a learning health system that promotes continuous improvement.

Can we expand and harness the power of the VCR model not only to evaluate service value, but also create a policy effectiveness engine on an organisational, regional and national level?



## Tariff Optimisation in delivering patient care: Can we do better?

Authors: Mr Carl Grayson <sup>1</sup>; Mrs Chetna Patel <sup>2</sup>; Mr Pranav Somaiya <sup>3</sup>; Mr Robert Ayers <sup>4</sup>

<sup>1,2,3,4</sup> *The Princess Alexandra Hospital NHS Trust, Harlow, United Kingdom*

### Context

The issue of payment of appropriate tariff for patient care in hospital is a long standing problem. In addition to coding for inpatient and outpatient care, coding for co-morbidities and MDTs present a substantial opportunity to aid revenue recovery. With the start of our flagship One Stop Venous Clinics (OSVC) and the additional tariff income for high cost consumables such as RadioFrequencyAblation (RFA) fibres usage, appropriate coding is essential for correct revenue recovery.

UK healthcare policy means increasing targets against the backdrop of shrinking budgets and resources (a £9m budget decrease for our hospital).

### Objectives

Ultimately, we want to deliver optimum patient experience whilst delivering excellent value for money, implementing a world class service in the face of restrictive budgetary policy.

### Methods

At The Princess Alexandra Hospital, UK, we developed a Volume, Cost and Risk (VCR) model to cross-reference the volume of a service with its risk level and cost, to inform innovation and organisational strategy. This helped to inform where there were opportunities to realise efficiencies in delivering care to our local population.

We used existing pathways to begin exploring the challenges of tariff optimisation and have identified areas where best practices can be developed and used to deliver efficiencies in other key areas.

### Results

With the start of the one stop venous clinic (OSVC), we have been able to successfully scan patients in clinic at a greater number than was originally predicted.

Historically we have operated on varicose vein patients using laser treatment. We changed this to RFA (Radio frequency ablation). The tariff is the same for either procedure; however using RFA we have been able recoup the consumable cost under the NHS High Cost Consumable Tariff scheme.

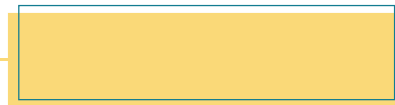
We have realised the income for vascular MDT discussions and are now receiving the appropriate tariff payments.

More broadly we have focussed on improving our capturing and coding of procedures, including co-morbidities, which will lead to maximum potential income, to ensure that we have optimised the tariff opportunities.

## Discussion

Procedures don't necessarily need to be changed, but efficiency can be improved by realising tariff optimisation. Can investing in coding and information be the way forward to realise efficient delivery of care?

Can we expand and harness the power of the VCR model not only to evaluate service value, but also create a policy effectiveness engine on an organisational, regional and national level?



# What is known of Unplanned Re-Operations after Surgical Procedures in a Large University Hospital

Authors: Ms Irma Jousela <sup>1</sup>; Ms Kati Koskinen <sup>2</sup>

<sup>1,2</sup> *Helsinki University Hospital, Helsinki, Finland, University of Eastern Finland, Kuopio, Finland*

## Context

Little is known about the amounts and resources demanded for unplanned re-operations in surgical procedures in real life settings. Operation room (OR) is the one of the most costly units in the hospital, and operative activity needs to be well organized to control the costs. Unplanned re-operations mean added work, usually outside office hours - and more costs. Routinely collected data derived from observational studies or registries can provide new insights beyond those addressed by randomized controlled trials.

## Methods & materials

Operative and administrative data on consecutive unselected elective and emergency operations performed in a large university hospital during 2014 were filtered from the centralized hospital database. Data is collected routinely to a patient data management system. Personal identity code for each patient is registered on the database, and we identified patients with more than one procedure performed during year 2014 and January 2015.

Data was reviewed by an experienced anesthesiologist. Procedures were classified as primary operations, planned re-operations or unplanned re-operations. Unplanned re-operation within 30 days from the primary operation were included in the study. Operations within 30 days not connected to the primary operation were not included in the category unplanned re-operation but were included in the study.

Incidence for unplanned re-operations was calculated for each surgical specialty. Operation room time used for these unplanned re-operations was also calculated.

Eye surgery patients were excluded from our study.

## Results

A total of 84364 procedures, both elective and emergency were performed in operation rooms during 2014. Out of those, 2706 (3,2%) were followed by at least one unplanned re-operation within 30 days. Results varied between specialties from 0,79% to 9,19%.

Five specialties with greatest number of incidence of re-operations after surgery were traumatology (n=323), plastic surgery (n=320), gastroenterology (n=316), vascular surgery (n=305) and neurosurgery (n=246).

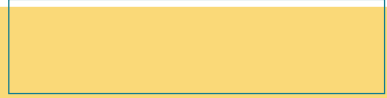
Costs of the operating room time used for re-operations were calculated. Cost of one operation room minute in 2014 was estimated to be 20€ including all costs. Operation room time used for treating re-operations was 8742 hours (524521 minutes) in 2014, which means 10,49 million euros. More detailed results from resources used for re-operations are to be reported in a final paper.

## Discussion

Unplanned re-operation incidence is known only in selective study material, where the patients with more problems or multi-diseases have usually been excluded. The operative department managers do not know how big a portion of the primary operations lead to a complication which needs

unplanned re-operation within 30 days in the everyday unselected patient material. Neither is known how much variation there is between the surgical specialties.

When organizing the OR activities, it is necessary to know the amount of unplanned reoperations and how much OR time for those could be expected and thus needs to be planned for each surgical specialty. This also means being prepared for additional costs. Knowing the amount of unplanned re-operations gives a tool to follow the quality, especially when repeated regularly. It also helps future planning when the case mix or number of operations or there are other changes like planning for new departments.



## Implementing an antibiotic stewardship information system to improve prevention and control of antibiotic resistant infections

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<sup>1,2</sup> *Global Health and Tropical Medicine, Lisbon, Portugal*

### Context

The global health capacity to sustainably tackle infectious diseases is at risk, by the rising of antibiotic resistance. Healthcare-associated Infections (HAI) caused by antibiotic-resistant pathogens are an important cause of morbidity and mortality. It impacts populations, weakening their health, socially and economically.

To prevent and control it, strategies such as surveillance, antibiotic stewardship programs, and decision-support information systems (IS) development, allow the professionals to be at the forefront of action.

Aiming at decreasing antibiotic-resistant HAI, HAITool system was designed and implemented in three different Portuguese hospitals, and is now starting to be applied to low-resources' settings, in Cape Verde hospitals.

### Methods

HAITool, a surveillance and decision-support open-sourced IS, information system was co-designed and implemented, within the Design Science Research Methodology (DSRM framework) for a teamwork-based intervention.

The aim was to solve organizational problems by creating and evaluating the information system. The study has been conducted in three Portuguese Hospitals. The DSRM establishes the base of a process with six sequential main steps. Full participation was ensured, counting in each case, on the close collaboration of researchers and a multidisciplinary team of healthcare professionals.

Several interviews and surveys have been performed, in addition to the process observation and intervention, under the principles of Österle for abstraction, originality, justification and benefit.

### Results

HAITool enables effective antibiotic use and antibiotic resistance monitoring. The initial survey participants gave major relevance to the need for better access to hospital antibiotic susceptibility patterns and epidemiological data.

Aligned with the objectives of the National Program for Prevention and Control of Infections and Antimicrobial Resistance, in Portugal, soon it could provide the HAI's information management for the involved hospitals, with implemented evidence-based practices and teamwork techniques.

HAITool includes integrated views of patients, microbiology and pharmacy data, displayed in innovative layouts, with alerts and reminders.

Each hospital system was co-designed with healthcare professionals (HP), in order to come up with an effective surveillance and decision support system, well-adapted to Portuguese and local socio-cultural context.

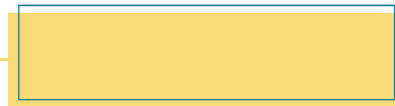
It provides to clinicians an effective antibiotic prescription decision-supporting system, strengthening the patient safety procedures.

HAITool information system is now starting implementation in Cape Verde main hospitals.

### Discussion

HAITool enables effective monitoring of antibiotic resistance and antibiotic use, and helps antibiotic prescription, strengthening the HP work capacity. The close collaboration with clinicians, the Infection and Prevention Control Team, physicians, nurses, pharmacists, microbiologists and information system' technicians, under a participative approach, was the baseline for a successful implementation and key-factor for success. Pharmaceutical, microbiological, and clinical data, were integrated within one main system, offering all the participants the possibility of giving their inputs and participate actively throughout the process, on the behalf of patient's security and work quality improvement. However, leadership commitment and team engagement is crucial to the process health and continuity. Participant's motivation and the final product delivery and evolution depends on that.

When overcoming the barriers and after all the collaborative process, HAITool turns to be unquestionably an important step forward to reduce antibiotic misuse and to control and prevent antibiotic-resistant HAI.



## Process improvement in a Hospital Outpatient Clinic using Lean

Authors: Mrs Ana Rocha <sup>1</sup>; Mrs Celeste Silva <sup>2</sup>; Mrs Raquel Rodrigues <sup>3</sup>; Mr Rui Cortes <sup>4</sup>

<sup>1,3,4</sup> *Lean Health Portugal, Lisbon, Portugal*; <sup>2</sup> *Hospital Garcia de Orta, Alm, Portugal*

### Context

Hospital Garcia da Orta is a hospital near Lisbon, with 545 beds. Yearly 297 448 appointments are realized.

For a medical appointment with 15 minutes patients could stay until 4 hours in the hospital and the process are not standardized between medical specialties. Besides the waiting for admission, after the appointment the patient has the responsibility of delivering the X-Ray and clinical analysis requisition to several departments.

### Methods

We started our approach with a “gemba walk” observational study in several different week days, to understand how the admission to medical consultation was made. We used the IT tool “Gestor de Atendimento (Attendance Management)” in order to measure both maximum and average time of waiting for the two major patient care flows: admission consultation and the booking of complementary means of diagnosis.

Then, we designed patient, documentation and IT flows to help identify waste and look for improvement opportunities. After this, a Process Mapping was co-designed by the multidisciplinary team, staff from front and back consultation office, nurses, physician and consultation managers. With all this data, we identified several wastes such as time and transport.

Afterwards, as a result of team work, the principal improvements to implement were mapped. The longest waiting time was post-consultation, during which time the patient had to return to the external consultation office in order to schedule further X-Ray and clinical analysis. A measure was implemented, removing the patient as the carrier of simple exam requests, with the aim of reducing the post-consultation flow of patients. On the other side, the processing time for booking these exams was also reduced.

The next step was to implement the Lean tool PDSA (Plan Do Study and Act).

### Objectives

The board management team define as one of the key strategic areas for improvement, mainly linked with the time the patient spends in the hospital, but also other issues that could be identify during the improvement process.

### Results

A decrease was obtained in admittance’s maximum waiting time, in the post-consultation’s maximum and average waiting time, as well as in the flow of patients returning to admission for further exam scheduling. The maximum admission’s flux waiting time decreased from 62 minutes to 32 minutes and the after appointment flux from 170 minutes to 58 minutes. The processing time for X-ray and clinical analysis booking was reduced thanks to a greater reliance on back office work

as opposed to waiting for the patient's presence to conclude the task. The processing time for this task decreased from a median of 3.07 minutes to 1.30 minutes.

An improvement was gained as far as attendance times were concerned, due to the implementation of the following indicator: "no more than 30 patients waiting". The communication flow between different teams with responsibilities throughout the external consultation admittance process was also greatly improved. The number of returning patients for X-ray and blood sampling scheduling (exams without preparation) was also reduced.



## Valuable Governance? How the Notion of Public Value Helps Policy Makers, Practitioners and Evaluators to Make Sense of a Policy Experiment in Dutch Healthcare

Authors: Dr. Jeroen Postma <sup>1</sup>; Prof. Dr. Roland Bal <sup>2</sup>

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### Context

Over the last decades, the concept of public value has become a powerful frame of reference for both (semi-)public managers and policy scientists. However, the definition and operationalization of 'public value' remains contested, particularly in healthcare where outcomes are hard to measure.

Here, we present the development of a public value framework for the evaluation of a policy experiment in Dutch healthcare, called TopCare. In the experiment, three non-academic hospitals have received funds from the Ministry of Health to provide highly specialized care and to conduct medical research that is not reimbursed in the regular system. We were asked by the Ministry to evaluate the program.

In developing the framework, we applied an iterative approach, switching back and forth between ideas of stakeholders in the TopCare program and literature on public value. We did observations in the three hospitals, conducted interviews with policy makers and organizational stakeholders and analyzed documents. This joint process of sense making by us as evaluators and the involved actors as 'subjects' of the evaluation eventually led to the public value framework.

The framework consists of six dimensions: (1) complexity of patients, (2) medical research, (3) quality of care and life, (4) knowledge dissemination, (5) innovation culture and infrastructure and (6) resource allocation. Each component is operationalized in a number of indicators, drawing both on quantitative and qualitative data. The diversity of the framework, with a large number of indicators, fits both the complexity of the concept of public value as well as that of the TopCare program.

Although it has several shortcomings, the framework is feasible, legitimate and fits the purposes of hospital managers, doctors, medical researchers, policy makers and us as evaluators of TopCare. The framework helps the involved actors to govern the different projects and to attach value to different activities. The development of the framework can therefore be seen as a valuation practice in which stakeholders and evaluators jointly make sense of and attribute value to the different facets of the program.



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## Co-production in healthcare services: the evaluation of economic and organizational impacts

Authors: Prof. Chiara Guglielmetti <sup>1</sup>; Dr. Floriana Fusco <sup>2</sup>; Prof. Maddalena Sorrentino <sup>3</sup>; Prof. Marta Marsilio <sup>4</sup>; Prof. Silvia Gilardi <sup>5</sup>

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In times of increasing population aging, higher incidence of chronic diseases and higher expectations regarding public service provision, healthcare services are under increasing strain to cut costs while keeping quality. In this context, debates on the importance of promoting systems of co-produced health between stakeholders have gained considerable traction both in the literature and in policy debates of the public sector. (Gilardi et al. 2016; European Commission 2010; UK Department of Health 2006) The implementation of co-production in healthcare provision is not only spreading rapidly but also being increasingly appraised as a more sustainable model for the future. Despite this widespread acceptance, minimal consensus exists, however, on the mechanisms for evaluating the actual impacts of the implementation of co-production in healthcare provision. More specifically, little has been produced on how the results of these changing structures, practices and goals in healthcare management and provision can be monitored and evaluated. Aiming at the reduction of this gap, this article proposes a discussion on the challenges and limitations of assessing co-production's impacts going beyond more traditionally used clinical criteria (that currently dominate evaluation activities in the field) towards analyses that take into consideration broader organizational and economic aspects of co-production activities. Finally, the article sketches the initial contours of an original and alternative evaluation model which highlights the importance of organizational and economic aspects for the effective implementation of co-production in healthcare.

#### References

European Commission (2010). Europe 2020: a Strategy for Smart Sustainable and Inclusive Growth. Brussels.

Gilardi, S., Guglielmetti, C., Marsilio, M., & Sorrentino, M. (2016). Co-production in Healthcare: Moving Patient Engagement Towards a Managerial Approach. In M. Fugini; E. Bracci; M. Sicilia (Eds.), *Co-production in the Public Sector: Experiences and Challenges* (pp. 77–95). Springer, Cham

UK Department of Health. (2006). *Our health, our care, our say: a new direction for community services*. Norwich.

## Developing a participatory quality improvement method for assisted living services

Authors: Dr. Hester van de Bovenkamp <sup>1</sup>; MSc. Marjolijn Heerings <sup>2</sup>; Prof. Dr. Roland Bal <sup>3</sup>

<sup>1,2,3</sup> *Erasmus School of Health Policy & Management, Rotterdam, Netherlands*

### Context

Assisted living services for people with severe mental illness, intellectual disabilities or the elderly move towards organizing their care within the community. This increases the complexity of the care relationship as providers have to foster self-determination and an independent lifestyle for service users on the one hand and care for these often-vulnerable individuals on the other (Hogberg, Magnusson & Lutzen, 2006; Jakobsen & Severinsson, 2006; Linz & Sturm 2016; Petersen, Hounsgaard, Borg & Nielsen, 2012). Professionals, service users and family members in this context face dilemmas between different views on what is 'good care'. For example, providers give service users more responsibilities regarding room cleaning, while family members experience the increased messiness as negligence. Quality improvement work in assisted living services becomes more complex when 'good care' is not straightforward.

### Method

Quality improvement work in assisted living services (ALS) should thus start with dialogue on what is 'good care' before co-designing quality improvement actions. Experience based co-design (EBCD) (Bate & Robert, 2006) seems a good quality improvement method for this purpose as it combines storytelling with co-designing care. In the current project we develop a participatory quality improvement method based on EBCD for the context of ALS, focusing on dilemmas in the care relationship. Firstly, a literature review is conducted to gain insight into the dilemmas in the care relationship in ALS. Secondly, the full EBCD process is implemented in a care unit for people with serious mental illness. Lessons learned concerning adaptation to the complex care relationship; service users' needs in order to be involved in the EBCD process and acceleration of the EBCD process will be incrementally applied in two other EBCD processes in ALS for people with intellectual disabilities and elderly.

### Results

To develop the participatory quality improvement method for assisted living services we have made three changes to the EBCD process. Firstly, EBCD was adjusted in order to put the dilemmas in the care relationship central. Secondly, the method was adopted to a more vulnerable population of service users' needs in order to be involved in the EBCD process. For instance in terms of cognitive abilities when it comes to service users with intellectual disabilities or elderly. Furthermore to their specific symptoms, for instance some people with serious mental illness did not want to be videotaped due to psychotic experiences. Lastly, EBCD is quite a time intensive process which we accelerated in order to be more widely implemented. The adjustments proposed comprise involving experts by experience to engage service users with serious mental illness and making short video's on central dilemmas together with a community theater group as a substitute for the documentary film in EBCD.

## Discussion

Preliminary results indicate that a participatory quality improvement method based on Experience Based Co-Design is fit for quality improvement work in complex care relationship in assisted living services. The EBCD process can be adjusted to the needs of a more vulnerable population of service users and accelerated by making short videos with a community theater group about the experiences of service users, providers and family members. In this way, we can start the EBCD process right at the dialogues about the dilemmas in the care relationship.



## Patient satisfaction in public hospitals: a secondary data analysis from Romania.

Authors: Ștefan Strilciuc <sup>1</sup>; Ștefan Voinea <sup>2</sup>; Vlad Mixich <sup>3</sup>

<sup>1</sup>Department of Public Health, Babes-Bolyai University, Cluj-Napoca, Romania, Romanian Health Observatory, Bucharest, Romania; <sup>2,3</sup> Romanian Health Observatory, Bucharest, Romania.

### Context

Patient satisfaction is a core indicator for quality of care and hospital performance. Until recently, the mechanism for patient feedback in Romania was based on printed questionnaires collected during hospital admissions that were manually centralized by hospital staff. The latest results showed implausible 97.5% patient satisfaction rates. In 2016, the Ministry of Health introduced an automatic anonymous collection system based on text messages and web forms. We analyzed the results of this methodology shift in the attempt to understand patient experiences in Romanian public hospitals, evaluate the efficacy of the new feedback mechanism and provide recommendations for its improvement.

### Methods

We conducted a secondary data analysis based on data published by the Ministry of Health in Romania. The data was collected via patient contact information uploaded by medical staff into the national integrated information system. Patients were prompted to respond via text message to a 9-question survey about their hospital experience. Respondents either replied to the text message free of charge or were directed to a web form. The system automatically sent the satisfaction assessment questionnaire after the patient was discharged. We analyzed data between December 2016 and January 2018. We calculated descriptive statistics for each question and subsequently generated institutional rankings. Cochran's formula for sample size was used to exclude from analysis hospitals that did not have enough responses. We finally formulated methodological recommendations to improve the feedback process based on study results.

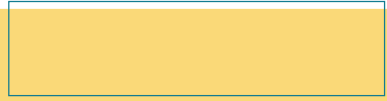
### Results

A total of 122,423 questionnaires were collected over the specified time period. This represents approximately 3% of total public hospital discharges in Romania. More than one fifth of hospitalized patients were unhappy or very unhappy with hospital cleanliness. 8 out of 10 patients were satisfied or very satisfied with the work and involvement of the medical doctor. Over 21% of hospitalized patients were forced to make out-of-pocket payments for drugs or other sanitary materials. A total of 4,798 patients were asked for informal payments by medical staff (3.92%). A staggering 21% of hospitals have no patient satisfaction data. Compared to the previous collection mechanism, there was an 18% decrease in the overall satisfaction rate (from 97.5% to 79.8%).

### Discussion

The first year of implementation shows promising results. Nevertheless, the process does not provide an overview of the entire medical system in Romania. First, it is not promoted in public hospitals and at population level. In order to reach a higher level of utilization, an awareness-raising campaign is needed. Second, the system itself presents limitations. Results are published in a closed and unfriendly format, hence violating the Romanian Government's open data guidelines. In September 2017 no text messages were sent to patients due to technical difficulties. An important barrier to successful implementation is the limited upload of patient contact information in the

system by medical staff. To address the issue, we propose adding accountability for entering patient contact data for at least 50% of discharged patients. We finally recommend a public debate with stakeholders to discuss incentives for high-compliance hospitals and the extension of the mechanism to primary care.



## Improving quality and safety of hospital care through a national participatory assessment program

Authors: Phd Barbara Labella <sup>1</sup>; Mrs Flavia Cardinali <sup>2</sup>; Dr Giovanni Caracci <sup>3</sup>; Mrs Giorgia Duranti <sup>4</sup>; Mrs Vanda Raho <sup>5</sup>; Mrs Sara Carzaniga <sup>6</sup>

<sup>1,2,3,4,5,6</sup> Agenas, Rome, Italy

### Context

As illustrated in the Abstract presented at the 2017 EHMA International Conference, the Italian National Agency for Regional Health Services (Agenas) has developed and tested a checklist for the participatory assessment of safety in hospitals in the frame of a pilot research project carried out in 2015. The validated checklist is part of a toolkit currently in use within a national program based on participatory methodology aimed at assessing and improving patient-centeredness and safety in hospitals. Data collected about safety are used within a national framework for monitoring and evaluation of patient safety

### Methods

The program to improve quality and safety in hospitals, coordinated at central level by Agenas and carried out in cooperation with the Active Citizenship Network and Italian Regions and Autonomous Provinces was launched in February 2016 (currently underway). The innovative methodology used is multilevel (based on the involvement of national, regional and local institutions and working groups) and based on participation and sharing with all stakeholders (Institutions, professionals, citizens). The two checklists (the one focused on patient centeredness and the optional one, focused on safety) are filled in by local équipes composed of representatives of citizens/patients and professionals during a site visit. Data collected are transmitted to Agenas and the results of the assessment are sent back to the Regions/APs, organizations and équipes, who analyze them and agree on strategies for local public dissemination.

### Results

More than 542 citizens were properly trained on the patient safety issues selected for the participatory assessment and on the use of the checklist. In this phase the role of the hospital clinical risk manager resulted to be essential to ensure the relevant documentation was made available and citizens members of the local équipe were adequately trained.

By February 2018 407 hospitals have participated in the national participatory assessment program; out of these 382 hospitals (93%) have voluntarily completed the checklist on patient safety. The critical issues emerged will be addressed in local safety improvement plans defined and monitored by citizens/patients representatives in cooperation with the hospital professionals and managers.

### Conclusions

The above described participatory program is aimed at engaging citizens in a structured nationwide systematic and periodic assessment of the degree of patient centeredness and safety in all Italian hospitals.

The Data collected through the patient safety checklist will be included in the data set used for monitoring and evaluation of patient safety by the National Observatory of Good Practices in healthcare whose setting up has been established by a national law. In 2017 a new version of the check-list for the participatory evaluation of patient safety in nursing homes was developed and tested in the framework of an innovative pilot research project and in consideration of the promising results, a large scale implementation project is currently being developed.

## Stakeholder Involvement in Health Technology Assessment: The EUnetHTA experience

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### What is EUnetHTA and why stakeholders?

The European Network for Health Technology Assessment (EUnetHTA) started in 2006. Currently in its third Joint Action, it is now a collaboration between 82 partners in 29 countries seeking to create a sustainable network on Health Technology Assessment (HTA) in Europe.

Stakeholder collaboration has always been a part of EUnetHTA. One of the founding principles of the European Cooperation on HTA, besides transparency, objectivity, and independence or fairness of procedure, is the appropriate involvement of stakeholders.

EUnetHTA involves the following stakeholders: regulators, payers and decision makers, patients and consumers, healthcare providers, manufacturers, research and academia and other HTA bodies that are non EUnetHTA partners.

Stakeholder involvement policies are currently being evaluated in EUnetHTA in order to deliver proposals for enhancing involvement. This study is communicating results of an analysis of the EUnetHTA involvement modes and practices.

### How is EUnetHTA involving Stakeholders?

The modes of stakeholder collaboration are project specific collaboration (consultation in deliverables, participation in assessments or early dialogues) and horizontal activities including participation in the EUnetHTA Forum – a space for networking, scientific discussions and exchange of experiences. Other collaborations include provision of technical knowledge, development of guidelines and internal evaluation.

EUnetHTA has produced twenty Rapid Relative Effectiveness Assessments (REA) and eight Full Assessments.

In the case of REA, 9 on Pharmaceuticals (Ph) and 11 on Other Technologies (OT)-, the major stakeholder contributions were in developing the project plan and reviewing the draft assessment. Manufacturers participated in all REA in both. Healthcare providers participated in all REA of OT, and in 2 of the 9 pharmaceutical REA. The involvement of patients has increased over the years, with involvement in 60% in the OT REA and almost 67% in Ph REA. Payers and regulators are the less involved in the processes.

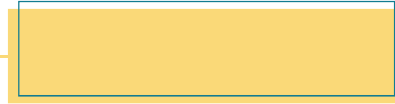
In the case of Full Assessments, 6 were about OT and 2 about Ph. The stakeholder involvement varied depending on the type of information assessed.

### Future

Stakeholders provide an insight for EUnetHTA on issues that are not accounted for by scientific analysis including patient perspective, regulations, organizational information, as well as ethical aspects contributing to the actions or aims of HTA organizations, projects or policy direction.

EUnetHTA has grown from its experiences in involving stakeholders and the contribution to HTA that stakeholders provide.

A guide for facilitating stakeholder involvement is being developed, as well as several working groups to enhance stakeholder participation. A registry of stakeholders and refinements to platforms for the exchange of information and collaboration are also in progress. Active contact with stakeholders is being pursued, to intensify future interaction and cooperation, and to enable their involvement in building a sustainable European HTA collaboration.



## Experiencing dependency: an auto-ethnographic study

Author: Prof. Henk Nies

*Vilans, Centre of Expertise for Long-term Care, Utrecht, Netherlands, Vrije Universiteit Amsterdam, Amsterdam, Netherlands.*

### Introduction

Dignified and respectful care for dependent older people is high on many policy agendas and is seen as a key value of civilized societies. However, it is still not self-evident in professional care settings. Many theoretical and empirical publications exist, as well as 'how to'-publications. But do we really understand dependency? Being involved in elderly care an acknowledged 'expert' for many years, I still felt not being able to fully grasp the issue. Therefore, I had myself admitted in a nursing home for 72 hours. My experiences led to new views on dependency and dignity.

### Methods

I carried out an auto-ethnographic experiment to systematically explore my experience of dignity and respect in dependency. Auto-ethnography opens the opportunity to display multiple layers of consciousness, connecting the personal to the cultural, placing the self in a social context. According to several authors, it brings life to research and research to life. It challenges the scientific principles of validity, reliability and objectivity.

During my stay, I took the position of being wheelchair ridden for two days and for one day I was bedridden, receiving full personal support and care. I took field notes on 31 occasions, with intervals of approximately 2 hours, except for the nights when I slept. The notes described what had happened, my experiences and my instant reflections. The notes were analysed afterwards by clustering related passages into themes. Three weeks after my stay I shared my experiences with the staff and reflected with them.

### Results

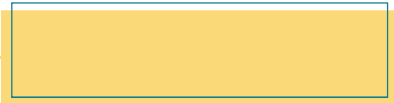
My analysis related to four main themes: autonomy, relations and being valued, respect and self-respect and being myself. These themes related to the aforementioned theoretical and empirical notions. The findings added extra 'colouring'. The experience gave me and staff more understanding of what dependency actually means: what the meaning is of older people holding on to routines and predictability; that autonomy, independence and being self-reliant are easily overvalued in the current debate on care for older people, and so on. My personal ideas and preferences of receiving and valuing care and staying independent changed. Furthermore, my ideas about the professional skills changed on some respects. Self-disclosure and reciprocity appeared to be important to me, more than the professional level as such. It was worthwhile to discuss my experiences with staff. The team participated in a deep discussion on the topics they selected from my overview of experiences.

### Discussion

The experiment was realistic only to a limited extent. Nevertheless, it added to my understanding and the understanding of other workers in long-term care settings. A digital national newspaper published about the experiment. It was downloaded more than 100,000 times over a period of three weeks. Many readers who had an experience of dependency affirmed my story.

The experiment can be placed in a current movement towards more experiential learning: : the experience itself adds to theoretical and practical knowledge. .

The study is at the edge of scientific evidence: it is subjective, N=1 and relies on self-reporting. It has primarily heuristic value. It describes my experiences with my values. It contributes to my role in the national debate on quality of nursing home care, and it adds to my personal life. Dignified and respectful care has become more than a theoretical and a 'hear say' notion to me!



## Evaluation of a Questionnaire to Measure the Satisfaction Level Perceived by the Patients of a Hospital

Authors: Mr Aydin Teymourifar <sup>1</sup>; Dr Gurkan Ozturk <sup>2</sup>; Dr Menderes Tarcan <sup>3</sup>; Dr Onur Kaya <sup>4</sup>

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The Servqual is a commonly used questionnaire to assess the quality of service, which is modified by several specialists to apply to different countries and sectors. But it is necessary to evaluate the modified questionnaires. In this study, the validity and reliability of a modified Servqual questionnaire, which is used to measure the perceived quality level of service by the patients of a training and research hospital in Turkey, are investigated. For this aim, at first, the total reliability of the questionnaire and its subscales are evaluated using Cronbach's alpha. Then the factors of the questionnaire are analyzed using the exploratory factor analysis. The Kaiser-Meyer-Olkin measure is used to show the adequacy of data and then the basic factors of the survey are extracted by performing varimax rotation analysis. Also, the relationship between the variables and their related latent constructs is measured using the confirmatory factor analysis. The results of these analyses and also convergent validity, nomological validity, and discriminant validity show that the questionnaire properly measures the perceived quality of service. ped.

## Refining the Patient and Public Involvement Questionnaire (PPIQ), a questionnaire to evaluate engagement in resource allocation decisions

Authors: Mr. Lee Verweel <sup>1</sup>; Dr. Zahava Rosenberg-Yunger <sup>2</sup>

<sup>1,2</sup> Ryerson University, Toronto, Canada

### Context

Despite increases in involving patients/public/citizens in many areas within the health care system including as members of drug recommendation committees, there is limited evidence on the effect of patient/public/citizen involvement in health care prioritization. Moreover, the methods of public involvement in health care are inconsistently defined. Our research and that of others, have identified the need for evaluating patient and public involvement in health care decision processes and outcomes in relation to committee objectives. We set out to develop an instrument to measure public and patient involvement in the area of resource allocation decisions in drug reimbursement.

### Methods

We applied a mixed-method to develop our questionnaire. The preliminary items were developed from interview data and augmented by relevant items identified from a literature review. In prior work, we focused on developing nine criteria against which patient and public involvement could be judged. We pooled together all items using these criteria. To refine our questionnaire we reviewed the potential items with our knowledge user partner, Canadian Agency for Drugs and Technologies in Health, ensuring that no domains or items were missing. Then we conducted two focus group sessions – one in-person and another online - to further refine the instrument. The revised questionnaire was shared with the research team and knowledge user for additional feedback.

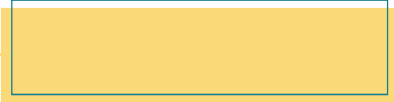
### Results

We conducted 27 key informant interviews with stakeholders knowledgeable about patient and public involvement in drug resource allocation decisions. We created an item bank of preliminary items from the interview data and literature resulting in a total of 846 items. After eliminating redundant items we presented 85 items across five domains (patient submission expectations (32 items), committee processes (18 items), non-clinical experts (4 items), communication and education (16 items), deliberative process (15 items)) to the research team including our knowledge user resulting in further refinement to 71 items. We then conducted two focus groups with a total of seven people. The participants eliminated redundant items, added missing items, and ensured each criterion for judging effectiveness was adequately captured by the listed items. The focus groups enabled further refinement resulting in 63 items across three domains: committee deliberative process (35 items), committee selection (13 items) and representation and communication (15 items).

### Discussion

It is evident through the refinement of our items that qualitative methods, through focus groups, were particularly helpful in refining and ensuring the appropriateness of each item. Next steps include performing 1) sensibility testing with 30 experts and users and 2) validity testing with 100 users. We anticipate the PPIQ, which can be used by drug recommendations bodies and other health technology assessment committees internationally, will be used to identify the extent to which committees are meeting the criteria of patient and public involvement. Moreover, the PPIQ

will help to evaluate current levels of patient and public involvement, indicate areas where such involvement can be strengthened, and help decision makers to address concerns about equity, ethics, and justice.



## Patients, are you ready to vote? Giving health a voice by giving German patients representatives voting right in respective health policy institutions

Author: Giao Linh Vu Thi

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A strengthening of patient involvement in health policy decisions is needed. Patient and public involvement are believed to foster greater public representativeness in the development and delivery of healthcare services. However, patient representations are growing, little is known about the responsibilities of patient representatives. France and Sweden show examples of voting rights.<sup>1</sup>

By limitations to patient representations in Germany, the impact is mainly concentrated on the groups of patients who are burdened with chronic and/or serious illnesses. In the sense of proportionality between concern and scope for action, this is intended and justifiable. At the same time, the heterogeneity of the different groups ensures a broad base of professional competence in the various health policy areas.

The idea of an umbrella association is given the opportunity to participate by sending full-time representatives to the respective health policy institutions. The decisive factor here is that the delegated representatives are given voting rights in the respective committee.

Citizen participation is a fundamental democratic right, combining the protection of individual rights at a higher systemic level. The individual patient rights, which are aimed at the personal relationship between doctor and patient, are better prepared in Germany than collective civil rights.

This paper aims to discuss the formation of this umbrella association for patient representatives in Germany, compared to other European countries and their patient representatives with voting rights.

### Keywords

Patient engagement, patient empowerment, patient-centered care, patient involvement, patient representatives, G-BA, German Health System

### Background

In accordance with the regulations outlined in the German Social Code SGB V, leading nationwide advocacy groups that represent patient interests or facilitate self-help groups in Germany who are chronically ill or have disabilities are entitled to take part in discussions and submit requests but have no voting right. The Federal Joint Committee (G-BA) is the highest decision-making body of the joint self-government in Germany.<sup>2</sup>

The interests of the patients are currently represented by the different patient and self-help groups. Through the creation of an umbrella association, these interests should be bundled, and the patients' representatives brought to the same level as the other participants in the German healthcare system.

All German self-help groups and patient associations should become members. An association (or group) that does not necessarily represent, in other words, at least 50%, the interests of a patient group cannot be admitted as a member. They must also be independent groups and associations

that are not related to other health-related participants regarding organizational, financial or other nature (such as health insurances, pharmaceutical companies, medical groups, etc.).

The umbrella association will be under the supervision of the Federal Ministry of Health (BMG). More power also means more responsibility.

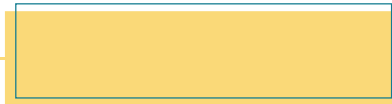
### Conclusions

To give patient representatives a powerful voice at the table of healthcare decision making, this paper tries to draft legislation for an umbrella association- giving patients a voting right and ensure public, and patients' views are heard and responded to.

### References

1.EMA, "Annex II: EMA activities where patients\* and consumers are involved", Time 16 October 2014. Web. [http://www.ema.europa.eu/docs/en\\_GB/document\\_library/Other/2014/12/WC500179568.pdf](http://www.ema.europa.eu/docs/en_GB/document_library/Other/2014/12/WC500179568.pdf), 23 February 2018.

2.GemeinsamerBundesausschuss. "Patient representative spokespersons", Time November 2016. Web. <https://patientenvertretung.g-ba.de/en/wer-wir-sind/>. GemeinsamerBundesausschuss. 23 February 2018.



## Enhanced patient involvement with context-based patient choice management

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### Context

In modern healthcare patients are endowed with improved opportunities to choose and decide according to their preferences. However, patient choice comes with controversy and complexity. Choice and choice situations need to be managed to better empower and involve patients. To this end, more knowledge is needed about how people choose and about their experiences in making choices. While an increasing attention has been paid to patient choice-making in many European countries, no prior attempt has been made to contextually characterize it. The current study develops a context-based understanding of patient behavior and experience in the choice-making process.

### Methods

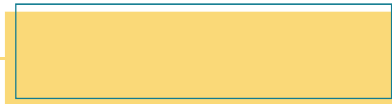
Prenatal screening and testing (PreST) in the Helsinki and Uusimaa Hospital District (HUS) of Finland was the empirical setting. Two PreST choice contexts with different screening and testing options were present: population-based prenatal screening and further testing available to screen-positive women. We used concurrent triangulation design of mixed methods study. With semi-structured interviews we explored how women made choices at the two choice contexts. Two cross-sectional self-completion surveys regarding women's choice-making experiences were conducted: One regarding screening at the Screening Unit at Women's Hospital, and the other at the Fetomaternal Medical Center (FMC) concerning prenatal testing and pre-test counseling. Decisional Conflict Scale (DCS) and Six-Point Short Form of the Spielberger State-Trait Anxiety Inventory (SF-STAI) served as the instruments to evaluate the choice-making experiences. Interview data was processed by thematic analysis. Student's t-test and Wilcoxon-Mann-Whitney test were used to explore the differences of women's choice-making experiences at different choice contexts.

### Results

The interviews (n=26) indicated that women had different choice-making behaviors at different PreST contexts regarding choice activeness, information seeking, and social influence. Compared to women at the screening context, women at the further testing context put more weight on active choice, were more likely to make active choices, were more likely to seek for extra information, and were less likely to be influenced by other people except for their partner. "Safety" and "accuracy" were the main issues considered by women at the further testing context, while "easiness" was most important at the screening context. The survey (n=187 from Screening Unit; n=67 from FMC) showed that compared to women in prenatal screening, women in further testing were more likely to feel they were well-informed (p < 0.001), that their personal values were clear (p < 0.001), but they were more likely to suffer from uncertainty (p=0.040) and increased level of anxiety (p < 0.001).

## Discussion

The results indicate that context is highly relevant for choices patients make, as patients had different choice-making behaviors and experiences at different contexts. This study implies that the development of choice platform and the provision of choice-making support for patients should be contextualized. For the choice context of prenatal screening, the default choice is widely accepted, and a brief educational leaflet will be sufficient for women to make choices. The easiness of screening options and social information (how other people choose) is of interest to women. For the choice context of further testing, an advanced choice platform should be built to enable women to make active choices. In the platform, the safety and accuracy of test methods should be highlighted, partners' involvement in the process should be encouraged, and individual counseling should be available to address women's confusion, uncertainty and anxiety in the choice-making process.



## Supporting Improvement through Creative Dialogue: Experience from the Partner Priority Programme of the National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care North West Coast (NIHR CLAHRC NWC)

Authors: Dr Clarissa Giebel <sup>1</sup>; Dr Esmail Khedmati-Morasae <sup>2</sup>; Dr Jane Cloke <sup>3</sup>; Ms Lesley Harper <sup>4</sup>; Dr Mark Goodall <sup>5</sup>; Professor Mark Gabbay <sup>6</sup>; Dr Pooja Saini <sup>7</sup>; Dr Ruth Young <sup>8</sup>; Dr Shaima Hassan <sup>9</sup>

<sup>1,2,3,4,5,6,7,9</sup> *University of Liverpool, Liverpool, United Kingdom;* <sup>8</sup> *Blackburn with Darwen Borough Council, Blackburn, United Kingdom, University of Liverpool, Liverpool, United Kingdom;* <sup>8</sup>*Blackburn with Darwen Borough Council, Blackburn, United Kingdom, University of Liverpool, Liverpool, United Kingdom*

### Context

The NIHR CLAHRC NWC is one of 13 such collaborations across England whose remit includes supporting the translation of research into practice. Our partnership includes three universities and 35 healthcare partner organisations (NHS and local authority public health) across Cheshire, Merseyside, Lancashire and Cumbria. We developed the Partner Priority Programme (PPP) in response to partners' request for more-timely, co-produced evidence to support local service improvement. Following consultation, the PPP focuses on improvement initiatives developing new models of out-of-hospital treatments and care, a key motivation being reducing emergency admissions.

### Methods

An initial scoping exercise identified relevant initiatives. The PPP then faced two questions in working co-productively: a) what structure would generate effective dialogue; and b) how could this be followed through into practical applications? In the event, a development programme around evaluation methodology met both needs. The emphasis throughout 18 months of workshops and in-depth support is on collaborative, co-learning and mutual capacity-building by: NHS and local authority staff, public/patient advisors, other stakeholders (e.g. third-sector) and university researchers all working as a group of peers bringing different knowledge and expertise to the table (Knight and Pye, 2005). Through this dialogue, participants (101 across 42 organisations, including 32 public/patient advisors) are being facilitated to undertake project-level evaluations, which will enable a cross-CLAHRC (Programme-level) synthesis of findings. The PPP experience and the impact on improvement processes are being evaluated qualitatively via workshop exercises, online semi-structured surveys, and focus groups analysed using thematic coding techniques.

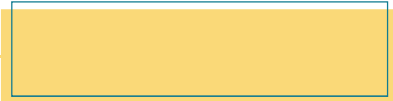
### Results

The assembled initiatives (11 in 2016-17, 12 completing 2018) are focussed on a range of service users, conditions and settings. Reported impacts include: reduced unplanned/emergency admissions and readmissions; reduced lengths of hospital stay; prevention of ill health and boosting of health and wellbeing; reducing health inequalities; and investment/cost benefits. Most importantly for the emphasis on improvement science, positive impacts are also reported for how participating initiatives have been carried out - due specifically to the evaluative dialogue facilitated by the PPP. While not about "doing" evaluation, helping players to build expertise in evaluation through "partnership dialogue" has therefore produced additional outcomes around for example: care provision (e.g. new ways of working, practice or service delivery changes suggested by the dialogue process); and benefits to patients/users (e.g. service experience, quality of care, health

outcomes). It is also influencing how individual participants, their teams, and organisations will carry out improvement projects in future.

Discussion

Follow-up is planned for 12–18 months after PPP completion to ascertain longer term impacts on improvement practices (e.g. methods replicated for other initiatives). What the PPP experience already illustrates however is the relevance of seeing evaluative logics as a tool in their own right to support the whole improvement process (rather than simply carrying out an evaluation of the particular project). In particular, embedding such approaches as an integral part of improvement means they can be used as a facilitation vehicle for co-production between different “improvement voices” across the health and social care system i.e. organisational/strategic stakeholders, clinicians, service managers and front-line staff, commissioners, patients and the public. The key learning to emphasise here is how evaluative approaches can be used as a means of structuring dialogue on quality improvement to give “missing voices” genuine influence on the process and on the ways of working of the organisational players.





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## 3.6 million people, 12 hospitals, 7 trusts, 5 champions, 4 years, 1 pathway: how the numbers add up in system wide change

Authors: Prof Brian Knowles <sup>1</sup>; Dr Ed Seward <sup>2</sup>; Miss Helga Lazlo <sup>3</sup>; Miss Helen Pardoe <sup>4</sup>

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London Cancer is a Cancer Collaborative serving a population of 3.6 million, with care provided at 12 different hospitals. London Cancer is leading the way to provide alternative diagnostic pathways at a system level to provide equity of access for a defined population. The cancer collaborative worked with the national A.C.E. (Accelerate Coordinate Evaluate) programme to give all appropriate patients with serious lower gastrointestinal symptoms referred to any hospital in the collaborative, the opportunity to go straight to test (STT) as part of the Rapid Access Colorectal Diagnostic Pathway. The objective is to improve 1 year survival outcomes for colorectal cancer in London.

The focus on STT started in 2014 with numerous workshops and interactive events lead by the ACE programme with all 12 hospitals attending. Experiences from hospitals outside London Cancer were shared, and organisational development support provided by the ACE team. The model of care developed was nurse led telephone triage with appointment for endoscopy or CT pneumocolon based on a clinical algorithm. Patients unsuitable for STT followed the standard pathway of an outpatient clinic appointment. Data was shared, best practice experiences circulated and inter-hospital visits facilitated.

At the workshops concerns were discussed, including the benefits of a doctor-led clinic consultation and that nurse led telephone triage may miss another serious diagnosis. There was recognition of pressure on nursing workforce that the new services would bring. Although the new pathway takes significant costs out of the system, there was reluctance from finance teams in hospitals to lose outpatient income.

By 2016, 5 hospitals had successfully established a rapid access diagnostic colorectal pathway. 1 hospital introduced the service in 2017 and 2 went live in early 2018. At another hospital a motivated doctor triages the patient based on the referral from primary care enabling approximately 10% of eligible patients to go STT. The final 3 hospitals have no plans for STT at present. More than 10000 patients have benefited from the pathway and patient feedback is positive in more than 90% of patients surveyed.

The facilitation by a committed team (ACE team) was instrumental to the level of success achieved. Defining the strategic direction provided guidance for the hospitals and supported change. However, four years later 25% of the population still does not have access to STT at their local hospital. The blockers to introducing the pathway identified early in the programme were resistance to change from clinical staff, insufficient nurses and an inflexible approach to financial management. These are still the reasons given by the hospitals which remain non-compliant with the new pathway. Our experiences highlight the challenge of whole system change and how long clinical change takes when working to reduce unwarranted variation in care.

# Leading Patient Safety into Digital Age: A Smart Collaborative Antibiotic Stewardship Decision-making System

Authors: Dr. João Gregório <sup>1</sup>; Prof Luís Lapão <sup>2</sup>; Mrs Mélanie Maia <sup>3</sup>; Prof Pedro Póvoa <sup>4</sup>

<sup>1,2,3</sup> *Global Health and Tropical Medicine, Instituto de Higiene e Medicina Tropical, Universidade Nova de Lisboa, Lisbon, Portugal;* <sup>4</sup> *Hospital São Francisco Xavier, Lisbon, Portugal*

## Context

Antibiotics prescription is a very complex process (multi-professional and multi-sources of information are required) where digitalization can make a difference. Antibiotics are among the most prescribed and used drugs in clinical practice. However, it is estimated that 20-50% of antibiotics are improperly prescribed. Antibiotic Stewardship Programs (ASP) could contribute to optimize Antibiotic therapy, ensuring the proper use and minimizing side effects. This work aims at transforming the utilization of Antibiotics in an intensive care unit (ICU) of cardiac surgery in the first six months of implementation of an ASP. The implementation was made through both the collaboration of a multi-professional team (Internists, cardiac-surgeons, pharmacists and nurses) and the use of an information system (HAITool) to improve health professional's performance. Pharmacists' role was to inform the physicians on the best available Antibiotics for specific conditions.

## Methods

Following a case-study methodology, this retrospective descriptive study analyzes data gathered six months before and after the implementation of the ASP (with HAITool). It was completed with an observational study focused on the role of the clinical pharmacist. The multi-professional team visited the patients in the ICU ward weekly, focusing on patients with a length of stay higher than 7 days. Patients were submitted to Antibiotics prophylaxis with vancomycin and gentamicin, 48h prior to surgery. The focus of the intervention was the subsequent Antibiotics prescriptions.

## Results

It was observed a reduction of 3.61% in the overall consumption of Antibiotics, with some Antibiotics, such as Ciprofloxacin and Linezolid registering reductions of about 96%. On the other hand, Antibiotics such as flucloxacillin or amoxicillin/clavulanate registered an increase of 300-to-500%, suggesting a clear switch to first line Antibiotics. The two most consumed Antibiotics in this ICU were Gentamicin and Cefazolin. After six months of intervention, Gentamicin consumption decreased 1,32%, while Cefazolin increased its consumption 27,38%. It is estimated that in 30% of the cases, a pharmacist intervention was necessary (e.g. dose adjustment or IV/Oral switch).

## Discussion

It was clear that the HAITool information system in this hospital enabled a quick access to information that is critical to inform the successful implementation of an ASP. A better use and access to the information on Antibiotics use, microbiology data and prescription patterns in the unit, will allow better tailored solutions to aid professionals in the implementation of ASP.

Pharmacists' intervention in this program was essential to decreasing Antibiotics consumption. However, the access to information on Antibiotics use, microbiology data and prescription patterns, via this evidence-based tool for ASP, was considered a major driver of success.

## Implementing Best Practices in a Laparoscopic Hepatectomy Patients' Care Process – Healthcare Professionals' Perspective of Benefits to Patients

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### Context

Less invasive techniques in liver surgery have been developed, and have been in use in Helsinki University Hospital (HUS) for years. However, despite the use of new less invasive techniques, the recovery of hepatectomy patients of HUS did not consequently improve compared to traditional open surgery. Therefore, best practices, enhanced recovery protocols (ERP), from other surgical specialties were introduced as “customized ERP”. ERP's are surgical care delivery models aiming to enhance rehabilitation and recovery. In HUS, obstacles for recovery, such as unnecessary bed rest and catheters hindering mobilization, were eliminated, and early mobilization was supported few hours after operation.

### Methods

An explorative qualitative case study was carried out to identify and describe healthcare professionals' perspectives regarding the benefits of the new customized ERP for laparoscopic hepatectomy patients. Semi-structured thematic interviews related to professionals' experiences were conducted (n=26). The interviews were transcribed verbatim and analyzed for different words or sentences describing healthcare professionals' perspectives. These words and sentences were then categorized.

### Results

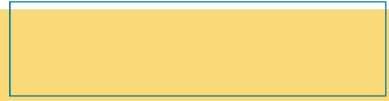
The healthcare professionals interviewed in this study were nurses (n=19), liver surgeons (n=4), physiotherapists (n=2) and anesthesiologists (n=2), who had been working closely with laparoscopic hepatectomy patients. The informants had on average 16 years (2-40 years) of work experience in healthcare, and 10 years (2 months – 27 years) in liver surgery.

Patients' faster recovery with fewer complications, less pain and better care experience were the most important benefits the healthcare professionals named. According to interviews, patients are also more empowered and they have a better sense of coherence, as they are encouraged and supported to rehabilitate. The patient education and support from healthcare professionals reduces the patients' anxiety related to care. Furthermore, as pain care does not affect the central nervous system, patients are more actively involved in their care, and are able to process received information more actively.

### Discussion

From a healthcare professionals' perspective, implementing best practices in laparoscopic hepatectomy patients' care processes has many benefits to patients. Patients are more active participants in their care, and are able to process received information better. Moreover, patients are encouraged to apply the education to practice, and because of the optimized pain care, the mobilization and rehabilitation is easier.

These findings confirm the acceptability of best practices of customized ERP. Research on patients' perspective related to customized ERP is needed in order to confirm the acceptability.



## Supply chain performance measurement and management: Application in the Maltese health care system

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### Context

The main aim of this study is to demonstrate the application of supply chain management (SCM) principles to the Maltese health care system. According to Lambert and Cooper (2000), SCM is the integration of key business processes from end user through original suppliers that provides products, services and information that add value for customers and other stakeholders.

### Methods

Using multiple case study approach to demonstrate the flexibility with which SCM can be applied to healthcare, the following steps were undertaken: the supply chain processes were mapped through identifying inputs, processes and outputs; competitive strategies were derived through understanding the demand using Implied Demand Uncertainty of services; supply chain strategies were derived with respect to facility, transportation, inventory, information, sourcing and pricing; the strategic fit between competitive and supply chain strategies was derived; the strategic objectives of the supply chain were derived; the critical success factors (csf) for the entire supply chain were identified by linking the csf with the strategic intents of the supply chain; data against each csf were collected; and finally the supply chain performance was derived through analysis

### Results

This study shows clear examples highlighting the effectiveness of SCM principles in performance management in healthcare to achieve strategic fit with organizations' goals, mainly by using the right trade off between cost and responsiveness. Supply chain management ensures constant supply of drugs, medical devices, equipment and other materials; establishes good interdepartmental and intradepartmental communication; and ensures constant availability of the services of related departments for example laboratory and radiology. The multiple case studies in this research present an approach to reduce costs by process reengineering in SCM.

### Discussion

Healthcare services sector is highly complex and unique in all its characteristics. It has too many dimensions to be fitted into a simple singular unit. Healthcare managers are in constant search for novel ways to curb costs but not at the expense of losing quality. To achieve this, SCM helps hospital managers to reconsider their operating systems and related costs, while rejecting activities that do not add value.

### Keywords

Supply chain management, Healthcare.

## Innovation Programs as Performative Accomplishments; a Process Analysis of How Programs Work in Practice

Authors: Dr. Elly Breedveld<sup>1</sup>; Prof. Dr. Kim Putters<sup>2</sup>; Dr. Maarten Janssen<sup>3</sup>

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### Context

Given the commonly accepted idea that a programmatic approach brings about innovative practices, governments traditionally implement different kinds of programs as policy instrument for innovation. Aiming to enhance the understanding of policy programs, this study sought to answer the question: ‘How do innovation programs foster and govern healthcare innovations, analyzed in terms of their processes and performative effects?’ Theoretically, this study draws upon process theory to analyse how innovation programs work. Process theory accommodates the analysis by looking into processes that are both influenced by and constitute a program.

### Methods

For this study we draw upon data from two case studies of qualitative evaluations of innovation programs in Dutch healthcare. The ‘Neighborhood Governance and Innovation Program’ is a one-year program in long-term care aimed at developing innovative neighborhood-based initiatives by facilitating learning, increasing participants’ innovative capacity and working on system requirements. The Innovation Program in Rehabilitation Care is one-year program - financed by the Dutch Ministry of Health and implemented by professional branch organizations – aimed at the cultivation and replication of innovations. Our study is grounded in extensive ethnographic data collection which draws mainly upon the methods of participant observation, semi-structured interviews and document analyses. As researchers, we immersed ourselves in the programs and studied them in the course of their existence. As innovations do not arise unheralded – also not within the context of innovation programs - we studied the design, implementation and evaluation of the programs and their projects.

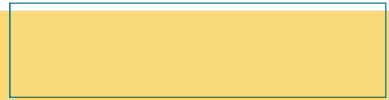
### Results

Results show that innovation programs have performative effects. Through processes of facilitation, legitimation and prioritization, innovation programs have an effect on healthcare practice. They facilitate innovation by offering the space, time, means, complementary assets, resources and skills, the advantages of scale and room for reflection. Programs also provide legitimacy. Even though this occurs under constant criticism, projects draw upon programs to gain legitimacy within and beyond their organizations. Programs also prioritize practice by making both implicit and explicit claims about the desirability of innovative projects and their underlying developments. Through its selection mechanisms, a program (in)directly puts forward ideas on what good care is and on who bears the moral obligation to act. The paper provides more detailed information in these processes of how innovation programs ‘work’ and in the challenges such as dealing with reciprocity and failure that program managers face.

### Discussion

This research shows that innovation programs are not normatively neutral policy instruments. It demonstrates the performativity of innovation programs by describing processes of facilitation,

legitimation and prioritization. It's through these processes that innovation programs gain meaning for practice. Innovation programs are described as s 'performative accomplishments' as they influence and steer practices directly, bolstered by the expectations of the involved actors and influenced by actions and decisions of program management and the conditions they set. This study concludes that innovation programs – as they are by definition value laden, affected and enacted by actions and decisions of managers - are enacted in practice and that room must be given to allow for that enactment. This study contributes to an improved theoretical understanding of the governance of innovation through programs and therefore its insights could further improve the use of innovation programs in the governance of innovation.



## Business Process Reengineering (BPR) and Multi Criteria Decision Analysis (MCDA) in Oncology: the establishment of an Individualised Oncological Supportive-care Unit (IOSU)

Authors: Dr Caterina Tridico <sup>1</sup>; PhD Elisabetta Garagiola <sup>2</sup>; PhD Emanuela Foglia <sup>3</sup>; Dr Enrica Aloisio <sup>4</sup>; Dr Giuseppe Brazzoli <sup>5</sup>; Dr Giovanna Oliva <sup>6</sup>; Dr Sabrina Barzaghi <sup>7</sup>; Dr Salvatore Artale <sup>8</sup>

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### Context

Oncological patients frequently experience treatment-related toxicities that worsen the outcomes. Emergency Department and/or hospital admissions in this setting could be avoidable, leading to a reduction in management costs and improvement the patient's quality of life. In literature, no evidences are reported, in terms of innovative organisational models, sustainable from an economic point of view and assuring the clinical needs of oncological patients.

The present study aimed to reengineer the process of supportive therapies administration in oncological patients within the Gallarate Hospital, Italy, and to measure the related impact with a multi-dimensional approach in order to validate the innovative organisational approach.

### Methods

Firstly, the current processes (reference year - 2013) with regard to the administration of supportive therapies were formalised, using the process mapping technique: the activities were re-designed and, as a result, in May, 2014, an Individualised Oncological Supportive care Unit (IOSU) was established.

The related impacts were measured, twenty months after the IOSU implementation. Organisational, economic and effectiveness perspectives were considered and a set of Key Performance Indicators was defined. In particular, the dimension of effectiveness (in terms of quality of life (QoL) and psychological distress) was assessed by the administration of FACT-G (General Functional Assessment Cancer Therapy) and HADS (Hospital Anxiety and Depression Scales) questionnaires. Other KPIs (use of resources, number of Emergency Department (ED) and hospital admissions, and related costs) were collected, considering data recorded and stored in a database that included daily activities and procedures.

### Results

The IOSU was organised as follows: i) 4 beds; ii) activities are carried out from 9 am to 5 pm, from Monday to Friday; iii) a mean turnover of 3 patients per day; iv) a team composed of oncologist and haematologist, a nurse, a case manager, a data manager and a psychologist; v) a clinical diary: patients note the details around the self-administration of their treatments and any side effects, in order to facilitate the information exchange, within the team.

The impact assessment (1,512 accesses in IOSU, in the first 20 months) demonstrated: i) a decrease in ED admissions of oncological patients (-48%); ii) a reduction in the costs of management (-52%); iii) 79% of the sample reported an improvement in the quality of life (FACT-G score > 54), only 17% had a high degree of psychological distress (HADS score > 11), and 94% of the sample adhered to the treatment.

## Discussion

The results of the present study suggest that the IOSU at the Gallarate Hospital was useful in improving the clinical outcomes, QoL and treatment adherence of oncological patients, thus avoiding and/or reducing the ED accesses/hospital admissions and decreasing toxicity management costs; future research could investigate the impact of the establishment of an IOSU, taking into consideration a wider time horizon, verifying the organisational and economic sustainability of this innovative model in the medium and long term. The results also confirm that a gap is present, in the context of oncology, with regard to the application of innovative organisational models for the taking in charge and care of side effects related to oncological therapies, and that an active managerial approach would support the evaluation of efficacy and efficiency, of the above mentioned models, in measuring multi-dimensional performance indicators.



## International comparison of health technology reassessment to improve the current Hungarian processes

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### Context

There are numbers of countries where health technology reassessment system is established. In Hungary there is the legal opportunity to initiate reassessment of health technologies. To investigate the goodness of current status of the used methods an international comparison was performed.

### Methods

A literature search was conducted on PubMed to identify the countries eligible for data collection. After the identification of the 33 countries of which 31 were European a database was made according to the attributes of the found health technology reassessment systems. Data were collected and assessed to examine the good practices to later make a suggestion for a Hungarian guideline.

### Results

After the screening for information about reassessment systems there were seven countries with sufficient amount of information for comparison. There were mostly similar approaches. In terms of methods and criteria for identification and prioritization of technologies. The assessment methodology and the dissemination of outputs were mainly online published HTA reports or lists. The target group of the assessments were decision makers, patient organizations, pharmaceutical companies and health care workers. All found guidelines can be a starting point for the rethinking and analysing the Hungarian practices.

### Discussion

The analysed systems are all able to help to improve the effective use of resources. By the help of this study stakeholders will be involved to harmonize and improve the current practices. Further research is needed to analyse the possible impacts on the current Hungarian system, also the production/adaptation of good practices must be a future step.

## How to translate best practice to sustainable innovation?

Authors: Beáta Ferenczi <sup>1</sup>; István Csizmadia <sup>2</sup>; Márton Kis <sup>3</sup>

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### Context

The innovation ecosystem in Hungary is still struggling with many challenges and to achieve a better innovation ranking of countries within and outside the EU will require many years of concerted work.

To set a good example, two major players from different backgrounds (National Healthcare Services Centre - a government organisation, background institution of the Health Ministry and the Health Management Services Training Centre of Semmelweis University - academic institution with educational and health management expertise) teamed up in an international project to discover and bring digital healthcare innovation good practice to Hungary, and adopt to our local circumstances and criteria.

The main focus was to make the fund distribution system more equitable, and the utilization of funds more effective, while delivering better healthcare outcomes for patients, thus making the health innovation actually happen and bring value to the community.

### Method

We took the tried and proven innovation methodology provided by our English, Dutch and Belgian partners as the baseline, used the 4 stage breakup (scouting, creating, valorising, uptake of innovation) of the innovation lifecycle to identify and group the best practices.

Then we refined the preliminary results using the Regional Stakeholder Group (RSG) input, so that we can take into consideration the local needs of the stakeholders, as well as the changing structure of our health delivery system in Hungary.

For deeper understanding the chosen best practices were then examined during longer staff exchange and peer learning visits back in their country of origin.

### Result

As interim results we generated a comprehensive list of potential best practices.

This list then has been narrowed down using the SWOT results generated together with the RSG members during a co-creation session, focusing on both system level inequalities and operational level unmet needs and unsolved problems.

Based on the interim results we have created an action plan for the concerned government authorities with suggestions and guidelines for better funding results.

This activity has resulted in awareness raising of the problem on both government and the other stakeholders level as well.

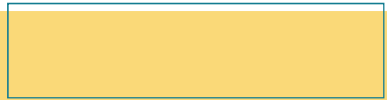
### Discussion

While the project is just reaching its middle point, it is already quite visible, that the original methodology alone will not result in actionable results.

We agree, that it is important to identify the potential best practices, but there are several local factors, that also needs to be considered, before just mechanically copying the best practice, thus not achieving the original good outcome in their country of origin.

The cross referencing of the good practices with the local needs can only be done using the stakeholder involvement, by asking them their problems, needs and ideas, and then incorporating it into the identified best practice map.

To make the implementation sustainable, the potential funding scenarios should be evaluated and implemented too. We can build on the results of the EU Member States and the EU Commission as well. In 2011-2013 a reflection process identified effective ways of investing in health, so as to pursue modern, responsive and sustainable health systems.



## Direct referral pathway for temporal artery biopsies in DGH

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<sup>4</sup> Princess Alexandra Hospital, London, United Kingdom

### Introduction

Temporal artery biopsy (TAB) has been shown to be clinically effective in diagnosing giant cell arteritis. The sensitivity of the pathology is inversely related to the duration of the steroid therapy. Hence, early biopsy is recommended as soon as the clinical diagnosis of arteritis is made. The study aimed to present direct referral pathway for TAB compared to traditional paper departmental referral via secretarial staff at a district general hospital (DGH). The direct pathway was electronic referral from rheumatology team to a nominated vascular registrar.

### Methods

The retrospective data on the TABs was collected from local clinical data for patients who were referred through traditional pathway from July 2017 to December 2017. In UK, DGHs have vascular services combined with general surgery. Paper referral form is submitted to department of Surgery from where it is dispatched to common mail box of vascular surgeons. Direct referral was introduced in February 2017 and prospective data was collected for a month.

### Results

The traditional pathway included 20 patients of which 5 patients did not undergo TAB due to delay in referral and 3 patients had TAB after 14 days of the onset of steroid therapy. Hence, the annualised data for this pathway showed that 40% (n=16/40) did not have TAB appropriately. The mean time from referral to TAB was 11.13. The annualised extrapolated data for the direct pathway showed that all patients (n=36) who were referred within the 2 weeks start on the steroid therapy had biopsy and mean time was 3 days.

### Conclusion

Direct referral to oncall nominated vascular surgeon reduces the time to TAB and avoid delay in biopsy beyond 14 days of the initiation of steroid treatment. This is particularly important in district general hospitals as general surgery department usually receives the referral. Simple measure saves resources by avoiding delayed biopsies which do not provide sensitive results.

## Towards a better management of resources and organizational appropriateness: a tool for performance analysis and management in Neurological Departments

Authors: PhD Elisabetta Garagiola <sup>1</sup>; PhD Emanuela Foglia <sup>2</sup>; PhD Emanuele Porazzi <sup>3</sup>; Dr Fabrizio Schettini <sup>4</sup>; Dr Francesco Perini <sup>5</sup>; Dr. Lucrezia Ferrario <sup>6</sup>; Dr Maria Rosa Rottoli <sup>7</sup>; Dr. Patrizia Perrone <sup>8</sup>

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### Context

The ageing population and demographic changes are impacting the healthcare sector and increasing the demand for assistance. Meanwhile budget cuts, organizational and resources constraints aggravate the situation.

Hospital Departments urgently need to redesign their processes and structure, analyzing factors influencing performances, activities and areas of improvement.

In order to achieve these goals, performance indicators, managerial tools, dashboards and benchmarking activities to highlight possible inefficiencies, can optimize the level of services delivered, guarantee a better management of resources, improve patient satisfaction, and support a system with greater economic sustainability.

### Methods

The proposed study aimed to develop and test a tool to evaluate the principal areas of performance of a Hospital Department for a fast, but complete diagnosis of possible areas of improvement and optimization, considering economic, managerial, organizational, and activities aspects.

Starting from the published evidence, as well as existing hospital data flows, a specific performance tool was created, considering 4 dimensions: i) resources management, ii) in-patients dimension, iii) out-patients dimension, iv) day hospital activities.

This tool was tested in 3 Italian Neurological Departments in the Lombardy and Veneto Regions.

Data and information related to year 2015 was collected, to feed the KPIs. Structured interviews were conducted, to focus attention on specific processes.

Assuming a benchmarking approach, the best performer for each dimension and indicator was identified.

A final dashboard reporting strengths, weaknesses, and key variables, was developed, taking account of the specific context.

### Results

The performance tool was composed of two levels (macro and micro), and a final summary dashboard. The macro level provides a general picture of the Hospital Department, in terms of resources management.

In particular, human resources and organizational dimension performances.

The micro level focuses on the performances, divided into three areas of activities: i) in-patient stay, ii) out-patient and iii) day hospital. As mentioned above, the tool was applied to conduct a

performance analysis and optimization level of 3 Neurological Departments. The results provided a better understanding of available resources, activities and processes, identifying strengths and weaknesses.

All the dimensions and indicators were summarised in the tables below (Refer to Annex 1).

In addition, the dashboard (Figure 1 – Refer to Annex 1), created to highlight possible areas of improvement, reported that Department 1 should focus on the management of resources; Department 2 on the in-patient activities, and Department 3 on out-patient activities.

### Discussion

The tool is able to monitor department performance giving an overall picture for each Department, as well as an interesting comparison between the Neurology Departments involved in the study.

The results showed the existence of different organizational models and processes, creating an interest benchmark of reference, not previously possible without having the possibility to compare different structures.

Indeed, thanks to the present analysis, each participating department obtained a deeper understanding about their processes, useful to clinicians and decision makers, to improve performances and allow a better resources optimization.

Although the tool was tested in Neurological Departments, it is equally applicable for performances analysis in other hospital Departments.



## The role and influence of management on the effectiveness of educational programs

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### Context

The importance of patient safety is well-recognized for more than a decade already. Many initiatives were launched, educational programs began, but the results of these attempts haven't seen to be as effective as expected. It's especially true in case of education for health care workers. The aim of international project MAP4E (Methodology development and impact Assessment in Patient safety education for improving Effectiveness) is to develop effective methodology for patient safety education; thus we would like to present our interim results on centering the role and influence of management and leadership on the effectiveness of educational programs in healthcare setting.

### Methods

With the professional contribution of our Spanish partner, three different, 30-lessons educational methodologies were developed: first focused on teaching as many health care workers as possible, the second on teaching small groups from same wards and the third on training a local trainer for the hospital. Each methodology was conducted and tested in one hospital in Poland and one in Hungary. Accordingly, three hospitals were enrolled in both countries. Handover was chosen as an area for patient safety education, mainly because of its importance and generality. Before education and training, surveys on handover knowledge (MAP4E self-development) and patient safety climate (AHQR) were conducted in each hospital, followed by preliminary assessment in the wards involved done within the scheme of semi-structured interviews. We also gathered experience from kick-off meetings with top leaders, middle managers, within the evaluation and assessments and during the education and training sessions.

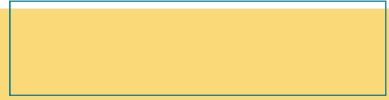
### Results

Although we have not yet conducted the follow-up surveys, we already know the results of our observations, whereas the results of the baseline survey will be available until June. Accordingly, we cannot present the final results regarding the effectiveness of three methodologies, but we have already observed the advantages and disadvantages of different methods, related to the participants' activity, depth of knowledge transfer, significance of handover problems revealed and proposals of problems' solution. On the other hand, the information available so far allows assessing and describing the possible roles and influence of hospital management. The project run according to planning and assignment with top management commitment and engagement: the role of management was critical in each kind of educational methodology. In all three methodologies the handover problems have been approached at the level of an individual, a single ward and at hospital level.

### Discussion

Education is especially important for the effectiveness of improvement, it is critical to perceive education not just within the appropriate professional context but also within the adequate

methodology. According to the type of education methodology, the top managers have responsibility in showing commitment, properly coordinating the educational input, stimulating health workers to actively participate in the training. Indirectly, the top managers can affect education effectiveness by the patient safety climate they create in their organizations. But beside top management have even more tasks after the education: they have to recognize, encourage, support and acknowledge individual's improvements and that of the wards and they are the only ones who can identify the initiatives that affect many wards at the same time or that need system solution at hospital level. Finally, they have to discover the problems that outreach the field of education and need more complex solution within the management support.



## Adherence to Current Care Guideline of shoulder tendinopathy at the Tampere University Hospital district in Finland

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The current care guideline in shoulder tendinopathy was published in 23.11.2014 in Finland. This guideline was presented at the Finnish Medical Association meeting in January 2015. According to the guideline, treatment of degenerative tendinopathy in shoulder is conservative, and should take place at primary health care or occupational health care. The most important treatment method is therapeutic exercises guided by physiotherapist. Operative treatment is recommended only if there is a traumatic rupture of the rotator cuff tendon, or if at least 3-month conservative treatment of a degenerative rupture has been conducted unsuccessfully among working-age patient.

The purpose of this study was to evaluate whether patients referred to the Tampere University Hospital due to rotator cuff tendinopathy had received physiotherapy before the referral.

Data was collected using patient registers in 2016, after the guideline had been available for about one year. Patients with diagnoses of M75.1-5 were selected from the outpatient clinic of orthopedics or physiatry. Altogether 70 patients were found but 10 were excluded due to wrong diagnoses.

### Results

There were 60 patients referred to the Tampere University Hospital due to rotator cuff tendinopathy. Of them, 52 % were women. The mean age was 52 years. Of the patients, 78 % were referred from the primary or occupational health care, 17 % from the private health care, and 5 % from the other departments of the Tampere University Hospital.

Before the referral, 62 % had received physiotherapy. Physiotherapy for the patients had been carried out in the following proportions: at the occupational health care 74 % had received physiotherapy, at the primary health care 61 %, and at the private health care 40 %. In addition, 2 of 3 (67 %) referred from the specialized care had undergone physiotherapy.

### Conclusion

Despite of the current care guideline of shoulder tendinopathy, still more than a third of the patients had not gone through the recommended, effective conservative treatment for their shoulder problem before referral to the specialized health care. In private care, the adherence to the current care guideline was poorer than in public health care. Although our study sample was small, the results highlight the need of better implementation of the current care guidelines, especially to the private health care.

## Patient Safety in Care Primary Health Care Case study

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The training of professionals in the areas of quality and safety it's decisive so, we can have safer, more efficient and clinically more effective health organizations. It's crucial that health care is safe for the patient.

The ecosystem of care involves risks that need to be known and classified so that they can be avoided or minimized. This is only possible if organizations are able to develop policies to encourage the reporting of errors or unwanted incidents and incorporate the knowledge that comes from the process of identifying errors in their daily practice. In Primary Health Care, Patient Safety is even more critical because it is frequently mismanaged and poorly built.

Considering what health professionals of the Cartaxo Health Center of Agrupment of Health Centers of Lezíria know and apply regarding Patient Safety, we will be contributing to the knowledge of Patient Safety along with caregivers (40 health professionals, gps, nurses, technician's-phioterapist, cardiopneumologist, oral hygiene), where the events take place (5 different functional units).

The main contributions of this research combine operational and strategic know-how in four key priority areas (information and training in patient safety; assessment of the causes for adverse events, taxonomy of adverse events and notification of adverse events) for Patient Safety, showing that it is strongly supported by the national strategy for Patient Safety and Quality.

In this context, it is paramount to involve different hierarchical levels, the majority groups (medical and nursing staff) and professionals with more years of service with previous training on the subject (base/graduate/service).

Although the place is favorable to the learning culture, prevention and teamwork, different levels of knowledge coexist, especially in safety culture, assumption and notification of the adverse event, there are still serious educational, structural and physical challenges.

There is a lack of systematic assessment of adverse events caused by pressure, stress, inherent complexity of the context and the needs of the patient stakeholder, due to organizational reasons. Underreporting is a reality which results from the complexity of the process and the lack of feedback and resources.

Training can harmonize safety between care at the health facility and at home.

Prospective tools for adverse event analysis (pathway and taxonomy) from source to solution were built.



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## Primary care workforce in Romania – current and future challenges

Author: Dr. Marius-Ionut Ungureanu

*Department of Public Health, Babes-Bolyai University, Cluj-Napoca, Romania, Health Management and Policy Center, Cluj-Napoca, Romania*

### Context

Given the growing burden of ageing population and non-communicable diseases, primary care workforce is of utmost importance to promoting health and preventing disease. International experience shows that having the right numbers of professionals is vital. The functioning of the Romanian healthcare system is deeply impacted by resource scarcity, with a skewed distribution towards the hospital sector. However, the Romanian National Health Strategy for 2014-2020 aims to strengthen the primary care sector. In this context, the aim of this paper is to assess the trends in the number of primary care doctors in Romania and propose future courses of action.

### Methods

In order to achieve the aim of this paper, a quantitative approach has been used. The changes in numbers of primary care doctors and proportion of primary care doctors out of the total number of practising doctors have been analysed for the period between 2007 and 2016. The data used has been extracted from the data sets provided by the National Institute of Statistics. The numbers of practising doctors are being collected yearly by the National Institute of Statistics, with the help of the Joint Questionnaire between OECD, Eurostat and WHO Europe on non-monetary healthcare statistics.

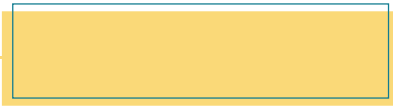
### Results

The number of primary care doctors in Romania has increased by 5.47% in the covered period, from 11.694 in 2007 to 12.334 in 2016. Also, the number of primary care doctors for 1.000 population has slightly increased from 0,55 in 2007, to 0,62 in 2016. However, in relative terms, the proportion of family doctors out of all practising doctors has decreased from 24,26% in 2007 to 21,52% in 2016. Moreover, looking at a regional perspective, the variation between 2007 and 2016 is not homogenous, with a 5,16% decrease in the Western region and a 0,34% increase in the Bucharest-Ilfov region (where the capital city, Bucharest, is located). In the covered period, the overall number of practising doctors has increased by 18,89%, a three-fold increase compared to the increase in the number of primary care doctors.

### Discussion

The analysed data reveals some interesting evolution in the coverage with primary care doctors in Romania. Overall, the number of primary care doctors and the density per 1.000 population has increased between 2007 and 2016. However, the proportion of primary care doctors among all practising doctors has significantly decreased. This trend seems not to serve the objective laid out in the National Health Strategy of shifting the focus from hospital to primary care, impacting the access to timely and high-quality care, since primary care doctors are gatekeepers in the

Romanian health system. However, the mere numbers of primary care doctors might not adequately reflect the degree to which primary care in Romania is addressing population needs. Further efforts need to be made in looking at potential reforms that have taken place in the covered period in terms of skill mix, task sharing and task shifting.



## Growing general practices and the need for staff and skill mix design rules

Author: Prof Ronald Batenburg

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### Background

In many countries, general practitioner (GP) practices have expanded their staff and organizational scale. While in earlier years practices were mainly run by solo working (male) GPs, this has radically changed. GP practices are changing into large, multidisciplinary and multi-professional organisations. The reasons for this transformation are multiple. One key driver is the extending set of tasks and roles that GPs play into primary care and the total health system. In aiming for more affordable and accessible care, many countries strengthen their primary care as this can gatekeep the direct and expensive flow to specialized care. Also, primary care organisations as GP practices can prevent medical harm and complications by early detection, and diagnosing patients by an generalist approach. GP practices are trained to judge complaints and diseases of patients in an efficient manner, while taking into account the personal and social context. This can bring health care and social care together and avoid that these subsystems work along each other. It is for this reason that GPs are often seen as the key players to realize integrated health care. This strengthened by a growing call for rebalancing the generalist and specialized competences that match the changing needs of the current healthcare systems.

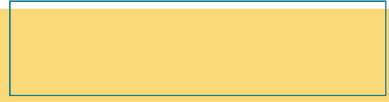
### The problem

While this seems to sketch the route towards an 'ideal' healthcare system, the working environment of GPs and their practice have becomes more and more complex, demanding, and process instead of care based. GPs who refer their patients, or link them with other care or social professionals, have increasing tasks to follow-up these referrals and monitor the emerging chain of carers, social workers and/or public organizations. Also, GPs have growing responsibilities to trace vulnerable and patients at risk in their practice, taking an increasing role in prevention, screening and proactive patient counselling. In addition, GPs are more and more involved and asked to contribute to local health initiatives, such as programs for obese children, lonesome elderly or mental problems in young parents. This can result into the situation that after a number of years, GPs find themselves primarily coordinating and managing their practices, having less direct patient contacts and more and more administrative burden.

### The study

One obvious way to cope with the increasing demands is to enlarge the supporting staff in practices. As of now however, there are no particular guidelines or managerial rules to support GPs on how to extend their staff in practice, by what pace, strategy and 'what type of management works when and why'. This basically includes organizational design rules on what tasks to delegate to whom and under what conditions; what would be the maximum span of control for GPs; and finally: what would be the ideal skill mix of GP practices. Naturally, these types of design rules are highly sensitive to the type of practice, patient population, existing staff, vision and leadership of the GP. But by analysing basic personnel data from 5,000 GP practices in the Netherlands, interesting skill mix variations can be identified. In this research, this variation is described and interpreted against the background of the developments sketched above. The result is that some evidence for some

organizational design principles can be found, but still a large white spot remains in supporting GPs to cope with their extending practices, responsibility and managerial tasks.



## Making skill-mix innovations in primary and chronic care happen! Trends and policy options.

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### Context

Many countries are confronted with the growing burden of chronic diseases and the increasing incidence of complicated and costly multi-morbidities. In parallel they are facing an aging health workforce, the maldistribution of health workers, skill-mismatches, and, in some countries, staff shortages. One way to tackle this twin challenge is to introduce skill-mix innovations in primary care to use the health workforce more efficiently, to make more out of what we have and to contribute to the performance and sustainability of health systems. But what have countries exactly done? Are there trends? Are there promising policy options?

### Methods

Skill-mix innovations are defined as change in practice of health workers that is novel and brings about improvements related to health system performance and sustainability (e.g. access, comprehensiveness of care, continuity of care, patient outcomes, the patient experience and efficiency).

To analyse skill-mix innovations in context we have commissioned 17 country case studies from Europe and Canada. The country case studies have focused on skill-mix reform strategies, innovations in human capital development, reform output and implementation barriers and facilitators. The country case studies were implemented by using a template, author's guidelines, telephone briefings, an author workshop and internal and external reviews.

It is the most comprehensive study in scope since it not only focuses on doctors and nurse but includes patients, informal cares, community and social carers, and all allied health professions. It is the most comprehensive study in terms of analysing skill-mix innovation in country context.

### Results

From the country case studies we have extracted 71 skill-mix innovations. There are four trends: 1) Nurses are central to skill-mix innovations including nurse assistants, prevention and health promotion nurses, specialist nurses, chronic care nurses and prescribing nurses; 2) most skill-mix innovations for nurses were implemented to unburden medical doctors from non-medical or simple medical routine tasks; 3) there is an emphasis on patient empowerment, self-management and health literacy; 4) non-health workers like fire-fighters, social workers, housing officers and volunteers in social services are increasingly part of skill-mix innovations.

The single most important factor making skill-mix innovations happen in countries was a cultural shift in the academic medical community, accepting responsibility for primary care. This facilitated re-regulating the scope of practice, modifications to payment mechanisms, curricula development for basic and specialist education and continuous professional development.

## Discussion

There are three policy options coming from the study that have the potential to address performance and sustainability: 1) Improve medical practice through nursing skill-mix innovation. Depending on the purpose and country reforms can either add higher or equally or lower skilled nurses to medical practice and use either traditional doctor delegation model or progressive distributed coordination. The other two policy options are 2) Patient empowerment and 3) widen the scope towards other health and non-health workers.

The knowledge on the effectiveness of these policy options remains limited, though in some cases proxy-indicators make performance improvement plausible.

Transferability of skill-mix innovations need to be seen with caution: is a skill-mix innovation in the country of origin also an innovation in the receiving country? What are the aims and how does the context need to be structured for successful transfer? These questions need to be answered to make skill-mix innovation happen.



## Is orthopaedic care suitable for substitution of outpatient hospital care with primary care? A retrospective analysis of referral data.

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### Context

Due to the ageing population throughout Europe, the prevalence of chronic diseases will rise. These disorders lead to increasing health care expenditures and can be a challenge to deal with. A way to overcome these difficulties is to stimulate the integration of care through substitution. The Primary Care Plus (PC+) intervention of the Dutch pioneer site 'Blue Care' aims to achieve this by facilitating consultations of medical specialists in the primary care setting. One of the specialisms involved is orthopaedics. The aim of PC+ is to improve effective, accessible and affordable care through substitution.

### Methods

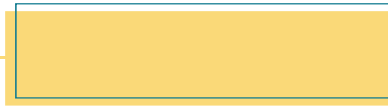
This retrospective study used monitoring data of patients visiting PC+ for orthopaedic care. The data was divided into two periods: P1 (from January 2015 to December 2016) and P2 (from January 2017 to December 2017). In contrast to P1, specialists in PC+ were able to request for additional diagnostic tests when needed during P2. This measure was implemented in order to reduce the number of referrals to secondary care after PC+. The referral decision after PC+ was the primary outcome in this study. Independent variables were number of consultations, treating specialist, patient's age, gender and diagnosis. To describe variations in the referral decision, logistic regression modelling was used. After univariate logistic regression analysis variables considered as predictors for the referral decision were entered into the multivariate logistic regression model. Besides this, interaction between period and treating specialist and between period and patient's diagnosis were included in an additional multivariable model.

### Results

2,438 patients who visited PC+ for orthopaedic care were included in the analysis. During P2, in total, 224 (21.3%) patients were referred for an additional diagnostic test. Results showed that during P2 significantly more patients were referred back to their GP (39.7% and 23.7% respectively). However, during P2 patients had significantly more consultations in PC+. In addition, the most common specialists and diagnoses in PC+ were significantly distributed differently between P1 and P2. Results of the multivariable analysis showed that older patients and patients treated during P2 were less likely to be referred to outpatient hospital care after PC+. In addition, there was a significant interaction effect between treating specialist and period. Furthermore, a significant interaction effect was found between patient's diagnosis and period. The final multivariable model explained 17.6% of the variation (Nagelkerke  $R^2 = 0.176$ ).

## Discussion

In PC+, integrated care is stimulated through facilitating consultations of medical specialists in the primary care setting. When looking at the results of this study, the possibility to request for additional diagnostic tests seems to be conducive to the effectiveness of orthopaedic care in PC+. During P2, 16% more patients were sent back to their GP compared to P1. However, it is important to discuss to what extent the availability of diagnostic tests fit within the vision of PC+. Therefore, more research is needed on how to use diagnostic tests in PC+ to further optimise the effectiveness and costs of care. In addition, it is important to select the appropriate profiles for specialists and patients for PC+. Together, the findings of this study can be used to discuss with GPs and orthopaedic surgeons about the optimisation of PC+ for orthopaedic care and to learn from each other.



## Integrating Professionals in French Health Homes: From Local to Territorial Collaboration

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*Toulouse School of Management — TSM Research (UMR 5303 CNRS), Toulouse, France*

### Context

“French Health Home” concept celebrates its ten years of existence with more than one thousand health homes established all over the country. It is bringing together multidisciplinary healthcare professionals to share a workspace and a health project emerging from the local needs. Working on their own, these professionals got to move from their solo exercise to work within a multidisciplinary team. The main objective is to enhance collaboration and care integration particularly for complex pathologies.

### Methods

Data was collected through an inductive experience-based approach from four French multidisciplinary health homes at the Gironde Department in the south west of France. The four health homes are at a distance of ten to twenty kilometers from each other and they include from ten to twenty four professionals. Besides field diary and internal documents, forty interviews were conducted over a period of two weeks in April 2017. One hundred and forty two hours of formal presence over two weeks besides 12 hours of participant observation in the emerging project experimentation day.

### Results

Situated in the rural & semi rural area, these four health homes have witnessed a human adventure of collaboration and project engineering to respond to territorial needs on health promotion and education. These needs were detected by a peer group of general practitioners exchanging about their practice. A territorial project idea came up and four volunteers expressed their willingness to talk to their health home co-workers. Together, they built up their project and proposed it seeking fund from the regional health agency. The fund was granted and the project has just started to get implemented.

### Discussion

We highlight in this paper a success story of local and territorial collaboration among interdisciplinary independent professionals working in four Health Homes in four villages. The transformation of ideas to actions, the emergence of the project and its evolution are clearly enhanced by this new way of practice (i.e. multidisciplinary health homes). The small peer group composed of less than ten general practitioners was highly empowered, belonging to health homes, and gave birth to an emerging network of multidisciplinary healthcare workers of the whole territory; a totally new level of perspective to these self-employed professionals coming from solo exercise.

## Healthcare Innovation Scoreboard (HIS). A tool to manage innovation potential in Primary Care Teams.

Authors: Mrs Alba Brugues <sup>1</sup>; Mr Alex Trejo <sup>2</sup>; Dr Antoni Peris <sup>3</sup>; Mr Josep Maria Monguet <sup>4</sup>; Mr Tino Martí <sup>5</sup>

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### Background

Innovation is inherent to Health services, endlessly shifting diagnose methods, treatments and strategies. Health professionals are to be aware of them and face challenges to change. Creativity, resilience, empathy or initiative are values needed for nurses and doctors to adapt such innovation proposals. Managers, even when knowledgeable of their organizations, don't know the precise innovation potential of their professionals. To ascertain people' limitations but also abilities and preferences to foster innovation is essential. On that knowledge you can develop efficiently efforts and strategies for innovation.

### Methodology

The Healthcare Innovation Scoreboard (HIS) consists on a self-administered structured questionnaire delivered to every professional in a health organization, that allows to quantify innovation potential for every professional and for the organization itself. According to the answers obtained is possible:

To provide an individual and confidential feedback to every professional, allowing them to know their potential and facilitating proposals to improve it.

To provide organization a quantitative report, description and detailed analysis on the innovation working group. This report may specify multiple variables. Attached to it, the organization may receive a list of proposals to improve innovation potential.

In order to develop the Healthcare Innovation Scoreboard, we conducted a research on publications and case studies on organizational success on innovation. According to characteristics identified we proposed a model inclusive of all knowledge, abilities and attitudes that were to be integrated together with clinical knowledge to develop innovation.

The proposed scoreboard was validated together with a group of health professionals, experts in innovation, through a consensus process and a Real Time Delphi methodology on web. Thus, specific topics were selected and pondered for the final version.

### Results

The model will be applied in two Primary care teams during the month of April 2018. The results from both the individuals' evaluation and organization will be assessed by the participants.

Immediately after receiving the results, participants will be asked to consider to which extent they agreed with evaluation report. Managers will be asked through focal group session to do so for the organization evaluation' provided results.

These results will be available to be presented at communication in June2018)

Discussion

HIS is a tool that may be used by any organization that shows to be helpful for the managers in PCT to focus efforts in innovation in specific areas or with specific working groups. Simultaneously, professionals may, on one hand, understand which are their abilities for the different values in innovation culture and, on the other hand, focus their efforts on improving the less developed abilities.



## Improving primary health care in Abu Dhabi towards patient centeredness with Chronic Care Model

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### Context

Abu Dhabi is the capital of the United Arab Emirates (UAE) and the largest of the seven emirates in terms of land mass and population. Abu Dhabi emirate has three different geographical regions: the Central Capital District, the Eastern Region, and the Western Region. The health system has been regulated by the Health Authority – Abu Dhabi (HAAD), and has been provided by the Abu Dhabi Health Services Company (SEHA), since 2007. Like many OECD countries, the UAE has a high population-burden of morbidity and mortality related to chronic diseases. This paper aims to characterize the Primary Health Care (PHC) public services in Abu Dhabi using the Chronic Care Model (CCM) as a framework. The CCM aims at supporting the development of a more patient centred system.

### Methods

Officially published data from HAAD, SEHA and the UAE Ministry of Health and Prevention was reviewed and abstracted. The Preferred Reporting Items Systematic Reviews and Meta-Analysis (PRISMA) statement was used as a baseline to review the PHC services through the CCM approach and to identify potential opportunities for improvement.

### Results

There are 38 SEHA Ambulatory Healthcare Centers (AHS) that provide PHC, from which 20 are located in the Eastern Region and the other 18 in the Central Capital District. The AHS adopted the principles of the patient-centered medical home model, aiming at providing structured, proactive and coordinated care.

Implementation of the CCM elements aligns with those standards and is positively associated with the use of interventions targeting high-risk behaviors. CCM allowed the identification of bottlenecks leading to recommendations for new public health measures.

### Discussion

The UAE has a strong foundation in place for addressing the growing problem of chronic diseases. The CCM has been shown to have beneficial effects on clinical outcomes reinforcing the PHC procedures and processes of care and should continue to inform systematic efforts to improve the care that lead to better lives for the Abu Dhabi community. Other healthcare systems can benefit from using CCM to provide recommendation for health services improvement.

## Deep-frozen bloodproducts: Lessons learned and civil-military cooperation in a pre-hospital environment

Authors: Dr. F. Noorman<sup>1</sup>; Dr. R. Hoencamp<sup>2</sup>; Dr. T.T.C.F. van Dongwen<sup>3</sup>

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### Background

Current and future operations of international military partners demand a flexible logistic planning of medical resources. Deployed service members must be able to rely on the best care on the right time. In case of major trauma or a terrorist attack, blood products must be readily available. When deployed, The Netherlands Armed Forces use -80°C frozen red blood cells (RBCs), plasma and platelets combined with regular liquid stored RBCs, for the treatment of (military) casualties in Medical Treatment Facilities. The frozen blood supply system combined with the 4:3:1 Mass Transfusion Protocol has been proven safe and effective and has contributed to the survival of combat casualties. This system could therefore also be a safe and effective provision for civilian trauma centers and blood banks during expected (such as holiday seasons, seasonal infectious diseases) or unexpected blood shortages such as flooding's, pandemics and accidents or terrorist attacks with mass casualties.

### Methods

To evaluate the safety of frozen blood products, blood bank and combat casualties data from Afghanistan 2006-2010 for 272 (military) trauma casualties with or without massive transfusions (MT:  $\geq 6$  RBC/24hr, N=82 and non-MT: 1-5 RBC/24hr, N=190) were analyzed retrospectively. Blood product use, injury severity and mortality were assessed pre- and post- introduction of the MTP. This data was then used to setup the civilian equivalent of this study.

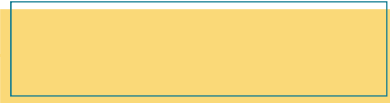
### Results

With the safety study, no ABO incompatible blood products were transfused and only 1 mild transfusion reaction was observed with 3,060 transfused products. In hospital mortality decreased post-MTP for MT patients from 44% to 14% ( $p=0.005$ ) and for non-MT patients from 12.7% to 5.9% ( $p=0.139$ ).

### Discussion

Current safety levels regarding terrorist threats advocate an increasing importance of civil-military cooperation for quick response and knowledge sharing. During mass casualty incidents, frozen blood product can fulfill an important buffering function because of their extensive storage capabilities. Using the military study as a baseline format, we initiated a study to evaluate the safety of -80°C frozen platelets and plasma compared to standard used liquid stored platelets and Omniplas in the treatment of civilian patients. Our second objective is to assess the effect of the prehospital blood transfusion and MTP with cryo-preserved platelets and plasma in the treatment of poly trauma patients and major elective surgery. This Massive Transfusion Frozen Blood Products study "MAFOD study", will be performed in cooperation with The Ministry of Defense, Alrijne Medical Centre and four Academic Hospitals. For this prospective study the participating center's hemovigilance data and routinely collected laboratory values pre- and post-surgery will be

used from poly trauma patients (prehospital and hospital) and elective massive transfused patients (thorax and vascular surgery). First result will be expected from the beginning of 2019.



## REBOA: Vascular accesstraining for direct bleeding control in hemodynamic unstable patients in the pre-hospital setting

Authors: Drs. B.L.S. Borger van der Burg <sup>1</sup>; Dr. T.T.C.F. van Dongwen <sup>2</sup>; Dr. R. Hoencamp <sup>3</sup>

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### Background

The use of resuscitative endovascular balloon occlusion of the aorta (REBOA) in patients with severe hemorrhagic shock due to truncal or junctional trauma, or in ruptured aneurysm patients is increasing. Evidence showed that the use of REBOA is an effective method to gain bleeding control during hemorrhagic shock. Obtaining vascular access is a necessity to have the possibility for REBOA placement in these situations. For pre-hospital use, it is essential that such skills are teachable down to the level of combat medics. This study will test the feasibility of a REBOA access training program.

### Methods

In two separate workshops, skills were educated and trained. A formalized and comprehensive training program was constructed including basic anatomy of the femoral region and basic training in access materials. Furthermore, the details and the instructions for use of the ER-REBOA® balloon were explained & demonstrated via an animation video and the necessary steps in the procedure of deployment of the balloon were discussed.

During the EVTm workshop in Orebro, Sweden in September 2017 twenty-one individuals participated in this study, 16 participants and 5 instructors. These second workshop was held in Alrijne Hospital, Leiderdorp, the Netherlands in January 2018 with 19 participants and 5 instructors.

During the sessions in Sweden a pig model was introduced, and the trainees were instructed one on one by a vascular surgeon to identify anatomical landmarks and verbalizing each step required for adequate achievement of vascular access and REBOA positioning in zone 1. As similar setup with the REBOA Access Task Trainer instead of a pig model was used during the Alrijne workshop. Key skills were as follows: (1) Preparation of endovascular tool kit, (2) achieving vascular access in the model and finally (3) bleeding control with REBOA. Scoring ranged from 0 – 5 for non-anatomical skills. Identification of an anatomical structures was either sufficient (score = 1), or insufficient (score = 0). Five specialists and six medics performed a second identical procedure as a posttest several hours after additional endovascular training during the EVTm course.

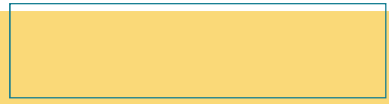
### Results

Higher level of experience correlated with higher scoring. Medical specialists had significant better overall technical skills in comparison to the surgical residents ( $p=0.008$ ) and medical doctors in comparison with medics ( $p=0.012$ ). After minimum teaching, time needed for introduction and bleeding control significantly decreased at each experience level tested in a second run.

### Conclusion

This comprehensive theoretical and practical training model using a pig or RATT model can be used for femoral access and REBOA placement training in medical personal with different prior training levels. Higher levels of training limits procedure times. Even with minimal teaching,

procedure times in these studies are well within minimal range. Further research in open dissection and percutaneous access training is necessary to simulate real life situations. This model is useful and can be used in a multi-step training program, in combination with a realistic moulage model or cadaver flow model for percutaneous and open access training of medical specialists as well as non-vascular medics and paramedics.



## A novelty in the distribution of incontinence devices in the Lombardy Region, Italy: the voucher system

Authors: PhD Alessandro Creazza <sup>1</sup>; Dr Barbara Antonelli <sup>2</sup>; PhD Elisabetta Garagiola <sup>3</sup>; PhD Emanuele Porazzi <sup>4</sup>; Dr Luisa Maria Alvaro <sup>5</sup>; Dr Maria Grazia Angeletti <sup>6</sup>; Dr Massimo Medaglia <sup>7</sup>; Dr Simone Schiatti <sup>8</sup>

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### Context

Given that the ability to organise a logistic network for distributing health technologies at territorial level is essential, due to the recent shift in healthcare focus, from the hospital towards local and domicile levels: the optimisation of logistic processes could be an element driving the improvement of the on-field assistance quality. Previous research, however, has pointed out that it is not possible to identify clearly the best distribution model for incontinence devices at local level in the Lombardy Region, considering all dimensions and perspectives of the different actors involved, as the current models present different strengths, weaknesses, and economic performances.

### Methods

The present abstract refers to a research study aimed to propose a “new” distribution model for incontinence pads, that would assure better quality and economic sustainability of the service. Initially, a literature review around the theme of distribution of health technologies at a local level was conducted. Then, a multi-disciplinary team, composed of representatives of LHAs, Institutions, Universities and information technology companies held several meetings; focusing on different aspects of the distribution processes in order to map the new distribution model, after which a structured report describing the feasibility study was written. In addition, interviews were conducted within a sample composed of LHAs’ managers, patients’ representatives, and experts (pharmacists, nurses, general practitioners etc.) in order to collect perceptions and qualitative data. Finally, a SWOT Analysis was conducted in order to evaluate the new model in terms of strengths, weaknesses, opportunities, and threats.

### Results

The “new” distribution model, namely called the “voucher system”, considers that patients select the preferable location to collect incontinence pads (pharmacy, supermarket, other specialised shops, home delivery, etc.) and the type and the amount of absorbent devices in relation to their needs, respecting a fixed economic sum, defined by the LHA on the basis of the patient’s clinical condition and historical consumption. This economic sum is valid for one month and, if it is not fully spent, the remaining credit is not carried over to the following month. Providers of such products may not only determining the price, but also giving possible discounts.

A regional system centrally manages the therapeutic and delivery plan, using a specific software that provides an interface with points of delivery, and every transaction is tracked by this informative system (where privacy and confidentiality of all the patients’ information and data is preserved and protected).

## Discussion

The results suggest that the “new” model has several advantages: a pro-active role of the patient in the distribution process (with a consequent decrease in terms of claims), a logistic rationalisation, a simplification of the LHA’s administrative bureaucracy, a “real-time” control of expenditure by tracking every transaction, and the possibility of dematerialisation.

The LHAs’ managers perception of the “voucher system” revealed high scores for all the investigated dimensions (see Table 1).

In addition, the “voucher system” could be transferable, for example, with regard to the distribution of other health technologies at a territorial level, where the patient would have the possibility to choose the best product in relation to their needs.

Further research is suggested in order to test and understand better the impact “in-the-field” of the “new” distribution model within a given territory.



## Improving quality in healthcare: Design and development of a Pilot Quality Management System for a public pharmacy of the Greek National Organization for Health Care

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### Context

During the last decades, the importance of improvement of the service quality in health care has been acknowledged, both by consumers looking for better health outcomes and by health service organizations seeking to operate more efficiently. Especially with regard to drug storage and dispensing, improving quality of services becomes increasingly important because of its outstanding role in the safe and efficient use of medicines. Public pharmacies of the Greek National Organization for Health Care (EOPYY) are responsible for the provision of high-cost medicines to the entire Greek population. Despite their important role, no Quality Management Systems (QMS) have been ever developed.

### Methods

The purpose of this case study was to design and develop a QMS according to the updated ISO 9001:2015 standard for a central public pharmacy of the EOPYY. Internal and external stakeholders of the pharmacy were presented, along with their needs and expectations. The innovative features of the new standard were emphasized, including the understanding of the internal and external parameters of the pharmacy, which were presented through PEST and SWOT analyses. The list of processes to be included in the QMS was subsequently determined and some indicative processes were analyzed. Finally, the quality policy for the pharmacy was developed, some key quality objectives were proposed and a risk management analysis was carried out.

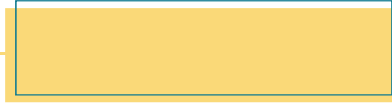
### Results

The needs and expectations of internal and external stakeholders focused around fundamental aspects regarding quality of medicines and health services. National and international political situation and policies, health resources and budgets, patient involvement regarding public services and drug use as well as innovative pharmaceutical technology were key external parameters of the PEST study. According to the SWOT analysis, highly skilled personnel and the use of a common information system for all pharmacies emerged as major strong points. Weaknesses included the lack of written protocols, detailed job descriptions, regular training programs and quality assurance procedures. Potential opportunities such as the use of innovative technologies and the implementation of national cancer screening strategies, might counteract the negative putative impact of political, economic, social and health-related threats. Administrative, supportive and main processes were found to influence the supply, storage and dispensing of medicines. Major goals included increased patient satisfaction and quality assurance of dispensed drugs.

### Discussion

This is the first study attempting to develop a QMS for a public pharmacy, using a systematic approach. Highlighting principal parameters, stakeholders and putative risks resulted in increased

awareness of potential strengths, weaknesses, opportunities and threats, thus enhancing the ability to achieve enhanced satisfaction of all stakeholders and quality assurance. Important strengths of the study were the use of the updated ISO 9001:2015 standard and the concomitant risk analysis. This comprehensive approach facilitates the generalizability of our pilot study to other international settings. Limitations pertaining to the difficulty in generalizing the proposed QMS in other Greek settings included local particularities of some public pharmacies, bureaucratic procedures and budgetary constraints due to economic crisis.



## Differences in key elements of primary care models to inform an appraisal framework for primary care for children

Authors: Dr Denise Alexander <sup>1</sup>; Professor Michael Rigby <sup>2</sup>; Professor Mitch Blair <sup>3</sup>

<sup>1,2,3</sup> *Imperial College, London, United Kingdom*

Models of primary care for children in Europe and their effects on child health outcomes are under-researched. The MOCHA project looked at lead practitioner (primary care paediatrician, general practitioner or a mix of physician/nurse roles); first point of contact with the service; existence or absence of a primary care gatekeeping role; and referral methods. These have been identified as key elements of primary care services, so potentially form a basis for appraisal against a range of outcome indicators.

Research questions directed to 30 country agents in EU+EEA countries gave us evidence about the models of care for children, and the primary care services for children and their families. These data were then compared with evidence from literature.

We identified a number of scenarios based on common clinical conditions indicating the way primary care systems work in European countries. These include: acute illness in a normally healthy child during normal working hours; the referral to secondary care of a child whose illness worsens significantly; and the management of a simple chronic condition by a young person (particularly in the school setting). Country agents were asked specific questions about 'what normally happens' in these situations. The resulting data were then triangulated against the literature.

Twelve countries had mixed systems of care; 11 had GP-led primary care; and six countries reported primary care paediatricians cared for children. The lead practitioner was commonly also the first point of contact with the service; but in four countries a nurse acted as a first point of contact. Five countries had no gatekeeping system; in eight countries no formal gatekeeping existed but incentives to use primary care in this way were identified; four countries had a partial gatekeeping function; and in 11 countries, primary care has a full-gatekeeping role. Referral to secondary care generally relied on telephone or letter. In only six countries was the primary care team involved in the child's ongoing care after referral to secondary care. In 18 countries, management of a common chronic condition included an individualised plan for the child, developed in most cases by the child's physician; in two countries, the child, family and school collaborated in its creation; and in two countries the physician and parents develop the plan.

There is great complexity and variety in the models which are basically adult-focused, making challenging any assessment against the needs of the child population. The use of common representative scenarios allowed identification of specific elements of primary care systems that are common across Europe; and of some of the differences in country models of primary care. Using a child-centred approach, we then assessed these differences against children's experiences, research evidence and health outcomes to appraise models in terms of child health.

## Shifting hospital care to primary care: an evaluation of a cardiology Primary Care Plus intervention

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### Context

Many Western countries face the complex challenge of providing high-quality care while keeping healthcare systems accessible and affordable. In attempt to deal with this challenge, several Dutch initiatives focus on strengthening primary care and substituting more costly hospital care with primary care. This study focuses on a cardiology primary care plus (PC+) centre where cardiologists provide specialist consultations in a primary care setting. This PC+ intervention aims to improve the health of the population and patients' experience of care while reducing the healthcare costs by decreasing the number of (unnecessary) referrals to specialist care in the hospital setting.

### Methods

This is a practice-based study with a longitudinal observational design. The study population consisted of adult patients with non-acute and low-complexity cardiology-related health complaints, who were referred to the cardiology PC+ centre (intervention group) or hospital-based outpatient cardiology care (control group). Data of the PC+ centre and the hospital were collected to investigate the referral and follow-up patterns of intervention group patients compared to the control group. Multivariable logistic regression analyses were performed to explore which cardiology-related referral indications and reasons for referral are appropriate for specialist care in PC+ or for specialist care in the hospital setting. Additionally, patients were asked to complete questionnaires at three different time points (before consultation, directly after consultation, three months after consultation) consisting of items about their demographics, health status (SF-12, EQ-5D-5L and EQ-VAS) and experience of care (based on the Consumer Quality Index).

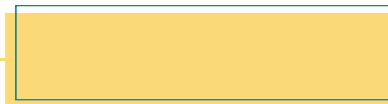
### Results

The data of the PC+ centre and the hospital consists of 1,838 intervention patients and 2,155 control patients. Preliminary results show that 27.9 % (n= 513) of the intervention group was referred to hospital care after a consultation at the PC+ centre. Male patients, older patients, those with the referral indication 'Stable Angina Pectoris' or 'Dyspnoea' and patients whose reason for referral was 'To confirm disease' or 'Screening of unclear pathology' had a significantly higher probability of being referred to hospital care after PC+. Regarding the questionnaire study, 437 intervention patients and 328 control patients were included. In 25 out of 27 items the patient experience of

care is rated significantly higher for PC+ compared to hospital care. The results of the EQ5D-5L indicate no differences in health status between the groups, taking into account the follow-up period of three months ( $F=0.133$ ;  $P=0.865$ ).

### Discussion

PC+ is a new concept in the Dutch healthcare system and evidence about its effects is scarce. This study is a practice-based research. Practice-based research is seen as a viable alternative for randomized controlled trial design; it has a considerable value because it ensures connections between science, policy and practice. The findings of this study will fill a gap in knowledge about the effects of PC+ and in particular whether PC+ is able to pursue the Triple Aim outcomes. While this study showed no effects on the health status of the patients, there are promising results looking at the patients' referrals and experience of care. Future research concerning PC+ should continue focusing on the Triple Aim outcomes, with a particular focus on the healthcare utilization and healthcare costs. During the conference the background, objectives, design and methods, and results of this study will be discussed in detail.



## Hungarian Primary Health Care System in Transition. Lessons for international consideration

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The Hungarian health system faces several challenges, among which the most worrying is the bad health status of the population in international comparison, regarding the lifestyle-related health risks and the high level of resulting NCDs morbidity and mortality. Given the poor core health indicators of the country, the need for a well-designed, efficient primary health care development initiative was indispensable. So far the traditionally organised primary care units of single GPs practices and minimal support staff could not fulfil its preventive, public health-focused duties. The goal of an innovative and inclusive Primary Health Care Development Model Programme (carried out from 2012 to 2017, in the framework of Swiss-Hungarian Cooperation Program) was to address these problems.

The Model Programme increased the competency of primary care with a well-coordinated cooperation of volunteering GPs, as well as with the involvement of dieticians, physiotherapists, psychologists, public health coordinators, and so-called Roma “health mediators”. These newly established complex primary care units (GPs Clusters, GPCs) were introduced in the most disadvantaged areas of Hungary. 4 head GPs lead 4 GPCs, with the assistance of public health coordinators, who organised the preventive, additional services at the intervention area from primary prevention to tertiary preventive services.

During 3,5 years of the intervention period, more than 80 % (30.000 persons) of the population went through a protocol based screening, more than 200.000 participants utilised group activity based preventive services and 8700 participants utilised private preventive services of the GPCs. Out of 1000 population, 79 % said that the quality of health care services became better at their location. Some examples of important outcomes are listed below:

- GP referrals to specialist care units reduced by 12%
- The proportion of patients with diabetes and hypertension in the 40-55 age group taken into care has increased significantly
- Significantly more patients with hypertension were stabilised under target: 140/90 mm Hg
- Chronic care indicators of GPs according to diabetes and hypertension showed improving trend (lipid profile lab. test, kidney function lab. tests)
- Promising decrease of relative risk of stroke and AMI was measured in short-term

The objective of the planned presentation is to highlight those impacts and outcomes of the Model Program, which provide lessons for international consideration about primary healthcare development through:

- the main characteristics of the GPC Model and the organizational operation compared to existing models
- pointing at those innovative approaches of the Model, which can contribute to a more successful control of NCDs worldwide and also some important lessons according to patient pathway planning and follow-up
- the results of the analysis of short-term healthcare expenditure impacts of the GPCs' operation, and the question of long-term sustainability
- those typical challenges of the solo GP practice based systems, which can be successfully targeted by the presented Model
- The national scaling-up procedures that are in progress

## Evidence-based approach to child health policymaking. European perspective

Authors: Dr Kinga Zdunek <sup>1</sup>; Prof Michael Rigby <sup>2</sup>; Prof Mitch Blair <sup>3</sup>

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### Context

The Models of Child Health Appraised (MOCHA) project, funded within Horizon 2020 strategy, aims to assess the varied patterns of children's primary care in Europe. The main project objective is an appraisal of the models of primary child health care in EU+EEA Europe. In order to support the analysis of transferability of child-centred and prevention-oriented primary child health care models to other countries the exploration of "culture of evidence-based practice" was undertaken. This study focused on how and what kind of evidence is used in decision-making processes in European countries and how it is applied to inform policy and practice.

### Methods

The methodology of the MOCHA project relies on experienced Country Agents (CA) in each of the 30 European countries. CAs are national experts in the child health field who provide the country-specific research data. Questions are raised by the researchers, validated by an independent Expert Advisory Board, and issued to CAs. A questionnaire designed as a semi-structured survey instrument asked CAs to indicate the sources of evidence used in the policy-making process and what needs to be in place to support evidence uptake in policy and practice. The data were collected between July 2017 and January 2018.

In order to perform analysis, the qualitative approach was used. The data were incorporated in into qualitative analysis software Nvivo 11, coded and categorized. The final stage was constructing the analytical schemes.

### Results

The evidence-based approach is more and more common in the formulation of child health policy in European countries. The sources of evidence depend on the policy area; however the significant impact of nationally and internationally and/or globally published data is noticeable. Additionally conducting the research before the reform was implemented in order to inform policy and practice is becoming good European practice. The policy issues were highly visible in mass and social media where the information, background and evidence together with education are being provided and awareness systematically and continuously raised. Various elements which facilitate and impede the evidence uptake in policy and practice were identified – the main ones include i.e.: involvement and literacy of stakeholders as well as considering the patient's preferences whereas the others referred e.g. to lack of "culture of neutral information".

### Discussion

A significant role in defining health policy content and process of policy making is played by evidence-based practice. Bowen & Zwi, (2005) highlight an important aspect of the context within which the evidence is used. "A key challenge to public health is to better contextualize evidence for more effective policymaking and practice" (Bowen & Zwi, 2005). They add that "the policymaking context is highly political and rapidly changing, and depends on a variety of factors,

inputs, and relationships.” (Bowen & Zwi, 2005). As evidence use is strongly contextualized it provokes the emergence of the phenomenon of "culture of evidence-based practice" which is understood as the way of the usage of evidence in the policymaking process with strong emphasis on the context of the policymaking.



## The Innovation Lab. A model to engage primary care professionals in the design and promotion of community health initiatives.

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<sup>1,2,3,5,6</sup> CASAP, Castelldefels, Spain; <sup>4</sup> Barcelona Tech, b, Spain

### Background

Catalan health system is based on a public purchaser and multi provider basis. Primary care is structured around Primary Care Teams (PCT) composed by family doctors, pediatricians, nurses, nurse aids, dentists, social worker and health clerks. Most PCT depend on public organizations, being professionals under salaried.

Health department hires services according to a lightly lax service basket and specific goals. Both demographic changes, new technologies and professional role development have increased PCT service basket developing services and care previously assumed by hospital services. Workload and professional interest are determinant to set new dynamics in PCT.

An innovation strategy has been implemented in our team, firstly oriented to support a new Community Care Plan and later to identify new improvement opportunities.

### Method

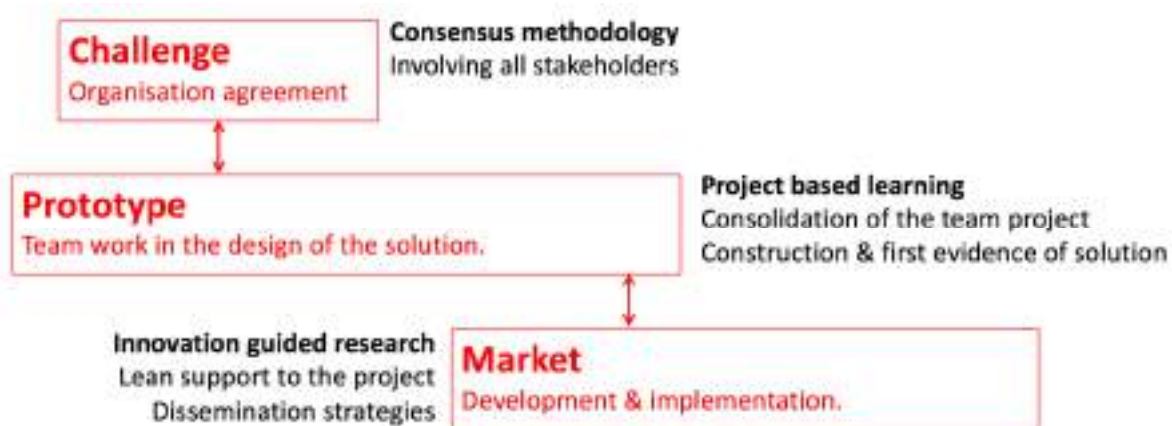
Ours is an urban team, of more than 75 professionals. Supported from management, professional skills have been developed and shift of responsibilities from doctors to nurses, nurse aids and clerks. We consider nevertheless that we are to look for innovation and leadership from the team itself.

A so-called Innovation Lab was developed to host proposals from team members and foster innovation in a way every professional, with no exceptions, might be involved.

First two projects created were oriented to promote community Health.

There's no formal structure but a project group participated by team members and an engineer, expert on Health innovations, oriented to develop projects.

Innovation strategies follow 3 stages, someway overlapped.



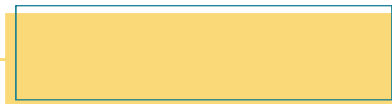
1. Challenge identification needs previous agreement from every stakeholders on the real problem to solve. Working group is to be representative of the involved professionals and has to develop a methodology to participate.
2. Prototype. Working group' team members participate in a Innovation training workshop oriented to identify a strategy to resolve the challenge.
3. Market. Development of the project. Identification of external stakeholders, indicators to look for evidence of impact and dissemination strategies.

### Results

Following this methodology two different Community Projects have started.

First one is oriented to help lonely elderly. On one hand a campaign to identify them from Team practice has started, but also from community itself. On the other hand, a search for community assets to facilitate their involvement with people at risk is being developed with help from Municipality, Public Library and civil associations.

Second one plans to improve Health education in teenagers, looking for a better self-care.





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## Implementation of Integrated Care for People with Multiple Complex Problems

Authors: Dr. Anneli Hujala <sup>1</sup>; Prof Johanna Lammintakanen <sup>2</sup>

<sup>1,2</sup>*University of Eastern Finland, Kuopio, Finland*

### Context

Fragmented and disease-based health care systems do not meet the needs of people with multiple complex problems. In many European countries integrated care is expected to solve these problems. Finland is currently preparing an extensive national-level reform (2020) to integrate health and social care, including freedom of choice for patients. People needing numerous services simultaneously from several care providers will be among the most challenging target groups in the implementation of integrated care.

The aim of the study presented here was to analyse the critical factors of implementing integrated care for people with multiple complex problems.

### Methods

Data was collected on a Finnish research project Successful Integration of Health and Social Care 2016–2017. The study was conducted in collaboration with the Better Everyday Life development project, one of the pilot implementation projects for Finland's national reform. Altogether 250 care professionals working with people with multiple complex problems were involved. The data consisted of both quantitative and qualitative material: a questionnaire (N=98), material from workshops and in-depth interviews with 1) 14 care professionals from diverse professions, 2) nine managers and 3) five patients with multiple complex problems.

Theoretically the study drew on the literature and research on integrating health and social care (Nolte & McKee 2008; Valentijn 2015), integration models (Sampalli et al. 2012; Grembowski 2015), care pathways (Røstad et al. 2013), care for people with complex problems (Rijken et al. 2017) and collaboration among health and social care professionals (D'Amour 2005; Schepman et al. 2015).

### Results

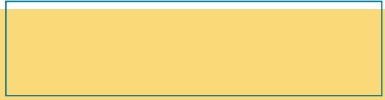
Structural and administrative integration of care does not automatically mean concrete collaboration between conventional silos of care. One main reason for the lack of collaboration is the current ways of assessing performance: integrated care may be regarded as 'a negative incentive' as it deducts time from actions monitored by the formal evaluation system (e.g. direct patient contacts).

Regarding the care for people with multiple complex problems, the realities of managers, professionals and patients seemed to be quite far from each other. Managers' focus was on coordinating broad patient streams through structural solutions such as low-threshold care management centres. Professionals are concerned about the lack of concrete ways for everyday collaboration (e.g. models for cross-boundary teamwork) and expect support for this from managers. Patients perceived their current care pathways 'a fight for survival' and called for individual support and flexible care arrangements based on their special needs.

### Discussion

The internationally relevant lessons learnt: Firstly, the added value of both multiprofessional and inter-organisational collaboration must be taken into account in the assessment of organisational performance. Secondly, instead of sub-optimization, cross-boundary collaboration among managers

themselves is required. Thirdly, it is essential to engage grassroots professionals actively in the implementation of integrated care in practice. Finally, patients with multiple complex problems must also have a voice as diverse individual needs make flexible integrated care the only solution for this target group.



## Assessing the performance of integrated care implementation

Authors: Mr Filip Domański <sup>1</sup>; Dr Hugo Sant'Ana Pereira <sup>2</sup>; Ms Mariana Dates <sup>3</sup>; Ms Micol Tedeschi <sup>4</sup>; Dr Niamh Lennox-Chhugani <sup>5</sup>

<sup>1</sup>European Commission (DG Sante), Brussels, Belgium; <sup>2,3,4,5</sup>Optimity Advisors, London, United Kingdom

Funded by the Third EU Public Health Programme, Optimity Advisors has followed up on the work carried out by the Health System Performance Assessment Expert Group in the development of an assessment framework for integrated care. The study had two main purposes: (i) to assess the level of penetration / adoption of integrated care in the EU28, Norway and Iceland, and to evaluate the level of maturity of several health systems at national, regional and local level; and, drawing upon the findings from phase one, (ii) to develop and test a framework of indicators to assess the performance of integrated care.

In phase 1, a literature review and an extensive data collection exercise of integrated care policies, programmes and projects across 30 countries was performed with support of a vast network of experts. The readiness of selected EU health systems to implement integrated care was assessed in collaboration with the EIPonAHA's B3 Action Group and SCIROCCO, using their maturity assessment tool. The mapping of initiatives and the maturity assessment revealed the heterogeneity of Integrated Care initiatives in Europe, both bottom-up and top-down, and the need for a framework of core indicators to support performance assessment in diverse contexts.

In phase 2, such framework was co-designed following an agile and iterative approach, with regular stakeholders' engagement, in the form of questionnaires, video-conferences, peer-review webinars, conferences, and a final validation workshop in Brussels. Building on the findings from the evidence collected and on previously validated frameworks, a list of core indicators was developed.

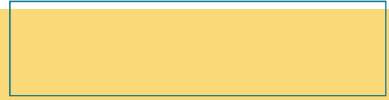
From the analysis of the literature, the mapping of initiatives and maturity assessment, it was possible to infer that integrated care initiatives (strategies, policies, organisation, models/programmes and interventions) are present in all 30 countries, although their characteristics, depth and breadth of penetration vary considerably. For example, the findings showed that countries with centralised health systems report a higher percentage of national-level integrated care policies, whereas countries with de-centralised systems showed a higher percentage of regional-level integrated care interventions.

Through engagement with stakeholders, a new, user-friendly framework for the performance assessment of integrated care has been co-developed and validated by European stakeholders. The final framework comprises a total of 15 core indicators, and other optional ones. All indicators are structured into four main domains (Advancement of integration; Use of care services; Health outcomes; Patients experience and QoL), with a fifth overarching domain covering the sustainability and added value of indicators.

The heterogeneity of the context in which integrated care initiatives operate in the various countries was a key challenge for the development of a framework that had to be relevant and used in all included countries. This was addressed by providing some flexibility in the use of the framework, allowing users to modify indicators based on available data.

The engagement of stakeholders in the co-design of the framework was consistently high, and the study is currently being received with great interest by experts in the fields, who express a need for evidence-based tools to support the transformation process and the implementation of integrated

care initiatives. The use of the Integrated Care Performance Assessment Framework will help healthcare systems across Europe to further develop their integrated care system - based on their current state and context - and could significantly help them achieve better health outcomes and patient experiences.



## Assessing the maturity of integrated care systems as a means to accelerate adoption: lessons learned in using the SCIROCCO tool across Europe

Authors: Dr Andrea Pavlickova <sup>1</sup>; Ms Donna Henderson <sup>2</sup>; Dr Esteban de Manuel Keenoy <sup>3</sup>; Ms Lisa Lundgren <sup>4</sup>

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### Context

Ageing population demands a rethinking of delivery systems towards integrated people centred approaches. Tools and methodologies that help to understand these complex transformational processes and orchestrate discussions of all stakeholders involved are core to this process. The challenge remains how to leverage the existing body of evidence and accelerate the adoption of integrated care. A collaboration of over 30 European regions has resulted in the development of a self-assessment tool enabled by European project - SCIROCCO. The tool is designed to assess the progress and maturity in provision of integrated care and encourage knowledge transfer and scaling-up of good practices.

### Method

The SCIROCCO tool is derived from an observational study, based on interviews with 12 regions participating in the European Innovation Partnership on Active and Healthy Ageing. The objective of the study was to understand the journey of regions towards integrated care, the drivers for change and future ambitions. The outcomes of the study provided baseline for the development of conceptual Maturity Model (MM). The model consists of 12 dimensions for integrated care. An organisation can consider each dimension by allocating a measure of maturity within that domain. As a result, a radar diagram will be developed which reveals strengths and gaps in the provision of integrated care. SCIROCCO builds on these achievements and tests validity and reliability of the MM. The MM is also tested in real-life settings as a tool to facilitate the knowledge transfer and scaling up of good practices.

### Results

The MM has been validated to measure the maturity of integrated care. It has been tested in real-life settings as a tool to (a) assess maturity requirements of good practice to enable its transferability; (b) assess readiness of healthcare systems (local conditions) for integrated care; (c) facilitate the twinning and coaching in integrated care. The experience of regions demonstrates the clear benefits and added value of SCIROCCO tool. The tool enables regions to understand the local context in which successful integrated care practice emerges and stimulates the learning on the creation of enabling environment for integrated care. The tool addresses the needs of regions to understand the local conditions for integrated care that can help to accelerate the knowledge transfer and dissemination of successful integrated care practices. The tool intends to stimulate multi-stakeholder discussions, encourages regions to share their experience and reach out to regions who are interested to learn what work when implementing integrated care.

### Discussion

The objective of this session is to stimulate discussions on the potential of SCIROCCO tool to facilitate collaborations and knowledge transfer in integrated care. The session aims to feature experience of three European regions in using the SCIROCCO tool; the Basque Country, Norrbotten Region in Sweden and Scotland. Regions will feature their experience in integrated care, what works when

implementing integrated care and what does it take to transfer these solutions to other health and social care settings. The regions will highlight how SCIROCCO tool has facilitated the mutual learning and informed the local policy-making. The session will also provide an opportunity for other regions and organisations to engage in the development of the tool and contribute to the learning of SCIROCCO community.



## Basque health service- Osakidetza integrates care: Scaling-up process of integrated care program for multimorbid patients within ACT@Scale project

Author: PhD Danika Schepis<sup>1</sup>; Miss Ane Fullaondo Zabala

<sup>1</sup> *Kronikgune, Barakaldo, Spain*

### Context

ACT@Scale is an innovative partnership of leading European health care regions, industry and academia which ambition is to transform cure and care delivery services from pilots and experiments to scale up routine management of frail elderly and chronically ill patients.

Within ACT@Scale, one of the Basque Health Service's (Osakidetza) program is the integrated intervention for multimorbid population. The aging of the population and the increase of chronic diseases represent a huge challenge for the sustainability of healthcare systems. It has been shown that innovative technologies and services such as Care Coordination and Telehealth help promote care because they are oriented towards people participation and training and because they promote integrate care. The hypothesis is that this will generate a reduction of medical complication and will allow healthy aging.

Multimorbid integrated program follows the multi-organizational structured collaborative quality improvement methods based on Plan-Do-Study-Act (PDSA) cycle.

During baseline analysis, a multidisciplinary team has been formed. Applying the PDSA methodology, the team has been working on:

1. Define a common integrated care pathway
2. Clarify the necessary actors and roles
3. Standardize and systematize the empowering patients and caregivers process and empowerment impact assessment
4. Evaluate the care pathway effectiveness
5. Training sessions related to the care pathway

Included subjects: Population based stratification identifies multimorbid patients; Diagnosis of at least two of these conditions: Chronic Obstructive Pulmonary Disease (COPD), diabetes mellitus (insulin-dependent and noninsulin-dependent) or Congestive Heart Failure (CHF).

Excluded subjects: active cancer diagnosis under treatment; organ transplant ;dialysis prior to enrolment; candidates for palliative care.

Stakeholders(34): team dynamics experts-3; internists-6; implementation experts-2; managerial team-12; healthcare directorate representative-1; project manager-1; local organizations representatives-9.

### Results

The team has defined and described the roles and actions needed within the integrated care. It has created a homogeneous pathway for multimorbid patient's integrated care. The team has tackle down the problematic of patient empowerment creating an empowerment protocol for patients/caregivers and an empowerment evaluation method. The team is currently selecting the indicators to evaluate the care pathway effectiveness.

## Discussion

The program is currently up and running in four out of 13 Integrated Care Organizations.

The aim is to scale it up from 4944 to 14516 patients, which means:

- 1) Impacting: reach critical-mass in numbers of users; optimization of resources utilization
- 2) Engaging: get the endorsement of end-users and professionals; increase empowerment of patients and caregivers; equality of the service offered
- 3) Sustainability: increase the number of professionals using the service as usual practice; the generated pathway takes into account the local resources available and the local differences in terms of organizational structure.

One of the most important factors to achieve our aim has been to build a multidisciplinary team, composed by stakeholders of distinct levels (macro, meso and micro) with varied roles and representatives of all organizations where the intervention was expected to be implemented. In addition, the Collaborative Methodology gave the opportunity to define the intervention needed in a structured way.



# Implementing and evaluating an integrated care programme in acute provision. A VANGUARD programme evaluation

Author: Dr Axel Kaehne

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## Background

This paper reports the findings of a rapid evidence evaluation focused on processes and implementation practices of an integrated acute programme with several components (n=9). The programme was part of the VANGUARD programme commissioned by the Department of Health/NHS England in 2016. The evaluation investigated the impact of the programme on governance systems, how services were set up and what the quality of partnership work, collaboration and communication between professionals has been during the implementation.

## Method

The evaluation utilised a broadly qualitative approach. A documentary analysis of relevant national and local service policy and other documentation and a series of face to face and telephone semi-structured interviews with key stakeholders were conducted.

## Results

Findings were grouped into domains to aid understanding given the complex nature of the programme itself with multiple components. The key domains were.

1. Programme vision and programme implementation
2. Programme design and structure
3. Programme governance arrangements
4. Role of leadership in the implementation phase
5. Quality, depth and impact of stakeholder engagement processes
6. Transferability and context dependability of new service on local environment

The evaluation demonstrated that complex integration programmes in the acute sector requires the effective engagement of multiple stakeholders and strong partnerships with cooperating organisations. The most useful methodological approach to investigate such programmes may be realist evaluation which allows detailed analysis of programme components, how they are supposed to work and how they have been implemented (programme fidelity).

## Conclusion

Complex interventions in the acute health care sector that are supposed to produce integrated care provision require robust relationships with partner organisations, significant lead times and detailed work around metrics to measure outcomes.

# The Impact of Implementing an Integrated Model of Care on Hospitalized Older Persons' Quality of Life, Quality of Care and Health Indicators in Palestine / West Bank

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## Background

The rapidly ageing population increase the healthcare needs and burden health economy. The risk of hospitalization for older persons above 65 years is at least four times more than younger persons. The complexities of the illness of older persons are also more intense, placing a greater demand on the hospital care systems. The multiple health problems of older patient require multidisciplinary team work utilizing coordinated care approach.

## Purpose

To examine the impact of implementing an integrated model of care for hospitalized older people on their quality of life, quality of care and health indicators (incidence of falls, the incidence of pressure ulcer, the length of stay, and rates of re-admission) in Palestine/West Bank.

## Method

A quantitative, interrupted time series design (pretest and posttest multiple interrupted time series). The study was applied through the recruitment of all hospitalized older patients (32 older patients) who were admitted to elderly care department at the second largest hospital in Palestine. The Study variables were measured using quality of life questionnaire, quality of care survey and health indicators. Paired t-test and repeated ANOVA statistical tests were used to test the effect of the integrated model of care.

## Results

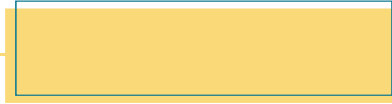
The statistical analysis revealed that the integrated model of care has a significant positive effect on all domains of quality of life. The effect of the model was significant on the physical and mental component domains ( $t = -9.14, p < 0.001, t = -6.78, p < 0.001$ , respectively). The patients' perception of nurses' communication skills, patients' perception of doctors' communication skills, hospital staff responses, pain management, cleanliness and quietness, and discharge information were increased and statistically significant ( $p < .001$ ). These findings revealed that the intervention has improved significantly all the domains post introduction of the integrated model of care. Additionally, the health indicators' findings showed remarkable decrease in the incidence of fall post-intervention ( $t = 9.38, p < .001$ ), and a remarkable decrease in the incidence of developing pressure ulcer post-intervention ( $t = 6.82, p = 0.042$ ). This revealed that the integrated care model had a positive effect on the incident of developing pressure ulcer among older patients. However, the decrease in average length of stay and re-admission rate post-intervention was not significant ( $p > .05$ ). This infers that the integrated care model probably need longer time to give significant positive effect on average length of stay and on re-admission rate among older patients.

## Conclusion

This study contributes to the limited body of knowledge related to the effect of an integrated model of care on hospitalized older patients' quality of life, quality of care and health indicators in Palestine/

West Bank. Future research recommended to empirically testing this integrated model of care for a long time and on a larger sample of hospitalized older patients.

Keywords: older patients' quality of life, quality of care, health indicators for older patients, integrated model of care of older patients.



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### Context

Providing integrated care relies on the workforce being at the right place, at the right time, in the right numbers, with the right skills, while conforming to budgetary limits. This is a challenge for those planning integrated services as future configurations may not be known and have workforces quite different from those at present. In such circumstances scenario analysis helps us to understand these future situations and reduces its uncertainty. Here we apply scenario analysis to two New Zealand health sub-sectors, Primary Care (PC) and Older Persons (OP) to identify service and workforce integration barriers and enablers.

### Methods

The scenario analysis method we apply utilises two practices: (i) scenario development, which is the application of the methods used to construct and write scenarios; and (ii) policy Delphi, which is an iterative method of structured group communication used for policy issue analysis. Using data gathered from existing documents and by assessing the forces affecting workforce futures we developed a scenario set for each sector containing a normative scenario and plausible alternatives to fully describe the future situation. We used online policy Delphi panels to rate the scenario sets in terms of scenario desirability, likelihood and confidence of occurring and to answer open-ended questions from which we developed corresponding policy statements. The panels then rated these policy statements for desirability and feasibility along with commentary. The panels ran for 3 (PC) and 4 (OP) rounds respectively, closing through meeting the response stability criterion (OP) or by panel attrition (PC).

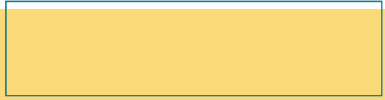
### Results

Both sectors' normative scenarios reflect New Zealand's health policy and vision of integrated care, with each scenario sets' alternatives portraying a thematic difference. The policy Delphi invitation response rate was 56% (n=41) from practice, education and policy organisation representatives, with final panel numbers of 12 (PC) and 11 (OP). Question round response rates varied from 83 % to 25% reflecting panel attrition. The panels provided insight into how they believed each sector would evolve finding that the least desired PC scenario was most likely to eventuate and that all of the OP set's scenarios were largely desirable and valid. Policies enabling integration were indicated to be associated with connecting funding to desired outcomes, inter-professional education, the collection and sharing of data and a focus on patient centeredness. While barriers to desirable outcomes were found to be professional tensions, lack of agreement over service transitions and their leadership and industry fragmentation.

### Discussion

The New Zealand PC sector's fragmentation and funding model seem to be hampering effective change, suggesting that the near future will at best be an enhanced status quo, marked by professional tensions and service leadership questions. This in turn will impact the integration of OP care, relying as it does on the PC sector to meet a range of patient needs along its care continuum. Professional colleges were identified as promoters of inter-professional education and were also seen to have an important role supporting the development of future integrated team-based delivery practices.

The panels provided rich contextual data reflecting integrated care’s complexity and issue inter-relatedness which delivers virtuous impacts for some while presenting obstacles for others. Thus using scenarios in this way is a type of policy rehearsal, which offers service and workforce planners further means to identify policy implications on a service’s outcomes, workforces and wider stakeholders.



## The coordination of care for children with intractable epilepsy across the EU/EEA: A MOCHA study.

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### Context

Medical and technological advances have led to an increasing number of children living with complex care needs (CCN). The medical management and care of children with CNN requires input from a wide array of health and allied health professionals across both the community and hospital setting. Effective care coordination is, therefore, pertinent to the delivery of optimal care for these children. Conducted as part of the European Commission Horizon 2020 funded study Models of Child Health Appraised (MOCHA), the aim of this study was to explore structures/processes relating to care coordination for children with intractable epilepsy across the EU/EEA.

### Methods

In this non-experimental descriptive study, thirty EU/EEA countries were surveyed using local country representatives, who are experts in paediatric health care. The survey consisted of a clinical vignette and open/closed-ended questions adapted from the Standards for Systems of Care for Children and Youth with Special Health Care Needs<sup>1</sup>, and the Eurobarometer survey<sup>2</sup>. Categorical data were analysed using descriptive statistics. Textual data were analysed using thematic network analysis. This abstract presents results pertaining to quantitative analysis.

### Results

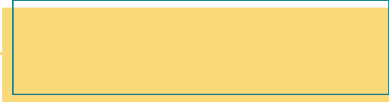
Surveys were returned from twenty-five countries (83.3%). One country provided a narrative account of the care of children with intractable epilepsy focusing on the care provided in response to disability severity. The response provided by this country was not included in the quantitative analysis. The results of this analysis, therefore, pertains to twenty-four (80.0%) countries. Of these countries, twelve (54.1%) indicated that they have mechanisms (policies and procedures/policies or procedures alone) in place, which support the coordination of care for children with intractable epilepsy. A similar proportion of countries (54.1%, n=12) reported that healthcare team members are involved in the development of personalised care plans for children with intractable epilepsy. In addition, the majority of countries (75.0%, n=18) reported that parents/guardian are involved in the development of their children's care plans. However, three countries (12.5%) reported that personalised written care plans are not developed for children with intractable epilepsy.

### Discussion

The individual and family benefits of delivering care for children with CCN at home in a community-based setting are recognised in the literature and documented as a policy objective in many countries. However, the results of this study suggest that, overall, there are limited mechanisms in place to support the provision of effective coordination of care for children with intractable epilepsy living at home in the community in many EU/EEA countries. Further research is needed to identify how barriers to care coordination can be overcome and to assist in the implementation of supportive mechanisms universally.

## References

1. Association of Maternal and Child Health Programs. Standards for Systems of Care for Children and Youth with Special Health Care Needs. Washington: AMCHP; 2014.
2. Centeno C, Lynch T, Donea O, Rocafort J D C. EAPC Atlas of Palliative Care in Europe 2013 - Full Edition. Milan: EAPC, 2013



## The European Initiative on Breast Cancer: Development of the Guidelines Platform

Author: Donata Lerda <sup>1</sup>; Elena Parmelli <sup>2</sup>; Liisa Pylkkanen <sup>3</sup>; Luciana Neamtiu <sup>4</sup>; Silvia Deandrea <sup>5</sup>; Zuleika Saz- Parkinson <sup>6</sup>

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### Context

The European Initiative on Breast Cancer (ECIBC) aims to ensure and improve the quality of breast cancer (BC) services across European countries and reduce health inequalities in Europe.

The main objective of ECIBC is the establishment of a European Quality Assurance (QA) scheme for BC services underpinned by trustworthy guidelines' recommendations. The ECIBC develops recommendations for screening and diagnosis (The European Breast Guidelines) and collects high-quality evidence-based guidelines for the remaining processes of care in a Guidelines Platform, which will also provide objective and clear guidance to all potential users of BC services, and a tool for promoting informed decisions.

### Methods

Two methods were used to identify guidelines covering all BC care processes: 1) search for documents (published between 2006 and 2015) and 2) a public call. The search was outsourced to Iberoamerican Cochrane Centre (CCIB) through an open tendering process. Relevant stakeholders for guidelines development were targeted by the call.

Clinical and public health guidelines on all BC care processes fulfilling inclusion criteria (e.g. scope, issuing date, availability of a contact person, etc.) were included for quality evaluation using the AGREE II tool.

As AGREE II does not define an eligibility threshold for trustworthy guidelines, in order for ECIBC to include only high-quality ones in the Platform, a threshold was needed. The JRC appointed two evaluators (University of Warwick and GIMBE Foundation) to run independent and parallel assessments of the usability of qualitative and quantitative AGREE II domain thresholds for selecting guidelines considered reliable in national and international contexts.

### Results

Altogether 2551 records were obtained from the searches. Detailed assessment of these led to the inclusion of 234 documents with BC care recommendations. In addition, during the public call for guidelines, additional 55 guidelines were submitted. Therefore, a total of 289 different guidelines were identified.

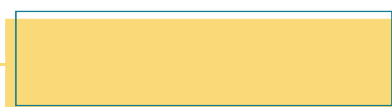
After assessments with AGREE II tool and the application of the thresholds, 142 guidelines were included in the Platform. A regular updating of the Platform is envisaged. As those guidelines that become more than 10 years old are discarded from the Platform and new guidelines eligible to enter the Platform are included, the number of guidelines available on the Platform at any point in time will vary.

## Discussion

Implementation of guidelines can help decrease variability in clinical practice and improve treatment effectiveness and patient safety.

The Guidelines Platform responds to the need of having high-quality evidence-based guidelines for all processes of care for BC in a single location to make them easily accessible to interested users. It may help in harmonising BC care across Europe and thus reduce the burden of BC as foreseen by the European Council. In addition, the Platform, together with the European Breast Guidelines, will offer an overview of the evidence available for the entire BC care pathway to underpin the QA scheme.

Future work needs to ensure a seamless readability of recommendations across the European Breast Guidelines and the Guidelines Platform at least with regards to the recommendation statement. In this way the whole pathway of care will be covered with one visualisation style across all BC recommendations developed by different entities, including ECIBC.



## Improving diagnostic pathways for patients with suspected colorectal cancer

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### Context

The Accelerate, Coordinate, Evaluate (ACE) Programme is an NHS, Cancer Research UK & Macmillan collaborative focused on innovations to improve the earlier diagnosis of cancer. The programme has a series of thematic clusters; this abstract summarises progress of the colorectal pathway cluster, incorporating NHS projects focused on implementation of a Rapid Colorectal Diagnostic 'Straight to Test' (STT) Pathway.

There is evidence that STT pathways are more efficient in reducing diagnostic and treatment waiting times resulting in improved patient and GP experience, involving the co-ordination and delivery of diagnostic tests to patients, essentially without an initial out-patient appointment (OPA). 1a, b, c, d

### Methodology

The majority of projects implemented a triage-STT pathway for their 2 week-wait (2ww) colorectal referrals with urgent suspicion of cancer; two projects offered the STT service for their routine GP colorectal referrals.

The STT approach is reliant on high quality GP referrals, based on the use of clinical decision support tools that facilitate referral of patients onto the colorectal diagnostic pathway. It requires collaboration across the primary and secondary care interface to agree the most appropriate referral criteria aligned to the NICE 2015 guidance (NG12), educate GPs in how to understand and apply the criteria and use technology to streamline the referral processes.

Essentially the projects tested.... if the diagnostic interval is shortened in time – from GP referral to the first diagnostic test and recorded cancer diagnosis?

Data were collated based on a desirable minimum data set and the Department of Health's Policy Research Unit evaluated the outcomes.

### Results

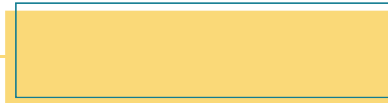
- The interval time from GP referral to confirmed diagnosis was shortened by 1-2 weeks, with a reduction in the variability of time to cancer diagnosis following STT introduction. University Hospital of Morecambe Bay reduced standard deviation from 42.2 to 17.8 days, with the 90th percentile falling from 97 to 63 days. When the STT criteria were widened to include GP routine referrals, there was potential for a greater advance in time to diagnosis – Whipps Cross University Hospital reduced the average diagnostic interval between triage and investigation to 36 days.
- Analysis showed it was possible to eliminate the initial OPA for circa 59% of patients referred to the colorectal service, though the face-to-face OPA remains justified for more complex patients.

- Of 800 patient satisfaction questionnaires at Wirral University Hospital, 88% indicated they were very satisfied. The avoidance of an initial OPA and the accelerated time to diagnosis were welcome.

### Discussion

The STT approach for patients referred on a 2ww pathway showed a shortened time to diagnosis. Patient satisfaction levels were high. Greater opportunity could be afforded by applying an appropriately triage-STT approach for routine GP colorectal referrals. Recommendations include:

- Triage-STT approach requires the input of an appropriately trained and experienced senior decision maker with strong clinical leadership skills.
- A triage-STT algorithm needs to confirm patient indication for appropriate investigation, fitness and willingness to have a definitive test.
- There is an essential prerequisite to engage and collaborate with referring primary care teams to get high risk patients to diagnostics sooner.
- The STT criteria should be based on the intent to triage all patients to first investigation, prior to an initial OPA, as timely as possible, with sensitive discussion amongst clinical professions to agree a threshold for the proportion of patients to go STT – rather than expecting all to be suitable.





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## **Mental Health**

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## Coproductioin in mental health organizations: how to make it work

Author: Mrs Cristina Masella <sup>1</sup>; Ms Eleonora Gheduzzi <sup>2</sup>; Mrs Federica Segato <sup>3</sup>

<sup>1,2,3</sup> *Politecnico di Milano, Milano, Italy*

Against the increasing incidence of mental health diseases worldwide, recovery is emerging as an effective method, focused on the strict collaboration of professionals with patients, their relatives, and the society at large, in order to design, manage and evaluate the patients' personal care pathways. However, despite recovery and co-produced approaches proved to facilitate the patients' rehabilitation and wellbeing, evidence on how they can be successfully implemented in mental health organizations still lacks. This paper aims to assess potential enablers and barriers for the application of coproduction approaches in health care organizations, through a literature review and an empirical analysis.

A systematic literature review has been carried out to identify enablers and barriers that encourage or limit the adoption of coproduction in healthcare organizations. 647 papers were identified through the keyword search and 84 were selected as coherent within the research's aim. 28 different models and methodological approaches emerged from the search. However, they tended to be very general and no model explained how to implement coproduction in mental health organizations; thus, an empirical analysis was completed to gather evidence in support of this unexplored domain.

Specifically, we selected four mental health organizations in Northern Italy, which are trying to adopt coproduction approaches in different organizational settings. Overall, 11 patients, 5 caregivers and 10 professionals were interviewed about their personal experience on coproduction and the perceived enablers and barriers. The interviews lasted 14 hours and 12 minutes, they were recorded, transcribed and validated by the interviewees.

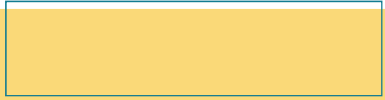
The literature research showed that the presence of a widespread network in support of coproduction (professionals, caregivers, policy makers, etc) that is trained accordingly facilitates the implementation of coproduction, as well as the use of shared medical plans, co-designed among professionals, patients and relatives. These enablers were confirmed in the cases, despite relatives are not always keen to be involved.

About the barriers, both the literature and the practice point at the absence of solid methods to assess the return of investment for coproduction: policy makers hardly know what coproduction is and the current organizational and financial systems are not aligned with it (i.e. fee for service vs. personal budget of care). Yet, the literature stresses that professionals are seldom willing to collaborate equally with the patients, while the cases show the opposite. However, practitioners perform coproduction practices on top of their required activities, without being rewarded for it.

Informed by the literature, the cases provide indications about priorities for future research in the field of patients' involvement in mental health care.

First, there is a need to generate methodologies to assess the outcomes of these approaches. All the interviewees agreed that coproduction is time-consuming and hard, but worth it: this evidence should be translated into measurable items and assessed. The assessment and widespread communication of positive results may determine a twofold advantage in our view: first, it shows policymakers and health organizations' managers that coproduction is effective; second, it increases the social acceptance of people affected by mental diseases patients.

Second, new ways to improve knowledge and commitment of professionals, relatives and patients towards coproduction are needed. For example, psychiatrist and psychologists' training paths could include specific courses on it, while patients and families could be reached by targeted communication campaigns in schools, job places, or public locations.



## Speaking on behalf of the person with dementia in home-based care. A qualitative study of collaboration between formal and family caregivers in Sami and Norwegian municipalities.

Author: Assoc Prof Lill Sverresdatter Larsen

*The Arctic University of Norway, Tromsø, Norway*

To meet challenges related to the increasing prevalence of dementia and thus increased healthcare costs, the Norwegian healthcare policies state triad collaboration of patient, family and formal caregivers as a prerequisite for aging in place. Collaboration in home-based care depends on trust, an experience of necessity and a mutual understanding of the situation. Furthermore, such collaboration work is entangled with political objectives as user involvement and continuity of care, and within this particular field to include indigenous rights. However, policies can be understood as ideals, and formal caregivers' discretionary work is key to implementation.

Due to the lack of research on formal and family caregivers' collaborative practice, this study explored two research questions:

1. How do formal and family caregivers describe collaboration in home-based care for people with dementia?
2. What barriers could inhibit the collaboration between formal and family caregivers?

The research field was rural, multi-ethnic municipalities in northern Norway, and the study relied on data from 18 in-depth interviews with formal (11) and family caregivers (7) and from brief fieldwork in which two dementia teams were followed. The analytical strategy was a mix of thematic analysis and use of the positioning triad to help explore how ethnic affiliation, user involvement and continuity of care concepts influence formal and family caregivers' collaboration. The analysis resulted in three articles, and an overall discussion as presented in this thesis.

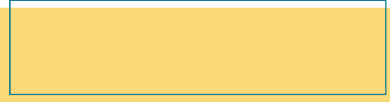
In the first article, we explored the participants' experience with decision-

making processes and user involvement. The findings demonstrate formal and family caregivers negotiated and conflicting positions when important decisions concerning the patients were to be made. Negotiations occurred because of different interpretations of the patient's consent and the associated spokesperson's positioning. The conflicts were particularly apparent in situations where formal caregivers stated organizational constraints as reasons for not providing specific services and when negotiations and conflicts added to the family caregivers' care burden.

In the second article, we explored how ethnic affiliation influenced home-based dementia care in rural municipalities in northern Norway. The Sami are entitled to indigenous rights. However, to implement such rights in home-based care, formal caregivers must recognize and accept ethnic positions, and this study found extensive negotiations of ethnic positioning that created major barriers to collaboration.

In the third article, we explored continuity of care and the use of individual plans in home-based care. In Norway, the statute mandating individual plans aims to ensure user involvement, improve continuity of care and increase collaboration between home and formal healthcare providers. However, we found gaps between practice and healthcare policy objectives with regard to continuity of care and to Norway's statutory individual plan in particular. Differences in formal and family caregivers' perceptions of collaborative practice may inhibit the attainment of such policy objectives.

Overall, this study demonstrates the analogy of a 'collaboration mosaic'. The mosaic features "tiles" such as trust, necessity of services, understanding ethnic entitlement, understanding of user involvement as a practice, and coordination. The study present "cracks" in the "tiles", or "uncomplete patterns", understood as positions that create conflicts or lead to missing formal encounters to indicate barriers to collaboration between the caregivers. Thus, this study is a step towards enhancing our understanding of collaborative practice in home-based dementia care.



## The emergence of the coordination function in the governance of health systems. The case of the Belgian forensic mental health sector.

Author: Mrs Coralie Darcis

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### Context

The contemporary Belgian health policies (mental health, chronic diseases, rare disease...) constitute a real challenge in terms of governance, in the sense that they mobilise interdisciplinary networks of actors. Indeed, Belgian health policy plans in different health sub-sectors request cross-sectoral or cross-organisational collaborations (Clavier & Gagnon, 2013; Crosby & Bryson, 2010) as an answer to complex societal problems (Daviter, 2017). In this context, coordinators emerge as intermediary actors entrusted with a political mandate consisting in connecting different levels of action, sectors and organisations. With this communication we aim to study the coordinators' place in the forensic mental health governance structure.

### Methods

Three different methods of data collection have been combined. It includes document analysis (i.e. policy plans, coordinators job descriptions), more than sixty semi-structured interviews with key stakeholders (policy-makers, coordinators and network professionals) and fifteen observations of meetings (federal coordination meeting with political authorities and local network meetings organised by coordinators). We argue that this triangulation of data collection methods allowed us to comprehensively understand the coordinators' place in the governance structure as well as their role in the policy processes. The collected data were analysed in Nvivo thanks to a system of coding both developed inductively as well as deduced from the literature review. This abductive methodology helped us to constantly confront the field reality with the scientific literature.

Thanks to our methodology, we could follow the implementation and construction processes of the forensic mental health policy plan since 2016, both at the federal (top-down practices) and local levels (bottom-up practices).

### Results

Our empirical material has showed that coordinators are key actors of the forensic mental health sector governance structure. By being at the intersection of several sectors, institutions and persons, coordinators indirectly enhance communication between previously separated actors (i.e. from justice, health and welfare sectors). First, coordinators constitute a bridge between the justice and health sectors and, therefore, allow the articulation of those different stakeholders at different levels of action (i.e. between justice and health organisations). The arrival of those professionals has strongly reinforced the cross-sectoral governance of the sector. Second, by being situated in between the federal and local levels, coordinators also ensure the vertical integration of policymakers' and professionals' visions, by reinforcing both top-down and bottom-up practices. This contribute to strengthening the vertical line of governance. Finally, coordinators also enhance the horizontal integration of the different network partners' ideas, information and concerns between one network's partners, reinforcing the network governance.

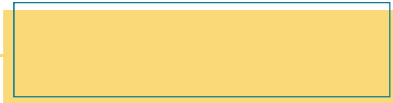
### Discussion

Contemporary health policies ask for new modes of governance, promoting collaborative governance (Kislov et al., 2017) and setting up networks to enhance collaborations (Buttard, 2008). More

specifically, mandated networks show a special need for mixed governance styles in order to achieve a higher level of coordination when facing a mandated network (Rodriguez et al., 2007).

As we saw with the forensic mental health sector, coordinators allow to overcome certain barriers in terms of governance and enhance at the same time different styles of governance (i.e. vertical and horizontal). Thanks to their intermediate position coordinators support the development of an effective collaborative governance including a diversity of stakeholders.

However, the research showed that the coordinators' style of leadership (transformational, integrative, and authoritative) substantially defines the policy governance structure. Therefore, we would like to raise the question of the training and selection of those emergent intermediary professionals.



## Comparisons of the Risks of Suicidal Behavior among Patients with Depressive Disorders Using Different Antidepressants in Taiwan

Authors: Mr. Jhih-Hua Jiang <sup>1</sup>; Prof. Kuo-Cherh Huang <sup>2</sup>; Prof. Ning Lu <sup>3</sup>

<sup>1,2</sup> School of Health Care Administration, College of Management, Taipei Medical University, Taipei, Taiwan;

<sup>3</sup> Department of Health Administration, College of Health and Human Services, Governors State University, University Park, Illinois, USA

### Context

According to the World Health Organization (WHO), depression is a common serious mental disorder, and it ranks fourth on the list of the WHO global burden of disease measures. Suicide accounts for million deaths worldwide each year, and depression is one of the most important risk factors. Hence, the aim of the study was to evaluate the odds of suicidal behavior (attempted and completed suicide) of patients with depressive disorders using different antidepressants.

### Methods

A retrospective cohort study was conducted using data from Taiwan's National Health Insurance Research Database for the period 2010–2016. A total of 1,021,262 new antidepressant users with depressive disorders (ICD-9-CM codes: 296.2X–296.3X, 300.4, and 311.X) were included. Antidepressants were classified as the following sub-types: Selective serotonin reuptake inhibitors (SSRIs), Serotonin antagonists and reuptake inhibitors (SARIs), Tricyclic antidepressants (TCAs), Serotonin-norepinephrine reuptake inhibitors (SNRIs) and others. Cox proportional hazards models with stratification of the propensity score deciles were used to estimate the hazard ratios of suicidal behavior of the sample patients during the first year following the initiation of antidepressant treatment.

### Results

Analytical results demonstrated that, compared with fluoxetine, the risk of suicidal behavior was higher for maprotiline [adjusted hazard ratio (aHR) = 2.98, 95% CI 1.30–5.85], milnacipran (aHR = 2.12, 95% CI 1.12–4.17), and mirtazapine (aHR = 1.29, 95% CI 1.03–1.72), lower for bupropion (aHR = 0.49, 95% CI 0.22–0.78), and similar level of risk was found for other selective serotonin reuptake inhibitors (citalopram, escitalopram, fluvoxamine, paroxetine and sertraline).

### Discussion

In conclusion, the risks of suicidal behavior may differ across different types of antidepressants. Hence, it would be imperative to perform more research to further inspect the influences of antidepressant use on suicidal behavior of patients with depressive disorder or other types of mental illnesses.

### Keywords

Depressive disorders, Antidepressant, Suicidal behavior, Taiwan.



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## Operationalization of organisational innovation as a concept to identify, compare and analyse health services transformation : from literature to empirical test in the French context

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Progresses in the healthcare system tend to focus on biological, genetics, technical (imaging, prosthesis), pharmaceutical, digital inventions and underestimate the organisational impact (change of practices, attitudes, acceptability, processes of care etc..) of these innovations. In so doing, health systems fail to harness the full potential of all kind of innovations. Therefore, it is vital that organisational innovations are included when planning policies to support innovation. This will enable the continued efficacy or efficiency at the system level, as it will facilitate adaptations of health care organizations, professional practices and roles, and sometimes structures – all of which can ensure the appropriateness and sustainability of the healthcare system and enable the diffusion of innovations. Furthermore, this is crucial in a context of rapid development of inventions, budget limitations and increased need. Failure to adapt healthcare organisations accordingly can result in costly, inefficient health organisations or simply waste of money as it happened in France with the implementation failure of Personal Electronic Medical File Which was estimated 210 Million euros between 2004 and 2011.

During the first year of Coordination Support Action aiming to build the future European program To Reach we investigated as a specific task the potential of "organisational innovation" as a conceptual tool to develop comparative health service research across countries in order to reinforce health services transformation.

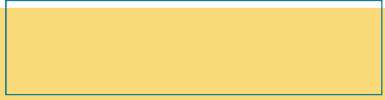
We first conducted a literature review in order to better understand the concept of 'organizational innovation' (OI), inform the discussion on the subject with French and European partners, and defined a data collection grid we tested through examples of 14 OI we collected through questionnaires and interview with key informants in France. After analysis of transcriptions of ITW and examples of OI, we revised the grid and added with more dimensions.

Organizational innovation is a complex, polysemic and multifaceted concept, which is interpreted differently across different research disciplines. It is distinct from other forms of innovation (product as technological, biological, pharmaceutical, process and marketing innovation, policy or social innovation).

The grid contains 14 dimensions that can be separated into three main sections, namely: the description of the OI; the process of the OI; and the determinants of the success/failure of the OI, as well as its generalisation, where applicable.

Our preliminary findings show that such a grid allows for the identification of varying examples of OI issued by different actors at different levels of the healthcare system. The revised grid we achieved with is not a gold standard or a norm of what should be considered as organisational. As a first result, we assume that an adequate description of organization is essential to conduct and enhance research on organizational innovation and to compare organisational innovations. Second, the interest of conceptual object as organisational innovation is also heuristic as it offers opportunity to group very different forms of organisational innovations in health services and simultaneously different stakeholders and actors involved (payers, professionals, patients, health authorities and researchers). Additionally, this work can foster the interest of research teams to enhance knowledge production and encourage funding agencies to finance such teams especially in countries where health service

research is poorly funded. At the European level, the collection of case studies of organisational innovation may help the development of comparative research within countries and across countries and accelerate the diffusion of relevant solutions.



## Unraveling the business models of perinatal care – a multiple case study

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### Context

Health care is still expensive and inaccessible worldwide. One reason for this has been claimed to be because of the lack of business model innovation. The growing policy trend to move out care from hospitals could be interpreted as an attempt to establish new business models. Perinatal care is an example of this and consists of different and co-existing delivery models practicing within and outside of hospitals, offering standard or less medicalized birth care. There is evidence that quality parameters often are alike among different clinics. However, organizational variations and similarities have previously not been studied.

### Methods

The purpose of this study was to analyze and compare perinatal clinic business models within the same regional health care system. This is an exploratory multiple case study using multiple data sources including interviews, observations, and documents. We used a business model framework to perform a business model analysis with comparison of perinatal clinics in Stockholm, Sweden. The study was conducted between February and April 2015, during which eight perinatal clinics were operating in the region.

The Business Model Canvas was chosen to guide data collection and analysis. Four domains were covered: the service (value proposition), the customer interface (customer segments, customer relationships, channels), the infrastructure management (key activities, key resources, key partners) and the financial aspects (cost structure, revenue streams). Cases were first analyzed individually to identify the perinatal clinics business model's nine constituent components and their interactions. These were then compared to identify business model similarities and differences.

### Results

We found similarities and differences among the business models. Four typologies emerged from the comparison. "Visionaries" consisted of small-scale clinics (private – semiprivate alongside-hospital or freestanding) for low and medium-risk families practicing birth center care. Infrastructure elements were aligned innovatively to secure continuity over the entire value chain. The "Local service provider", comprised the small-scale, public, hospital-based clinic offering standard care for low-risk, local community families. It shared many innovative "Visionary" infrastructure attributes. "Continuous capacity keepers", consisted of larger, public hospital-based perinatal clinics offering standard care for low-, medium-, and high-risk families. Low external cost sensitivity and an exceptional reputation secured a steady patient-inflow and revenues creating few incentives for innovation. Lastly, the "Hybrid" clinic was phased out and encompassed the small-scale, public alongside-hospital clinic offering birth center care for low-risk families. It shared the "Visionaries'" non-clinical value proposition and key partner use and the "Continuous capacity keeping" numbness to innovation.

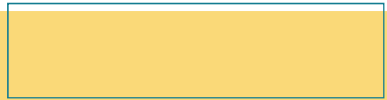
### Conclusions

By applying an integrated business model framework, more specifically the BMC, similarities and differences among perinatal care clinics' business models were captured. The business model analysis

suggests that decisions on how to organize health care are not always proactively made and that sometimes these decisions show a lack of internal alignment between the constituent business model elements and an external business model alignment with the regulatory environment.

Practically, managers could benefit from grasping business model intricacies to better maneuver and consciously improve and reorganize their organizations and policy makers to make more informed decisions how to support the development of future business models that could result in lower health care costs and increased accessibility.

Theoretically, this study contributes to counter-act the lack of empirical business model analyses in health care and more specifically birth care. To our knowledge this is the first business model study in perinatal care.



## Health workforce imbalances in Hungary

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### Context

The Human Resources for Health (HRH) mobility and migration are considered as global phenomena. The member states of the European Union often face inflow and outflow of health professionals on a system level. Hungary is among the leader sending countries in the EU, therefore both international and national level health workforce monitoring and planning are inevitable. The purpose of this research was to investigate the national demographical profile of the medical professions significantly affected by the HRH mobility.

### Methods

Supply side situation analysis was carried out based on the registry numbers issued by the National Healthcare Services between years of 2010-2015. The five most mobile medical specialty professions were selected in line with the good-standing certification requests, and age and regional distribution were investigated covering the supply side.

### Results

In Hungary, the five most affected professions by HRH mobility are the following: anaesthesiology and intensive therapy, internal medicine, paediatrics, general practice and surgery. Notwithstanding these specialties belong to the most frequently recongised medical specialties. According to the statistics, physicians in the above mentioned professions are mostly from the age cohort of 50+. Furthermore, the results also highlight the territorial inequalities: the region of the capital as well as the medical university towns and counties are in the most favourable situation in terms of HRH supply.

### Discussion

It can be concluded that not only the overall age of the physicians is higher in case of the investigated professions, but these regions also have to face shortage of specialists. National level health workforce monitoring and planning should take into account these results when preparing the future health workforce of Hungary as well as should carry out health policy interventions (e.g. recruitment and retention strategies) in order to provide the right workforce to the population. In addition, future analysis should also consider and include demand aspects –‘population needs’.

# Reconfiguring Health Workforce through Mundane Care: How New Professional Roles Transform Institutionalized Healthcare Practices

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## Context

Throughout Europe governments take on strategies to adapt healthcare systems to changing care needs and a shifting work force capacity, for example by introducing new professional roles. In this study we analyze how new professionals enter an institutionalized field. Instead of emphasizing how elite professionals resist and repair change to preserve and reinforce the status quo we aim to answer the question 'How do new healthcare professional roles get institutionalized through day-to-day work in healthcare practice?' Theoretically, the notion of 'institutional work' is used to see how professional roles are continuously shaped and reshaped in day-to-day practice of hospital organizations.

## Methods

To gain insights into the work practices of new professionals, we used an ethnographic study research design with three case studies in the clinical settings of wards in neonatology, cardiology, and breast cancer. The design allowed us to explore the mundane and everyday work activities that new professions carry out in order to acquire a legitimized professional role and position in clinical care delivery. Data was collected through observations, shadowing, in-depth interviews, informal interviews and document analyses. This combination of data collection methods provides insights in what individual professionals actually do to accomplish their everyday work and get their role institutionalized. The researchers shadowed a variety of professionals and conducted both formal and informal interviews. Combined with iterative methods of data analysis this enabled us to produce both situational and theoretically generalizable findings on new professional roles and role evolution in hospital practice.

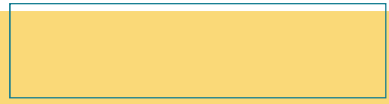
## Results

Results show that new professionals carry out institutional work in three different but slightly overlapping domains: the organizational, the professional, and the patient domain. The allocation of tasks and responsibilities is not fully predefined but negotiated and thus situated. New professionals get institutionalized through the clinical work they perform. They facilitate work, bring in new skills, routines and expertise and reshape care which makes that they are hooked into procedures, resource allocations, and structures. It is the mutual shaping of care provision and team-work that strengthens the role and the embeddedness of the new professionals in healthcare practice. As such they do not replace physicians, they choose a different focus and do things differently which makes them of value for the medical team, the organization and the patients.

## Discussion

This study contributes to theory on professionals and institutional change by emphasizing the role of mundane work in institutional processes. Rather than defining different types of institutional work new professions carry out the study shows how NPs and PAs get institutionalized through their work in day-to-day practice. It is the emphasis on the mundane and everyday adaptations that makes this study of significance as it downplays the importance of intentionality in institutional change. Rather than pursuing master plans of change, institutional transformation emerges from practices where

institutions are enacted, sustained, altered and extinguished by individuals. Its results point out a middle ground between seeing institutional change as the result of strategic planning and as outcomes of unintentional change. This does not only contribute to insights in how professional work practices are intertwined but also shows the relevance of a nuanced understanding of intentionality and agency with respect to institutional change.



## Drones for process optimisation: the case of a Swiss multisite hospital

Author: Mr Federico Umberto Mion

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Promising and disruptive technologies are transforming the healthcare sector significantly. In this research, I bring to light an innovative solution developed by the Swiss multisite hospital EOC, which has introduced the use of drones to transport laboratory samples between two of its hospitals in collaboration with Swiss Post and a Silicon Valley company. Furthermore, I point up the main key success factors of this project in order to provide the readers with useful generalizable prompts. Finally, I develop a model that could be useful for the organisations that need to evaluate either the development or the adoption of new technologies.

### Methods

After a literature review on the evolution and application of drones in different sectors, I present the solution adopted by the Swiss multisite hospital EOC, from its conception to its implementation. Indeed, I illustrate the usual process of urgent off-hour transportation of blood samples as it usually took place before the introduction of the drone. Subsequently, I describe the new process that has been set up in collaboration with Matternet and Swiss Post in its initial testing phase and finally I try to show how the new process would look like after the introduction of two innovative ground stations recently conceived by Matternet. In order to gather most of the relevant information about these processes I conducted an interview with EOC, Matternet and Swiss Post.

### Results

The initial testing phase led to an overall significant saving compared to the usual process, with the blood sampling and laboratory analyses time being the same regardless of the delivery method. This successful initiative represents only the beginning of several further potential applications of UAVs for the multisite hospital EOC, as well as for many other organisations. This option may lead to various positive results: time saving, costs reduction (e. g. the driver, the opportunity cost of having an operating room occupied while waiting for the analyses, etc.), and reduced environmental impact, to name but a few.

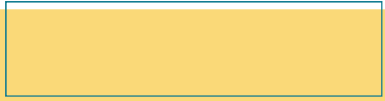
Finally, the BIOSF model has also been conceived as a practical tool for organisations to approach and evaluate new technologies by envisioning a wide range of possible implications and relevant factors.

### Discussion

Even if widespread drone delivery is to become a reality, still many technical and regulatory obstacles must be overcome. In fact, collision avoidance and emergency landing systems still need further enhancements. Moreover, small drones have limited cargo-carrying capacity and deliveries demand autonomous operation for flying Beyond Line-Of-Sight, which requires a special permission. For these reasons, mainstream adoption for commercial purposes would not be that immediate.

As it was pointed out, generalisable lessons could be drawn from this innovative project, such as the importance of the top management's commitment, communication, public acceptance, regulatory framework and risk management.

Of course, nobody knows for sure how far technology may bring us, but what we know is that hospitals and all other stakeholders involved should be ready to embrace the change and adapt their operations; but most important, they should be able to translate new technologies into a real quality increase for patients.



## The impact of anti-smoking policies of the 2010-2014 Hungarian government

Authors: Miklós Szócska <sup>1</sup>; Tamás Joó <sup>2</sup>

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### Background and challenges to implementation

Hungary had the greatest progress on the Tobacco Control Scale among 34 European countries in recent years, due to its deliberate strategy to implement evidence-based tobacco control policies. Most strikingly, these measures were introduced with exceptional speed during the global economic crisis and under constant opposition from the pro-tobacco lobby, which threatened reductions in employment, declines in tax revenues, and the collapse of the hospitality industry.

Smoking is one the most and prevalent health risks in Hungary. According to a study of the National Institute of Health Development, 20,470 people died from smoking-related diseases in 2010. The economic burden of smoking was estimated to be HUF 441 billion, while tax revenues amounted to HUF 360 billion in 2010.

### Intervention or response

High rates of smoking and its economic impact led the government to claim smoking as one of the most important public health priorities in Hungary during the 2010-2014 period. The most important pillar of the Hungarian anti-smoking policy was the amendment to Act on the protection of non-smokers. With this modification, Hungary entered into the group of countries having a total smoking ban in all enclosed public places. Additionally, there were five other important tobacco-control measures, recommended by the Framework Convention on Tobacco Control (FCTC), that were introduced after 2012 that has facilitated a major downward trend in tobacco use in Hungary:

- media campaigns;
- a significant increase in tobacco products taxes;
- the requirement for pictorial warning labels on tobacco products packs;
- improved cessation services;
- a drastic decrease in the number of stores selling tobacco products.

### Results and lessons learnt

These anti-smoking measures have resulted in decreases in the prevalence of smoking (2009: 38% vs. 2014: 30%), total sales of tobacco (2012: 19,54bn vs. 2014: 14,87bn pieces), and in hospital admissions for acute coronary syndromes. During this period, there was also a net positive impact on the hospitality industry and the state budget.

### Conclusions and key recommendations

Reducing tobacco use plays a major role in Hungarian efforts to achieve target 3.a of SDG 3 which refers particularly to strengthening the implementation of the WHO Framework Convention on Tobacco Control (WHO FCTC). Politically, and tactically well-organized interventions took the form of a successful “76 days tobacco blitz” and in a short period, the government caught up with a more-than-decade-long deficit in meaningful actions in this important public health domain.

## Impact analysis of cervical screening and self sampling vs. cervical cancer treatment

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### Context

Health service quality, performance and cost effectiveness are important factors in healthcare. A number of guidelines and recommendations are available to evaluate existing health care services and furthermore estimate the impact of new service solutions. Cervical cancer is among the most common cancer diseases with one of the highest mortality in women. Multiple options are available to deal with the problem, such as Humanpapilloma virus vaccination, large scale screening, self-performed vaginal/clinician-collected cervical samples and cervical cancer treatment.

### Methods

The surface sampling of the cervical region can effectively support the prevention and identification of the serious cervical cancer problems. Different vaginal and cervical sampling methods are available, the primary collecting method is the clinician-collected and another is the self-performed sampling. Clinician-collected sampling cost significantly more time and resources. Nowadays the available lab technologies are capable to analyze such collected samples in a fast, accurate and cost effective way, however large population scale self-performed sampling, and all the logistical tasks cause complex problems. Within the impact analysis we are using different methodologies (such as naive calculation and cost - benefit analysis).

### Results

We have done a survey on the Hungarian cervical cancer treatments costs and compared to other published cost calculation targeting HPV vaccination, screening, sampling and cervical cancer treatments (from Canada, Vietnam, Haiti, Guatemala, etc.).

### Discussion

With simplified calculations we are able to prove, that the treatment cost of cervical cancer is significantly higher than the cost of focused population screening both at short and long term runs. HPV vaccine introduction appears to be economically attractive in many cases and will provide a good solution on a long term runs. Individual self sampling methods are available and they are sensitive and cost effective at same time. With individual self-sampling methods the national scale screenings, and many clinician sampling can be significantly reduced. This highlights the importance of initiating support for more cost effective targeted screenings and self sampling campaigns among the population to decrease significantly cervical cancer incidence and mortality.

## Change Management in the Emergency Department: How to implement innovative technologies successfully

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### Context

In literature Point-of-Care-Testing (POCT) technology is stated to be a powerful investment in order to improve efficiency and effectiveness of ED treatment processes and to contribute to cost containment. Despite this finding, innovative technologies take the cumbersome way out due to resistance to change by employees. This phenomenon is frequently observed in the case of implementing innovative technology that got the power to re-engineer common clinical pathways including a shift of workload between occupational groups.

### Methods

In the ED of a university-affiliated hospital with nearly 70.000 ED patient visits per year the troponin measurement of patients with suspicion of Non-ST-Segment elevation-ACS was changed from a lab test setting to a POCT solution. In the first study phase, 46 employees working in the ED were requested to examine the working situation in a lab test setting based on the criteria “process efficiency and effectiveness”, “patient risks”, “controllability of the process”, “satisfaction with the process” and “areas to be improved”. During the first week after having implemented the POCT solution (second study phase), the same 46 persons were queried on the identical questions. Six months later (third phase) again the same target group has been interviewed on the identical items, furthermore learning curve effects were analyzed.

### Results

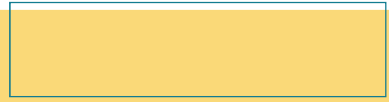
ED staff assessed a POCT environment to be safer, more effective and convenient to work compared to a central lab setting. 35 % of the users estimated the “efficiency” (time exposure for staff; waiting times) of the troponin test process as “highly satisfying” in a central lab test setting. In contrast, 91 % of the users evaluated this process as “highly satisfying” in a POCT-driven organization. Furthermore, 86 % of the employees were “highly satisfied” with the “effectiveness” of the POCT based process (compared to 19% highly satisfied with the lab test environment), referred to the time between blood take and therapeutic decision. At least, 36 % of the employees were extremely satisfied with the “process predictability” because the POCT setting facilitates a more self-determined and hence more case-adequate working condition. Six months after POCT implementation this new setting is preferred by over 90 % of the ED personnel.

### Discussion

A POCT setting for Troponin measurement is significantly more acceptable to the ED staff than a central lab test environment. On the other hand there are also critical voices (22 %) articulating the disadvantages of the POCT setting, because the change to a POCT setting means a shift of workload from central lab to the ED staff. Furthermore, employees who are not familiar with a new technology fear to be negative affected and tend to stay to the old well-known solution. Therefore, change

management efforts e.g. implementation of a help desk, training of key users, establishing try-out groups and organizing quality circles to make cause-and-effect relations transparent are necessary.

In addition, it is highly recommended to shift responsibility for periodic calibration of POCT devices to central lab staff in order to disburden the ED-staff from non-clinical duties.



## Health promotion as an important specialisation of medical staff or even a discrete job among the health workforce

Author: Prof Stanisława Golinowska

*Stanisława Golinowska UJ Collegium Medicum, Krakow Poland Faculty of Health Sciences Institute of Public Health, Krakow, Poland*

### Context

We already understand well that professional health promotion and primary prevention activities bring significant health benefits by decreasing health risk and developing a healthier lifestyle. We don't know, however, if health promotion and primary prevention are the task of medical professionals (specialists); of doctors and nurses, especially now, when we have to deal with significant shortages of medical professionals, who quite naturally have to concentrate on treatment of disease. In the health protection practices of some countries a new health occupation can be observed, that of the health promoter. The responsibilities of this position consist in advertising, consulting and coordinating professional activities to maintain health and healthy lifestyle.

### Methods

In the framework of the "Pro-Health 65+" European Project (Second Health Programme) we recognized who, in which institutions and under which regulations, perform health promotion functions addressed at different groups of older people. Answers to this questions were based on the information and experts knowledge from 10 analysed European countries: the Netherlands, Germany (Continental) , Italy, Portugal, Greece (Southern), Poland, Bulgaria, Czech Republic, Hungary and Lithuania (Post-communist NMS). It was specially prepared template on institutional arrangement of health promotion for older people (HP4OP) to analyse and structuralise the collected material. In parallel, we examined the knowledge deficit in health promotion generally and specifically among those parties engaged in health promotion. Qualitative empirical studies based on originally prepared questionnaire conducted among street-level health promoters in Poland.

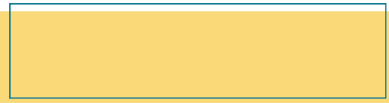
### Results

The occupation of health promoter does not yet exist in a regulated form. For several decades, however, it has been being dynamically shaped. The competencies of health promoters have been defined and reinforced differently in the two occupational groups. One group will consist of "traditional" health care professionals: doctors, nurses, dentists and physiotherapists. The second group may include people who engage in health promotion not only because of their formal education but also because they are driven by a sense of mission and a willingness to make a difference that motivates them to pursue further/ongoing education, even at later stages of their medical career, gaining interdisciplinary knowledge, especially in the field of public health and health promotion. The project resulted in important recommendations concerning the training of the second health promoters group, in the educational system and in the process of life long-learning.

### Discussion

Training health promoters takes place at both the undergraduate and specialisation levels, within the framework of specialised postgraduate studies, as well as in various forms of lifelong learning. Majority of lecturers and trainers are medical professionals so far. Their role in training for trainers in health promotion issues is not to be underestimated. Additionally, because medical professionals enjoy

considerable prestige in societies, they can encourage public involvement and institutional activities which are conducive to the protection of health. Their voices are significant factors in persuading individuals towards favourable health behaviour. This, however, means a closed cooperation between medical professionals and professional health promoters.



## Crew Resource Management in military medical teams

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The Dutch armed forces have participated in several missions since the Second World War. Often, a hospital is set up in the deployment area so the medical teams can perform their work. During a mission there is frequently an appeal to a medical team for treatment of sick and injured patients. To ensure optimal care, it is important that the medical team interacts effectively. Research has shown that Crew Resource Management (CRM) proves to be of great value in relation to crew performance, and reduction of avoidable errors. This study probes the extent to which CRM has played a role on the functioning of medical teams in deployment areas between 2010 and 2012.

As study method we chose semi structured in-depth interviews amongst surgeons, anaesthetists, anaesthesia assistants and Operating Room (OR) assistants who were deployed between 2010 and 2012 in a medical team. A total of 12 interviews were conducted including 4 interviews with surgeons, 2 interviews with anaesthetists, 3 interviews with anaesthesia assistants and 3 interviews with OR assistants. In addition, there were short telephone conversations held with 3 other respondents.

In general it became clear from the interviews that it differs per person whether he or she gets CRM offered in the hospital. Furthermore, the results from the interviews showed that CRM is not yet taught in the Mission Oriented Training (MOT). The respondents said the focus in the MOT was on gaining knowledge about the country and the local people, and getting background information on the deployment. During the deployment the role of CRM, or the lack of it, was perceived differently by the respondents. A number of respondents said that CRM had a positive impact on the proceedings, leading to an optimal functioning team. While others stated there was a lack of CRM, which was perceived as being both negative as positive.

Finally, it can be said that the people who consistently practice CRM consider it to be means to ensure that a team works well together and thus perform better. Subsequent to this conclusion a number of recommendations were made to the Dutch Defence organization. One of these recommendations entails that the Defence organization in its MOT should provide training in CRM to the employees of a medical team. For others this is a good introduction to CRM.

To conclude, in the future the Defence organization is planning on working with a so called Forward Surgical Element (FSE). This is a surgical team operating solely in a deployment area. Especially working in such an unknown and possible dangerous territory requires outstanding communication within a FSE. This proves the necessity of including CRM in the MOT before entering the operation area.

## Perceptions of practitioners and experts on value-based healthcare: a mixed-methods study

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### Context

Since 2006, Michael Porter has been inspiring healthcare practitioners with ideas on how to reform the healthcare system. He proposes a shift from volume to value. Value is defined as 'health outcomes achieved per dollar spent' (Porter, 2010). Additionally, Porter (2009) introduces the concept of 'integrated practice units' as teams supported by a data manager and a change expert that strive for improvements. Porter and Kaplan (2016) emphasize that the desired way of the reimbursement of care costs should be based on value delivered. Porter's value-based healthcare is a multifaceted concept that is currently embraced by many Dutch hospitals.

### Method

In this study, we set out to explore the meaning of value-based healthcare: how do practitioners and experts perceive this concept and what elements are seen as important?

In the first step of the study, we conducted 21 interviews of people in six teams of three Dutch hospitals and one American. All the teams involved had experience with value-based healthcare. By seeking similarities among first-order codes derived from the data, we created second-order concepts and aggregate dimensions.

In step 2, ten experts completed questionnaires during three Delphi rounds. We retained elements that were rated as important or very important by at least 80% of the experts, and excluded those rated as not, or moderately important, by more than half the experts.

Finally, a focus group study facilitated by the 'Digitable' tool (a giant tablet the size of a table) validated the findings of step 1 and 2.

### Findings

From the elements that came out of the interviews, we were able to derive seven aggregate dimensions that give meaning to the value-based healthcare concept: (1) patient focus, (2) delivery of customized care by standardized care processes, (3) team collaboration, (4) acting as an integrated practice unit, (5) continuous improvement informed by data based on ICHOM indicators (including patient reported outcomes), (6) reduction of costs, and (7) reimbursement for activities that add value. This constituted the outcome of the first phase.

The Delphi study started with a literature review resulting in 40 elements. After two rounds, we found that 29 out of the 40 initial elements were included, 20 in the first round and 9 in the second round. The three Delphi rounds will be completed in February 2018 and will result in a ranking of the importance of the included elements (to be presented at the conference).

### Discussion

Ours is the first study to explore how value-based healthcare is perceived by practitioners and experts. It links our understanding of the concept to the literature on performance measurement (Elg et al., 2013). Elg et al. (2013) emphasize the versatility of performance measurement and argue

there should be a balance between the dimensions of regulation (e.g. public transparent reporting) and exploration (e.g. improvement of clinical practice). Value-based healthcare might help to restore this balance.

The approach has similarities to clinical programmes and care pathways, which can be considered as mature approaches for integrating care, while additionally, it has new aspects, including a focus on both outcomes and costs, on data-driven improvements and on how to pay for healthcare. This makes the case for 'orchestrated team-based redesign' (Bohmer, 2016), which should be led by clinicians who would continuously strive to improve their care processes and create well-functioning clinical microsystems.

### Keywords

Value-based healthcare, performance measurement, outcome and costs

### References

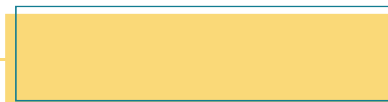
Bohmer, R.M.J. (2016), "The Hard Work of Health Care Transformation", *New England Journal of Medicine*, Vol. 375, No. 8, pp. 709-711.

Elg, M., Palmberg Broryd, K. and Kollberg, B. (2013), "Performance measurement to drive improvements in healthcare practice", *International Journal of Operations & Production Management*, Vol. 33, NO. 11/12, pp. 1623-1651.

Porter, M.E. (2009), "A Strategy for Health Care Reform – Toward a Value-Based System" *New England Journal of Medicine*, Vol. 361, No. 2, pp. 109-112.

Porter, M.E. (2010), "What is Value in Health Care?", *New England Journal of Medicine*, Vol. 363, No. 26, pp. 2477-2479.

Porter, M.E. and Kaplan, R.S. (2016), "How to Pay for Health Care", *Harvard Business Review*, Vol. 94, July-August, pp. 88-100..



## Pilot projects as public policy instruments: the case of integrated care pilot projects for chronic patients in Belgium

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In October 2015, the Belgian Health Ministers launched the joint plan “Integrated Care for Better Health” (IC4BH) targeting chronic patients. Through this plan, they expressed their intention to bring about a major transition from a fragmented care system to an integrated care one for such patients. Whilst the authorities knew that they wanted to move towards an integrated care system, they nevertheless did not know how to implement it in the Belgian-specific context. Therefore, they opted for an iterative and incremental implementation. In an original manner, they decided to rule out “top down” solutions and launched a call for multidisciplinary four-year pilot projects to involve field actors and generate “bottom-up” solutions.

The Belgian authorities have often used pilot projects in the health sector to test new solutions and new ways of working. For more than ten years, there has been an increasing number of calls for pilot projects in the Belgian health sector (e.g. “protocol 3” projects for frail old people, “psy 107” projects in the mental health sector, home hospitalisation pilot projects, mobile health projects, etc.). However, these new integrated care pilot projects are particular in the sense that they simultaneously target several diseases, encompass larger target groups than the previous ones (thousands of people per project) and cover larger geographic areas. But above all, they involve many more different actors in a phased co-creation process, i.e. policy-makers, civil servants, patients’ representatives, first-line and second-line care actors (hospitals, medical health centres, general practitioners, nurses, etc.) together with non-medical actors (e.g. social and cultural actors). These actors have different and often diverging interests, which raises major inter-organisational and inter-professional collaboration issues.

Implementing integrated care challenges usual governance schemes. The authorities aim at developing “loco-regional networks”, viewed as governance modes supporting the transition from a competitive to a collaborative care system. In this paper, pilot projects, which Vreugdenhil and Ker Rault see as “...means to establish communication between actors that usually do not cooperate” (2010, p.122), are viewed as public policy instruments supporting that kind of transition. Thereby, the researcher addresses the following question, the guiding thread of this paper: how does using multidisciplinary pilot projects as implementation instruments reshape modes of public governance in the Belgian health sector in a context of transition and ongoing devolution? The researcher focuses on how these instruments transform “the relationship between the governing and the governed” (Lascombes and Le Galès, 2007, p.3), between all the actors of the care production chain who have to learn how to work together, cooperate and collaborate to achieve integrated care in Belgium.

This qualitative and inductive research draws on several data collection methods: interviews (N=22), focus groups (N=7), direct observation (109.5 hours), documentary analysis (operational documents) and a literature review.

### Keywords

Pilot projects, policy instruments, policy implementation, governance, integrated care

## References:

1. Belgian Ministry of Social Affairs and Public Health. Plan conjoint en faveur des malades chroniques: « Des soins intégrés pour une meilleure santé ». [Internet]. 2015. Available from: [http://www.integreo.be/sites/default/files/public/content/plan\\_fr.pdf](http://www.integreo.be/sites/default/files/public/content/plan_fr.pdf)
2. Buttard A, Santos CD, Tizio S. Networking Healthcare. From a competitive call to a medical cooperation as a guarantee of a found confidence. *Recherches en Sciences de Gestion*. 2012;6(93):21–43.
3. Vreugdenhil H, Ker Rault P. Pilot Projects for Evidence-Based Policy-Making: Three Pilot Projects in the Rhine Basin. *German Policy Studies*. 2010;115–51.
4. Lascoumes P, Le Galès P, editors. *Gouverner par les instruments*. Paris: Presses de la Fondation Nationale des Sciences Politiques; 2004. 370 p. (Gouvernances).
5. Lascoumes P, Le Gales P. Introduction: Understanding Public Policy through Its Instruments? From the Nature of Instruments to the Sociology of Public Policy Instrumentation. *Governance*. 2007 Jan;20(1):1–21.





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## The Evolution of New Zealand's Health Workforce System

Author: Dr Gareth Rees

*Universidad ESAN, Lima, Peru*

Much of the effort of health system workforce policy and planning is directed to matching worker numbers and skills with expected demand using quantitative modelling. While sophisticated, these models are more suited to service planning and shorter time periods. For a health workforce planning system to be responsive in an environment of change, it is recommended that its actors and data become part of an interactive and synergistic process. Though few actually achieve this. Here, New Zealand's novel approach to health workforce planning is introduced and the challenges it faces are discussed.

From the mid-1980s, New Zealand introduced new public management that placed an increased focus on financial and structural efficiencies at the expense of the health workforce's development. After two decades of reform and workforce inattention the prognosis was poor. By the late-2000s, New Zealand had become significantly reliant on imported doctors and nurses and was facing domestic workforce turmoil and pressure due to its aging population. This in-part influenced the recentralisation of health workforce planning and policy. A new entity, Health Workforce New Zealand (HWNZ), was established to provide national leadership for the development of the country's health and disability workforce and overall responsibility for planning and development of the health workforce to ensure that the health care workforce is fit for purpose.

HWNZ proceeded to implement a new approach to health workforce planning. It is innovative and unique in that it moves past the near-term predictive planning paradigm and incorporates design thinking and alternative forecasting approaches to better understand the nation's future health needs. Driving the approach are clinical scenarios that describe future models of care. These care visions, the Work Service Forecast (WSF), help to break planning from the restrictions of the present and allow for strategies to assure a ready supply of the numbers, skills and roles for future services. Developed by sector thought leaders, the WSF process brought together to a range of clinicians and health professionals over service aggregates to identify how a future service will evolve and the models of care that they will contain. A number of workforce innovation pilots have also been conducted to examine extensions of scopes of practice, the entry of new roles and the substitution of tasks as a means to identify how the workforce may adapt to the WSF visions.

However, there are challenges to progress and for innovation diffusion such as fragmented funding, poor delivery coordination, accessing training, opportunity matching and a traditional culture of health workforce planning. As such further policy coordination is required.

## Noncommunicable diseases and human resources for health: A workforce fit for purpose

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The increasing incidence and prevalence of NCDs will require a transformation of services to affected individuals. New types of services will be required, with new modalities and location of delivery. These will affect the health workforce in terms of skills needed, new roles, additional numbers, mix and deployment. Each aspect of service transformation must be identified clearly and assessed to develop and implement effective policies and strategies that will help strengthen the capacity of the existing and future health workforce. These will affect the health workforce in terms of skills needed, new roles, additional numbers, mix and deployment. Each aspect of service transformation must be identified clearly and assessed to develop and implement effective policies and strategies that will help strengthen the capacity of the existing and future health workforce. We will describe the main challenges that policy-makers face in trying to meet the health workforce needs that derive from the changing and increased demand for services linked to NCDs. We will then identify policy options that can be considered to respond to these challenges. We do so recognizing that interventions need to be adjusted according to the targeted disease or group of diseases, the epidemiological and demographical profile of the population, and the characteristics and resources of a country's health system.

The main messages to policy-makers are:

1. The supply of human resources for health must be improved using two main strategies: training "new" workers in the correct competencies to meet NCD demands; and utilizing current workers more effectively.
2. Having "more" health workers is not a sufficient policy response; they must also be more accessible.
3. The quality of the health workforce must improve for the provision of NCD services to be optimized and needs to be met.
4. Workforce policy and planning, regulation and management must be aligned with service planning and delivery and must support integrated teams rather than isolated individual health professionals, so that NCDs can be addressed effectively at all levels of service.

Overcoming the challenges related the health workforce is not an exact science; it requires consideration of a complex policy framework, such as the one set out in the Global Strategy on Human Resources for Health: Workforce 2030 (WHO, 2016) and the subsequent Regional Framework for Action of a Sustainable Health Workforce (WHO, 2017b). It is an exercise in selecting policy options that fit country context and identified priorities, are consistent with needs, and are economically, organizationally, politically and socially feasible.

## Examining ethical leadership in healthcare organizations and its impacts on employees' behavioral outcomes – An empirical analysis from Austria

Authors: Mr. Alexander Braun <sup>1</sup>; Ms. Arleta Franczukowska <sup>2</sup>; Dr. Eva Krczal <sup>3</sup>

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### Background

There is mounting evidence that leaders who regularly demonstrate ethical behavior can enhance different organizational outcomes. The beneficial role of ethical leadership is increasingly gaining attention from researchers and practitioners in healthcare organizations. Therefore, it is the main objective of the current study to examine the relationship between ethical leadership and behavioral outcomes of healthcare employees. Guided by empirical evidence, we hypothesize that ethical leadership is positively correlated with job satisfaction and affective commitment and negatively correlated with burnout and intention to leave. We also suggest that frustration tolerance, self-esteem and emotional stability have moderating effects on these relationships.

### Methods

To empirically examine the relationship between ethical leadership and employees' behavioral outcomes in the healthcare context, we conducted a field study by surveying health professionals (physicians, nursing staff, midwives, physiotherapists, speech therapists, occupational therapists, radiology technologists) working in private and public Austrian healthcare organizations (hospitals, nursing homes, rehabilitation centers, sanatoriums). The questionnaire consisted of socio-demographic questions (age, gender, professional group, employment status, duration of employment type of institution) and items from existing questionnaires that have been used in prior researches and proved to be valid and reliable. For instance, ethical leadership was measured using 10 items developed by Brown et al. (2005), Fischer and Lück's (1972) 8 items were used to measure job satisfaction. The collected data (n=458) was analyzed in IBM SPSS Statistics using correlation analysis, simple and moderated multiple regression analysis. The reliability status of measurement instruments was measured with the most well-known test Cronbach's Alpha.

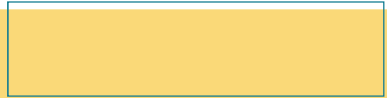
### Results

The reliability status of measurement instruments was satisfactory with reliability levels above 0.78. That means that we can rely on the accurateness and precision of the measurement instruments used in the study. According to our hypotheses, the results show that ethical leadership is significantly positively correlated with job satisfaction ( $r = 0.485^{**}$ ,  $p < 0.01$ ) and affective commitment ( $r = 0.461^{**}$ ;  $p < 0.01$ ) and significantly negatively correlated with burnout ( $r = -0.347^{**}$ ,  $p < 0.01$ ) and intention to leave ( $r = -0.405^{**}$ ,  $p < 0.01$ ). The results hardly support the hypothesis, that frustration tolerance, self-esteem and emotional stability moderate the relationship between ethical leadership and job satisfaction, affective commitment, burnout and intention to leave. However, we found a significant direct influence of those variables on the outcomes examined. Furthermore, the study indicates that physicians rated their supervisors' ethical leadership significantly lower than other health professionals did.

### Discussion

Our empirical analysis has enriched the current literature by providing several insights into the research on ethical leadership in the healthcare context. Consistent with previous studies conducted in different contexts, our findings confirm the positive relationship between ethical

leadership and employees' behavioral outcomes. The study shows that by regularly demonstrating ethical behavior, supervisors in healthcare organizations are able to enhance employees' job satisfaction and affective commitment and can reduce burnout and intention to leave. This could further result in decreased costs for recruitments, trainings etc. and increased efficiency and quality of healthcare. Therefore, we recommend promoting the development of health professionals' leadership skills. Our findings are valuable for researchers and practitioners in the field of human resource and healthcare management and may be transferred to other countries. Further research should be conducted to optimize our study design or to investigate how ethical leadership could influence other outcomes in healthcare organizations.



## Anesthesiologists' shortage at ISMETT – UPMC ITALY

Authors: Mrs Giulia Padovano<sup>1</sup>; Mr Luca Ferrante <sup>2</sup>

<sup>1</sup> ISMETT, Palermo, Italy; <sup>2</sup> UPMC Italy, Palermo, Italy

### Context

ISMETT is an institute for scientific-based care and research (IRCCS) in treatment of end-stage organ failure. Located in Palermo, Sicily, it is a reference hospital for the Mediterranean area. ISMETT is included in the Italian National Health System. In its governance are the Region of Sicily, UPMC (University of Pittsburgh Medical Center), and Ri.MED Foundation. ISMETT is JCI certified. It counts about 800 employees, has 78 beds and 5 operating rooms. Patients treated at ISMETT are very complex and require highly specialized medical skills (average DRG weight is 3.79 vs. national reference of 1.19), with a 94.4% occupancy rate.

### Methods

The shortage of physicians is a relevant issue for ISMETT, and implies vast efforts in recruitment and retention activity. This study focuses on anesthesia, which with an average of 2.5 vacancies per year and about 7 months of time to fill them, is one of the most critical areas.

Methodology includes the combined analysis of historical data on:

Average number of qualified applications for selection;

Turnover related to seniority;

Organizational Wellbeing Survey: Target: anesthesiologists with more than 6 months seniority; focus: elements facilitating or hindering the wellbeing of employees;

Exit questionnaires: Target: resigning employees; focus: reasons for leaving, relationship with supervisor, communication flows;

Number of residents in training programs at ISMETT.

The observation period was 2010–2013 (P1) compared with 2014–2017 (P2) for application indicators and 2015–2017 for the other indicators. Over the last three years we have taken actions to increase engagement, and adopted changes in recruitment.

### Results

Recruitment: In P2, we registered a relevant increase (+142%) in anesthesia applications per selection after implementing a specific action plan (see Discussion).

Engagement: In 2015, the wellbeing indicator was 4.21, in January 2018 it was 4.26 (1–6 scale, 3.5 being the threshold). We registered improvement in health and safety as well as work-related stress items, in addition to better feedback on leadership and relationship with colleagues. Areas for improvement: work-life balance, equity in organization, career ladder. Changes in scheduling and compensation pattern were implemented after 2015.

Turnover: From 2014 to 2016 the anesthesiologist turnover rate was 16.2%; 50% of the total MDs' contract terminations were anesthesiologists. Most of the terminations took place within the first year of seniority. In 2017 we registered no terminations in anesthesia.

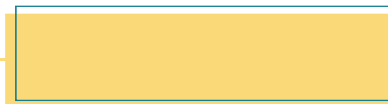
Education: From 2015 to 2017, 68 residents worked in the anesthesia department at ISMETT, with an average annual number of about 23 residents.

### Discussion

Lately, the chief of the anesthesia department activated stronger interactions with professional associations and specialization schools. We started scheduling interviews before the applicants completed their specialization, and posted calls close to the time of specialization exams. We registered an increase in applications per selection.

Regarding organizational wellbeing, the shortage of physicians contributes to determining high work-related stress and workload. Relationships between supervisor and co-workers tend to deteriorate, and staff complain about compensation and career opportunities.

At a national level, the shortage of physicians is due to the ageing of the population and staff turnover. Wages are set centrally and do not reflect scarcities related to particular specializations or regions. The Ministry of education predetermines the number of students enrolled in medical specialization schools and data shows inconsistency between demand for doctors and number of specialized doctors. ISMETT also suffers strong competition from public hospitals with lower level of complexity.



## Identifying training requirements for nursing children with complex health care needs in the community: A European study

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### Context

Advances in the field of medicine have increased the number of children living with complex conditions, and with that the need for high-quality health care. Nurses play a key role in the care of children. The knowledge and training for nurses working with children and families needs to be targeted in order to ensure the delivery of high-level care. Aim To map nursing qualifications required to work with children with complex care needs (CCN) and their families in the community in 30 European countries. This study is part of the EU funded project: Models of Child Health Appraised (MOCHA).

### Methods

A questionnaire, for distribution by country agents (CAs) in 30 European countries, was developed in order to explore the qualifications required for nursing children with CCN in the community. Two different review procedures with experts were established before circulating the surveys. Once reviewed and distributed to the CAs, these had the responsibility to deliver the questions to the appropriate experts in their respective countries or of finding the required data from other sources. To validate the answers presented in the questionnaires, further clarifying questions were sent to the CAs. This gave the research team the possibility to achieve a more accurate interpretation of the information provided. Responses were received from 24 countries (80%). Descriptive statistics were used for analysing the results of the survey. Corrections, comments and specifications in the free text boxes offered supplementary information.

### Results

No specialised training is required to deliver community nursing care to children with CCN in 75% (n = 18) of the participating countries. For these countries, a general nursing qualification was the only requirement. General nursing training was of four years duration in eight countries (44.4%), three years for seven countries (38.9%), and three and a half years for three countries (16.7%). Although a specific paediatric training is not required in these countries, the majority (66.7%, n = 12) offer undergraduate and/or specialised/postgraduate programmes with a focus on children's nursing. The most common being a specialised/postgraduate training of one year duration. Six countries (33.3%) affirmed that no paediatric options were available for further training. Only five countries (20.8%) stated that a paediatric nursing qualification was required to care for children with CCN in the community. One country (4.2%) informed that community paediatric nursing services were not available.

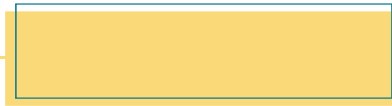
### Discussion

The results of this study show that for the majority of European countries, a general nursing qualification is all that is required to work with children with CCN in the community. According to the Paediatric Nursing Associations of Europe and a growing body of evidence, children are entitled to be cared for by nursing staff who are adequately prepared and qualified. This reinforces the need to

promote specialist children's nurse education in order to enhance the skills and competence of nurses who deliver care to children living with CCN. Creating a European competency framework for regulating the nursing care of children within general nursing programmes can be an important step in reaching this goal.

References

Paediatric Nursing Associations of Europe (2015). Paediatric nurse education in Europe: a position statement by the Paediatric Nursing Associations of Europe (PNAE).



## Portuguese Human Resources in Public Health: a critical step towards a national reform

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### Context

Recently, Portuguese Public Health Services (PHS) adapted their core functions to the Essential Public Health Operations(1). Their responsibilities include Public Health (PH) information, planning, surveillance, intervention, programmes management regarding health prevention, promotion and protection and cooperation in health authority functions. Local PHS should have one PH doctor per 25.000 inhabitants, one nurse per 30.000 inhabitants and one environmental health technician (EHT) per 15.000 inhabitants(2). These ratios have never been assessed before and are of utmost importance within the ongoing national PH Reform, especially concerning Human Resources (HR) needs.

We aimed to characterise and compare the regional distribution of PH HR.

### Methods

Public Health Human Resources (PHHR) data was provided by the Portuguese Central Health System Administration. We included PH doctors, nurses, EHT and PH medical residents working in the Portuguese National Health Service in 2016 and performed an analysis based on the five health regions. Data concerning each health region's population was publicly available at the National Statistic Institute. PHHR number was compared with those recommended by the law through the calculation of ratios (considering population size). Confidence intervals (CI) were calculated by Byar's method (3) to analyse if there were differences in PHHR between the five health regions and what is recommended by law.

### Results

The results show there is a lack of PHHR in every region. Nurses are the most affected group per health region with the following ratios: North - 0,57 nurses/30.000 inhabitants (CI95% 0,44-0,77); Center - 0,58 nurses/30.000 inhabitants (CI95% 0,39-0,81); Lisbon and Tagus Valley (LTV) - 0,34 nurses/30.000 inhabitants (CI95% 0,24-0,46); Alentejo - 0,31 nurses/30.000 inhabitants (CI95% 0,10-0,72); Algarve - 0,68 nurses/30.000 inhabitants (CI95% 0,32-1,25). LTV and North have less PHHR, than what is recommended by law, with statistical significance. On the other hand, Center has less EHT(0,72 CI95% 0,57-0,90) and nurses(0,58 CI95% 0,39-0,81), with statistical significance. Alentejo has less nurses (0,31 CI95% 0,10-0,72), with statistical significance, when comparing with the law. We didn't find any statistically significant differences on PHHR between regions. Regarding PH residents, we found that LTV has the highest ratio of PH residents per PH doctor (0,50 CI95% 0,35-0,69) and North has the lowest (0,26 CI95% 0,17-0,37).

## Discussion

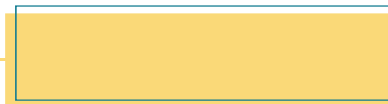
PHHR are critical to the PH functioning, especially considering the PH reform and challenges. There is “No health without a workforce” as WHO states (4). Political commitment and leadership are imperative to acknowledge that improvements in health are also sustained by an appropriate PHHR. The lack of PHHR in Portugal may compromise the Essential Public Health Operations and PHS value (5,6), an issue that will need further research.

Our study showed a nationwide deficit in PH professionals. Previous studies revealed 86% of PH doctors were older than 50 years in 2011(7). In Portugal, retirement age is 66,3 years (8), so we could anticipate a mass retirement in the following years, resulting in a loss of PH doctors, not expected to be equalized by the present number of PH residents(9).

Therefore, it is urgent to tackle PHHR policies in order to assure the existence of a PH workforce that is fit for purpose.

## Keywords

Public health, human resources, management



## Length of employment of technically efficient surgeons

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### Objectives

Recruiting and retaining technically efficient surgeons are the keys for the hospitals to survive in the increasingly fierce healthcare market competition. However, it may be difficult for university hospitals to recruit and retain technically efficient surgeons because their missions include not only clinical services but also teaching and research. We hypothesized that technically efficient surgeons do not continue to work in a university hospital.

### Methods

The authors collected data from all the surgical procedures performed at Teikyo University Hospital from April 1 through September 30 in 2013-2017. The dependent variable was defined as a length of employment of each surgeon. It was calculated as the number of years when a surgeon performed surgery as a senior surgeon at Teikyo University Hospital. Output-oriented Charnes-Cooper-Rhodes model of data envelopment analysis was employed to calculate each surgeon's technical efficiency score. Six control variables that are available to us and may influence surgeons' length of employment were selected; experience, medical school, surgical volume, gender, and academic ranks (professor, associate professor). Multiple regression analysis using ordinary least squares and ordered logit models was performed. A p-value < 0.05 was considered statistically significant.

### Results

The authors analyzed total 13,911 surgical cases in 30-month study period from 2013 through 2017. Efficiency scores were calculated for all of them in each year, and the mean of the efficiency scores for each surgeon was calculated. Two hundred and eleven surgeons were analyzed. The results were shown in TABLE. Efficiency scores had significantly negative association with length of employment ( $p = 0.011$  and  $0.020$ ). Experience and surgical volume had significantly positive association with length of employment ( $p = 0.000$  and  $p = 0.000$ , respectively in both models). The other coefficients of control variables were insignificant.

	Ordinary least squares		Ordered logit	
	Coefficients	p-value	Coefficients	p-value
Efficiency Score *	- 1.418 ± 0.549	0.011	- 1.974 ± 0.847	0.020
Experience *	0.059 ± 0.014	0.000	0.086 ± 0.023	0.000
Medical School	- 0.181 ± 0.238	0.448	- 0.201 ± 0.367	0.584
Surgical Volume *	0.022 ± 0.006	0.000	0.036 ± 0.009	0.000
Gender	- 0.027 ± 0.300	0.928	0.047 ± 0.433	0.913
Rank (Professor)	- 0.345 ± 0.355	0.333	- 0.462 ± 0.530	0.384
Rank (Associate Professor)	0.310 ± 0.313	0.323	0.414 ± 0.472	0.380

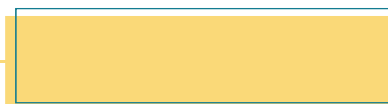
TABLE: Results of multiple regression analysis using ordinary least squares and ordered logit models. Data are presented as mean ± standard error. \* indicates that the coefficient is significantly different from zero ( $p < 0.05$ ).

### Discussion

From our ordinary least squares and ordered logit models multiple regression analysis, we demonstrated that technically efficient surgeons have shorter length of employment at a university hospital. The longer their experiences were and the larger their surgical volumes were, the longer they work in a university hospital. Their medical school, gender, or academic ranks did not have any significant predictive values for their length of employment at a university hospital. Both statistical models reached the same results. This finding demonstrated that a university hospital cannot retain technically efficient surgeons after controlling their experience, surgical volumes, academic ranks, medical schools and gender. This is the first study that evaluated the relationship between surgeons' technical efficiency and their length of employment at a university hospital.

### Conclusion

A university hospital cannot retain technically efficient surgeons.



## Satisfaction of European physicians - state of the evidence across European Union countries

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### Background

Physician satisfaction is a multidimensional concept related to environmental factors such as task variety, working conditions, workload and career prospects. The level of physician satisfaction affects medical practitioners, their patients, and the healthcare system.

Despite the wide range of studies about the satisfaction of physicians in different European countries, there is a lack of literature reviews synthesizing and analyzing current evidence. In our research we examine studies concerning the level of physician satisfaction in European hospitals. The main goal is to provide a general overview of research in this field and their results.

### Methods

We searched the following databases: MEDLINE, EMBASE, PsycInfo, CINAHL and COCHRANE from January 2000 to December 2016. The search strategy included both MESH terms and free text words related to the subject of the review, such as: physician, job satisfaction, career satisfaction, work satisfaction, dissatisfaction, well-being, burnout, workload. Our search process was performed without language restrictions. The study protocol was registered at the PROSPERO database.

The eligibility criteria included: (1) target population: physicians working in European hospitals, (2) any quantitative research aimed at assessing physician satisfaction, (3) satisfaction was measured using validated tools. We excluded research focused only on primary care, long term care or hospice as well as qualitative studies. Data was extracted using a dedicated extraction form and was checked by two reviewers. The methodological quality was assessed using Critical Appraisal of a Survey. To analyse results we performed a narrative synthesis and metaanalysis.

### Results

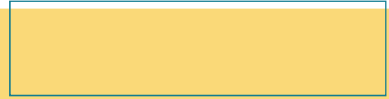
All 8,585 abstracts and 368 full text articles were independently screened by two reviewers against inclusion/exclusion criteria. Finally 62 studies from 83 references were included for qualitative analysis. 49,567 physicians from 17 European countries participated in these studies. Sample sizes varied between 54 and 7090 participants (median sample size: 336).

The response rate varied between 16% and 88%. The studies were conducted between 1994 and 2014 and included either single specialty (16 studies), multiple specialties (31 studies) or did not provide data on the specialty (15 studies). The most common single specialty studied was anaesthesiology (8 studies). Mean age varied from 28 to 50.6 years. The proportion of females varied between 9% and 100%. The questionnaires used to measure satisfaction varied to a great

extent. According to our review about 58% of medical doctors working in European hospitals are satisfied.

Discussion

This is the first systematic review in Europe regarding satisfaction of physicians working in hospitals settings, establishing a starting point for future studies in this field. In contrast with the moderate to high levels of physician satisfaction reported among North American studies, the satisfaction of physicians working in European hospitals is at a moderate level. Our systematic review identified a large variety of scales used to assess the level of physician satisfaction and the lack of standardized tools, the implementation of which would enable comparing the results obtained in various studies. Physician satisfaction is an important indicator for health care managers and policy-makers. Therefore, actions should be undertaken towards the development and dissemination of standardized tools for measuring physician satisfaction in different medical facilities. Due to the health workforce crisis and globalization of their labour market, further research and comparisons are recommended.



## Promoting Research: New Generations Engagement Value

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<sup>1,2,3</sup> *Fundació de Recerca, Docència i Innovació Mútua Terrassa, Barcelona, Spain*

### Context and aims

Recently, we have witnessed a change of scenery in healthcare institutions, in which we observe how the empowerment (loyalty) and commitment of healthcare professionals based exclusively on economic (and hierarchical) criteria has topped out. Moreover, the sociological profile of the new generations that have been recruited into our organizations has new values and expectations. Consequently, management must assume a more disruptive course of action that takes into account the expectations of the new generations of professionals, emphasizing the value of work-life balance and the desire for a stimulating professional life.

Mútua Terrassa (MT) is an integrated, non-profit, health and social organization. In addition, it is a referral teaching hospital, from the University of Barcelona. Our catchment area covers a particularly strategic territory and of special interest for academic, research and biomedical innovation.

### Project goal

The purpose of the project is to identify how boosting research contributes to the engagement of the new generations.

### Target

Professionals in the specialization period, and recent graduates who enjoy junior positions who are, hence, in the beginning of their professional careers.

### Scope

Transversal. Work plan designed jointly among the different stakeholders of the entity.

### Key findings

Despite carrying out former initiatives, the Strategic Plan of the FMT of teaching and research is developed. This roadmap devises 4 value-added strategic axes to our purpose: strategic research management, the link between research and clinical excellence, innovation applied to people's attention and research, and innovation as an integral part of social responsibility. These axes evoke 10 drivers that link clinical and healthcare professionalism with research, and are geared towards the engagement of the new generations.

Innovation contribution We can objectify some indicators that show us a clearly positive contribution to our project. Table 1. Main evidence

<b>Indicators</b>	<b>2014</b>	<b>2017</b>
<b>% New contracts to recent graduates working in MT</b>	23%	32%
<b>Professionals in health sciences with a doctoral thesis</b>	71	87
<b>Professionals with mixed contracts: research-clinical</b>	25	40
<b>Post-graduate health training specialized in intensification</b>	0	2
<b>Acumulated Internal grants for research (basic research, clinical, primary care and social healthcare)</b>	16	25
<b>Publications with impact factor*</b>	145	160

(\*)Peer review journals

### Main contributions

- The management of the clinical missions, research and teaching as an element of differentiation and value in the health organizations.
- The objective of incorporating and retaining young talent obliges the establishment of human resources policies geared towards new generations.
- Research and innovation appeal lies inside the hospital and beyond, with a vision of territory and social commitment.

### Other considerations

This study only incorporates the research perspective. However, other elements of organizational management and participation in clinical units can also contribute to the engagement of new professionals.



## Mental health and diagnosis of Healthcare organizations – how to make treatment happen

Author: Dr Prof dr Marija Jevtic

*University of Novi Sad, Faculty of Medicine, Novi Sad, Serbia, Institute of Public Health of Vojvodina, Novi Sad, Serbia*

Some countries cure shortage of health professionals by mobility, while the problem intensifies in others. External influences present a risk factor undermining structure and affecting culture in health organisations (HOs). The systems-psychodynamic approach to solving human resources related problems in health sector involves considering long-term changes in education and planning of health professionals, organisational processes modernisation and team work efficiency. Based on a constant re-examination of the health system's role and its consumer-focused primary tasks (PTs), the systems-psychodynamic organisational consulting (SPOC) operates in the field of a healthcare institution's organisational capacity, more specifically, its matrix which affects personal feeling in an organisation and its externally projected image.

This paper presents the SPOC possibilities and experiences in the health sector, collected in working with a gamut of professional positions and roles, through training carried out by the Psycho-Social Section of the Society of Group Analysts Belgrade.

Focused on helping health systems, leaders, and teams, SPOC influences the planning processes in order to increase their efficiency and effectiveness. Study of organisational culture and re-assessment of PTs improve understanding of the processes, the efficiency of the teams, and the influence of unconscious contents and norms.

Consultants' experiences confirm that HOs are vulnerable to external influences, their interpersonal relationships resulting from a mixture of external factors and enrooted internal norms. SPOK investigates the causes of instability and anxiety, changes and transformations, as well as conflict situations. An increased performance monitoring in the public healthcare sector requires a fresh view on work related issues in a complicated organisational environment suffering from new negative phenomena caused by demands for achieving results coupled with financial constraints. Dominating resistance, insecurity and control diminish trust and hinder positive economic outcomes and PT performance. Practice has shown that consulting activities focus on understanding the individual existential PT as a cause of resistance to change, anxiety and resistance perception, and a mismatch with organisational normative PTs.

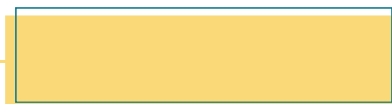
There is a deeply rooted lack of confidence in leaders and managers, putting them in the scapegoat-like position. Instead of doing one's job well, "success" often implies being good at political games and prepared to resort to manipulation (a common example in practice).

People in an organisation accept or build their informal roles within its existing matrix. Progress dictates a shift towards a culture of fluidity and flexibility, as well as working on containment, whose absence increases the risk of instability, destruction and unpredictability, and diminishes solidarity, creativity, and the feeling of security.

The SPOC methods can be a contributing factor in modernisation and innovation of lifelong health education, as well as in achieving better results in PT performance in a transitional environment, thus helping to make necessary changes possible and sustainable

Keywords

Health care organisation, mental health, treatment, systems-psychodynamic organisational consulting, changes, resistance, matrix, primary task



## Implementation of project management to improve the effectiveness of training of health workers: the experience of Kazakhstan

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### Context

One of the main conditions for creating a modern and effective health system is to provide health organizations with competitive specialists. The training of medical workers is currently an area in which the introduction of modern management is highly relevant. As part of the introduction of project management at the level of government bodies, the Ministry of Health of Kazakhstan launched the project "Modernization of medical education" for 2017-2019. The goal of the project was to achieve the quality of training human resources for health through the introduction of the best international practice and strategic partnership with leading foreign academic centers.

### Methods

In order to implement the project we developed the Project Charter and the Roadmap, key performance indicators for the period of 100 days, 500 days and 3 years. The project office was formed on the basis of the Ministry of Health and the Republican Center for Health Development. To implement the national project, regional projects were launched at the level of medical universities. The main mechanism for implementing regional projects was the strategic partnership of Kazakhstan's medical universities and leading foreign universities from the US, Poland, Sweden, and Lithuania.

Strategic partnership includes 4 main mechanisms of cooperation: consulting, mentoring, joint management, trust management in the following key areas: Improving the management and financing system in medical universities, increasing the potential of faculty members and managers, improving educational programs, and developing the scientific activity of medical universities.

### Results

Realization of the project "Modernization of medical education" in 2017 allowed to achieve systemic changes in the sphere of state regulation of training of medical personnel - to optimize the specialties of training, approaches to the evaluation of graduates of medical universities, etc. The program of strategic partnership of Kazakhstan's medical universities with leading foreign universities, launched in the framework of the project, helped to revise the strategy for the development of universities, to introduce effective management mechanisms, to build capacity of managers of medical universities and faculty members.

### Discussion

The introduction of the project approach into the medical education management system, the strategic partnership of Kazakhstan's medical universities and leading foreign universities will provide an opportunity to strengthen the positions of medical universities in the domestic and foreign markets, to improve the quality of the educational process, to reduce risks, to support the research and teaching and methodological work of faculty members.

## Workforce development strategies in a Primary Care Team

Authors: Ms Alba Brugues <sup>1</sup>; Dr Antoni Peris-Grao <sup>2</sup>; Mr Tino Marti <sup>3</sup>

<sup>1,2,3</sup> CASAP, Castelldefels, Spain

### Context

Catalan health system is based on a public purchaser and multi provider basis. Primary care is structured around Primary Care Teams (PCT) composed by both family doctors, pediatricians, nurses, nurse aids, dentists, social worker and health clerks. Most PCT are public and professionals are salaried. Health department hires services accordingly to a lightly defined service basket. Demographic changes, new technologies and professional role development have increased PCT service basket developing care previously assumed by hospital. Workload and professional interest are determinant to set new dynamics in PCT.

### Strategy

Ours is an urban team with more than 75 professionals. Supported from management, professional skills have been developed and a shift of responsibilities from doctors to nurses, nurse aids and clerks has been implemented. Training needs have been identified and training has been provided, partially from scientific societies, partly by team professionals.

Nurses have extended their role in home and chronic patients' care to acute situations, both in adults and children, previously assumed only by doctors and now shared by both professionals according to internal guidelines. Also, they have assumed on their own children health programs.

### Results

Team profile has changed. Team has hired more nurses than doctors. Adults are attended by 15 nurses and 13 family doctors. Children are attended by 6 nurses and 3 pediatricians. A nurse aid is responsible for retinal screening in diabetic patients.

Patients, both adult and children, are appointed to a list. Otherwise, if they ask for immediate visit, they're considered spontaneous visit. Last year, nurses took care in "box pathway" more than 42% of these adult consultations and more than 2500 children consultation.

Children and parents group activity led by nurses transformed 329 twenty minutes' individual consultations into 57 seventy-five minutes' group visit.

An adults' nurse started an asthmatic children office.

Activity'17	TOTAL
<b>Alergies</b>	316
<b>Minor Surgery</b>	269
<b>Ultrasonography</b>	110
<b>Asthmatic children</b>	118

2017	Box	TOTAL	% Box
<b>Consultations</b>	16.031	<b>38.170</b>	42,00%

2017	Healthy children
<b>Consultations</b>	2.572

Parental Group	1 month	6 month
<b>Sessions</b>	25	32
<b>Patients</b>	150	179

Esponaneous'17	INFPED	PED	TOTAL	% INFPED
<b>Consultations</b>	766	9.720	<b>10.486</b>	7,30%

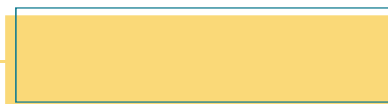
New dynamics have also allowed family doctors to develop other activities, being the more common a higher comprehensiveness of patients situations' diagnose, evaluating results from diagnostic tests (treadmill test, holter, MNR, etc) or developing new activities in the center itself:

- Minor surgery
- Dermatoscopy
- Ultrasonography
- Allergic diagnose and treatment
- Acupuncture treatments
- Development of "less is more" strategies.

Also nurses and doctors may develop integrated care strategies for chronic complex patients and community activities.

### Discussion

Training and developing competences for professionals is a rewarded strategy in primary care, meaning also a improvement in longitudinality, accessibility and comprehensiveness. Professionals responsibilities are acknowledged by the team and management. Although these changes are not to be started on a budget saving basis, current and future trends on lack of doctors makes them necessary in many settings in Europe.



A graphic consisting of numerous thin, curved lines in shades of yellow, orange, and teal, forming a large, abstract shape that resembles a stylized 'E' or a wave, positioned on the right side of the page.

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## Accreditation mechanisms for eHealth as a health promotion tool

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Health promotion and access to health information are fundamental to improve health outcomes within primary healthcare. Traditionally patients relied on medical professionals for health information, who provide evidence-based recommendations. However, new technologies embraced by an increasingly connected society provide new opportunities, including websites and apps, amongst others. Due to haphazard and rapid growth and lack of systematic authentication, health information via eHealth is frequently not verified, giving risks ranging from misleading information to hidden data capture and maluse. This study aimed to investigate whether the 30 EU and EEA countries have accreditation processes for safe eHealth health promotion.

The extent to how effective eHealth initiatives are, is one supportive objective of the Horizon 2020 funded project Models of Child Health Appraised (MOCHA). To investigate whether countries had their own accreditation processes for apps and websites for health promotion, the MOCHA methodology was used. A key feature of this is the retention by MOCHA of a local expert, known as a Country Agent, in each of the 30 EU/EEA countries.

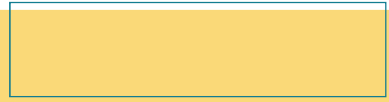
A semi-structured survey design was used, which underwent strict peer review to ensure scientific validation and to confirm rationale, relevance, and clarity. Data collection occurred between 25/07/17 to 29/01/18 (and is being updated for new data). Country Agents were asked to complete the questions based on their expertise, or in cases where this was not possible, to gather data from other sources or national experts on individual questionnaire items. The replies from all countries were analysed using descriptive statistics.

Responses were initially received from 23 countries. Five countries (Estonia, Germany, Portugal, Spain, and the UK) accredit apps. Estonia described a Child Helpline Service app, coordinated by the Medical Consultation Centre. In Germany, there are small, unofficial bodies, internally regulating health apps. Spain described autonomous regions having different accreditation processes. In the UK, the MHRA accredits apps meeting the definition of a medical device, while the National Information Board accredits apps outside this definition.

Six countries accredit websites (Austria, Estonia, Germany, Portugal, Spain, and the UK). Austrian and German health-specific websites use the quality seal: the 'HON code' for accreditation. All existing websites in Portugal are institutional websites and are therefore accredited by the providers. Spain uses the 'HON code' alongside MedCIRCLE and the Code of Conduct for Medical Websites Certification Program. In the UK, The Information Standard ensures rigorous assessments for health websites to guarantee high quality information.

Health information through websites and apps varies in terms of credibility and have poorly regulated information, with no protective actions in 17 (74%) of 23 countries. Resultantly, they could pose harmful rather than helpful information to the user, particularly to vulnerable groups, such as children. This survey showed very few countries report a validation protocol for accreditation of apps and websites. Processes mentioned vary widely for apps since they are generally not considered medical devices according to EU regulations. Accreditation mechanisms for health websites are uncommon, even though they are one of the most popular sources for obtaining health information. A few countries showed similarities in using the HON code to accredit their websites. Results from this study

indicate that further efforts through policy decisions and health authorities are needed to regulate apps and websites for health promotion information, to protect citizens from known risks of misleading information.



## Identification and quality assessment of core outcome sets in prostate cancer and their 'mapping' into real world data sources

Authors: Prof Giovanni Fattore <sup>1</sup>; Ms Helen Banks <sup>2</sup>; Ms Michela Meregaglia <sup>3</sup>; Dr Oriana Ciani<sup>4</sup>; Prof Paula Williamson<sup>5</sup>

<sup>1</sup>Bocconi University, Milan, Italy; <sup>2,3</sup> CERGAS SDA Bocconi, Milan, Italy; <sup>4</sup> CERGAS SDA Bocconi, Milan, Italy, University of Exeter Medical School, Exeter, United Kingdom; <sup>5</sup> University of Liverpool, Liverpool, United Kingdom

### Content

The Core Outcome Measures in Effectiveness Trials (COMET) Initiative aims to systematically identify studies presenting core outcomes set (COS) to be reported in all clinical trials of specific conditions; however, studies recommending COS for other settings (e.g. routine care, registries) are also included in the COMET database. The aim of this study was to identify, summarize, and critically appraise the existing COS development studies using prostate cancer as a case study. Moreover, the degree of overlap between COS for clinical trials, COS for practice and existing real world data (RWD) sources was assessed.

### Methods

As part of the Big Data 4 Better Outcomes DO-IT European project, we conducted a targeted review of the COMET database to identify all COS studies developed for prostate cancer. Several characteristics including setting, methods for consensus, type of participants, outcomes included in COS and corresponding measurement instruments, timing and sources were extracted from the studies; outcomes were also classified according to a predefined 38-item taxonomy. The methodology adopted by the included studies was assessed based on the recent Core Outcome Set-STAndards for Development (COS-STAD) recommendations. A 'mapping' exercise was conducted between the outcomes recommended in COS studies and the variables routinely collected in administrative databases, disease registries and electronic medical records.

### Results

In total, 11 COS development studies published between 1995 and 2017 were retrieved; of these, 8 were classified as 'COS for clinical trials and clinical research', 2 as 'COS for practice' and 1 as 'COS patient reported outcomes'. The outcomes recommended were mainly categorized into 'mortality and survival' (17%), 'outcomes related to neoplasm' (18%), and 'renal and urinary outcomes' (13%) and did not show any relevant differences among study types. Within the COS-STAD framework, almost all the studies fulfilled the criteria belonging to the 'scope specification' domain, while several methodological weaknesses emerged in relation to the 'stakeholders involved' and 'consensus process' domains. The 'mapping' exercise showed a limited overlap between outcomes recommended in COS and those recorded in RWD sources; however, some outcomes can be measured by uniquely identifying incident cases and tracking the care provided over time through the linkage of various databases.

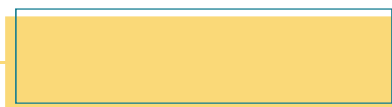
### Discussion

This targeted review identified a limited number of COS development studies in the area of prostate cancer. Moreover, some are quite dated, thus their recommendations might not be valid today. However, in more recent studies, the methodological quality substantially improved and more

attention was given to patient-reported outcomes, thus confirming the increasing importance of patient involvement into COS definition. More research is needed on COS developed for this cancer population and their reporting in clinical studies and, possibly, even in RWD sources, in order to exploit the full potential of routinely collected data in clinical practice. Combination of different data sources and interoperability of systems is a key to enhance the assessment of healthcare technologies and services with the final aim of improving their quality and, consequently, outcomes for patients.

#### Disclaimer

This project has received funding from the Innovative Medicines Initiative 2 Joint Undertaking (IMI2) under grant agreement No. 116055. This Joint Undertaking receives support from the European Horizon 2020 research and innovation programme and European Federation of Pharmaceutical Industries and Associations (EFPIA).



## Integrated Control System (ICS): An innovative tool for an accountable, reliable, effective, and ethically responsible governance of health care organizations

Authors: Mr Angelo Luca <sup>1</sup>; Mr Antonio Scaccianoce <sup>2</sup>; Mrs Arianna Traina <sup>3</sup>; Mrs Astrid Pietrosi <sup>4</sup>; Mr Giuseppe Provenzale <sup>5</sup>; Mrs Vincenza Scurto

<sup>1,2,3,4,5,6</sup> IRCCS ISMETT, Palermo, Italy

### Content

The health care sector urgently needs managerial tools to lead the changes and governance in the use of resources, making organizations more accountable, reliable, and ethically responsible, thus avoiding waste/ losses, and increasing quality and safety for patients.

We developed and implemented the Integrated Control System (ICS), an innovative tool based on a unique methodology of integration and economic evaluation among data: operational, clinical/quality from the Electronic Medical Record (EMR), and financial. The ICS aims to make governance more effective through accurate and fast economic assessments and reporting that structure/integrate multiple levels of data aggregations according to a particular purpose.

### Methods

ICS is based on an assessment methodology and an architecture of data identified, combined, and integrated between them to provide information reporting sets for a strategic governance of resources, internal phenomenon (both clinical and administrative), and external constraints.

Financial accounting processes are designed according to the Identification Model, which allows relating each cost or revenue with a reference item (e.g., episode of care, procedure, process, clinical phenomenon such as disease, infection, organ injuries caused by surgical events).

The innovative analytical accounts system implemented is set using clinical, operational, and financial data to improve the assessment of reference items, thus increasing knowledge of direct and semi-direct relations, and reducing indirect relations. The method aims to exponentially improve the quality and details of information available in order to understand use of resources (who, what, when, where, why, how) and the financial impact of clinical phenomenon to act proactively and in an effective way.

### Results

ICS allows governing of costs, processes and behaviors, stimulating continual improvement, generating knowledge of relations between clinical and administrative results, an opportunity to share and learn for staff (clinical, administrative, technical) in a logic of co-responsibility for company results and promotion of integrity to treat the largest number of patients safely, and with the best quality.

The methodology underlining ICS allowed ISMETT to increase direct cost for reference, and reduce indirect cost to less than 8%. This evolution represents a significant increase in quality and focus of financial assessments.

ICS allowed guidance of management actions in eliminating root causes of adverse clinical phenomena, highlighting financial impacts (e.g., reductions in infections and related financial resource use for specific type -25%), and optimizing use of resources (e.g., -13% device consumptions, -12% of external services cost), thus optimizing processes to increase productivity (e.g., increase in outpatients treated, increase of +16,7% in revenues).

## Discussion

Traditionally, management control systems do not use reference clinical items to generate financial assessments of company results, losing or limiting quality of information, and increasing approximation of results, inducing ineffective actions, waste of resources, and non-detection of sunk costs.

Health care needs to generate governance tools integrated as much as possible with clinical patient information, as realized by the ICS.

Furthermore, ICS allows the possibility of benchmarking analyses among hospitals in order to stimulate a continual improvement process by comparing detailed and aggregated values of clinical and administrative phenomena/assessments.

The strength of the ICS is that it can be applied and scaled to all hospitals of the National Health System, generating more knowledge in best effective practice of good governance, and increasing transparency in use of public resources, making the implementation of the tool strategic for politicians and governors.



## IMI Big Data for Better Outcomes Programme – Supporting the evolution towards outcomes-focused, sustainable healthcare systems in Europe

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<sup>1,2,3</sup>*Semmelweis University, Budapest, Hungary*

### Content

The Innovative Medicines Initiative 2 (IMI2) Big Data for Better Outcomes (BD4BO) programme aims to catalyse and support the evolution towards value-based, outcomes-focused, sustainable healthcare systems in Europe. It seeks to exploit the opportunities offered by big and deep data sources, generating a body of evidence that will inform policy debates towards this goal. This public-private partnership will provide a platform and resources for defining and developing enablers of the outcomes transparency evolution, bringing together stakeholders including payers, patients, physicians, regulators, academic researchers, and healthcare decision makers.

### Methods

The Programme is composed of four key enablers and several projects to facilitate the transition of healthcare systems towards more outcomes transparency. These enablers include definition of outcome metrics; protocols, processes and tools to access high quality data; methodologies and analytics to drive improvements; and digital and other solutions that increase patient engagement in the drive to better outcomes. To build these enablers, there are a number of projects including two over-arching projects. The Coordination and Support Action (CSA) implemented by the Big Data for Better Outcomes, Policy Innovation and Healthcare Systems Transformation (DO-IT) consortium is the overall coordinator for BD4BO activities within IMI and establish the mechanisms for a sustainable focus on outcomes-based healthcare delivery. The European Health Data Network (EHDN) project will implement a distributed data network to enable access to health data on scale for a range of purposes across the pharmaceutical value chain, from research to outcome-based payment models, and for the quality improvement of healthcare services. In addition, there are several disease-specific projects for Alzheimer's disease (ROADMAP), Haematological Malignancies (HARMONY) and Cardiovascular diseases (BigData@Heart). There are other disease projects emerging, including a project on Prostate Cancer, and potentially one on multi-morbidity.

### Results

The objectives of the BD4BO Programme are to develop

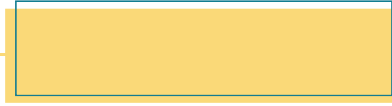
- an approach within existing data systems to efficiently enable initiation, maintenance, and evaluation of the right treatment to the right patient at the right time in healthcare systems,
- strategies to improve quality of healthcare including timeliness of healthcare delivery, patient-centeredness of care, and safety and effectiveness of care.

### Discussion

In the proposed session, the audience will hear about the implementation of powerful data sharing platforms to advance research in a number of exemplary disease areas and how regulators, payers and other decision-makers can use insights from novel data sources.

Keywords

Big data, health outcomes, outcomes-focused, value-based, sustainable healthcare systems



## MyVITALcoach: Versatile and personalized approach for “more good years” through mHealth

Author: Dr. Eva Elisabeth Gattnar

*HHL Leipzig Graduate School of Management, Leipzig, Germany*

### Context

European and other industrial societies are continually ageing. Due to the related raising costs in healthcare, many countries significantly invest into prevention of diseases in elderly population and thus enhance the quality of overall care while trying to lower costs in the entire healthcare system. This type of “value-based healthcare” will continue to play an important role in the world. The extension of the so-called “health margin”, i.e. the life span with good physical and psychological health, is particularly important here. The willingness to embrace the multitude of benefits of mHealth solutions – especially in elderly population – and to engage in self-care is herewith essential.

### Methods

Citizens in industrial countries create by living longer, but not necessarily healthier, an array of social and financial problems for the entire population, leading to the explosion of overall costs in the healthcare systems. Age researchers have found that health issues in aging population are about 80% caused by the lifestyle and only about 20% by the genes. Preparing for getting older by maintaining actively one's health is therefore a sustainable investment into one's future well-being and quality of life.

As healthcare shifts towards a patient-centered and value-based delivery model, rapidly developing mHealth capabilities will likely enhance its role as a valuable partner in this transformation. mHealth supports fitness and wellness activities and assists patients in managing a multitude of health conditions. Behavioral change programs which require regular management, such as developing sustainable and healthy habits amplify the effects of health procedures. By leveraging the current mobile technologies, mHealth makes it possible to provide a versatile and personalized approach to prevention of diseases in healthcare.

### Results

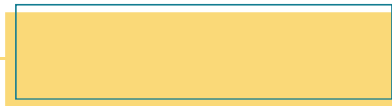
Nowadays widespread digitalization and higher common tech-savviness has given the elderly population easy access to digital products and services. This development is especially visible in the fast growing, privately driven, second healthcare market. MyVITALcoach, a multi-functional mHealth platform, located in this area, combines functions and programs developed by psychologists and personal coaches with a personalized mobile app to support elderly people as well as their potential caregivers.

MyVITALcoach' philosophy helps to leverage internal and external resources of the user through digital expert-driven concepts with the aim to improve his/her physical, mental and emotional fitness. It is designed to help elderly people to stay healthy in the long term. This concept includes tasks in the context of nutrition, workouts, medication, activity tracking and other to maintain the mental and physical well-being. Further functionality comprises of diverse checklists developed by psychologists. The checklists are incorporated into the personalized app to meet the specific needs of the elderly population. Family members can support their older relatives by creating appropriate programs to track their “compliance”.

## Discussion

Unhealthy and unsustainable lifestyle is caused by having no time, no motivation, and often no concept. With thousands of opposing suggestions, it is not easy today to find the right one for one's personal needs. This leads often to failing in achieving a necessary change in one's lifestyle. Especially elderly users prefer a curated collection of valuable directives presented by an expert. MyVITALcoach supports effectively practicing a healthy lifestyle with the goal of "more good years" using a psychological expert-driven approach.

Targeting exclusively the older adults allows to truly focus on the unique needs of this generation and their families. Engaged "best agers" are likely to stay healthier and thus are actively contributing to a higher "value" in healthcare. MyVITALcoach empowers elderly people to make necessary adjustments in their lives and to maintain and improve their own health. Seniors who are not used to be involved in mobile technologies are encouraged by their children to get in touch and benefit from the offered and easily to use solutions.



## ‘InDemand – a model for demand-driven eHealth co-creation’

Author: Ms Anett Ruszanov

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### Context

inDemand promotes a new, innovative bottom-up, demand-lead model where health care organisations (customer) and companies (supplier) co-create eHealth solutions, with economic support from regional funds. However, although this model is tested in the ehealth sector, it can work in any other sector. The inDemand model can open a gateway to building an innovation strategy in the given sector and can deliver sustainable impact and investment within a region. This happens since open innovation thinking, and co-creation are transferable approaches. This approach also increases the capacity of entities to systematically identify and solve their needs while creating opportunities for private companies.

### Methods

The inDemand model allows the investments to finance customer-tailored solutions that maximally respond to customer needs and which are accepted by them. Hence it applies at the same time demand-driven and co-creation approaches. The expected results are digital solutions with higher success rate -in terms of their application in practice/market uptake.

The model has four main roles:

**CHALLENGERS** are health care providers for users. They identify unmet needs they encounter in their work. Those will constitute the challenges that the companies will have to solve.

**FUNDERS** are regional managing authorities overseeing ESIF management.

**SUPPORTERS** come in the form of business intermediaries that can assist in optimising business models to tackle the identified issues and help the companies to deploy the solution and scale-up.

These “permanent components” are looking for **SOLVERS**: private ICT companies that can provide the digital part of the co-created solution that they develop together with the Challenger.

### Results

inDemand, a H2020 funded project, is developed and currently validated in 3 pilot sites: Murcia (Spain), Oulu (Finland) and Paris region (France). But inDemand is not simply a project financed for the period September 2017 – September 2020. The objective would be to sustain and spread this innovative and co-creative approach to other parts of Europe than in the pilot regions and to apply to other sectors than e-health only. This would lead to a better and more efficient use of regional funds and would foster innovation within the region.

The demand lead co-creation process ensures that the uptake of the digital solution will be more successful as it serves a real, existing and prioritised need due to the client-tailored solutions which it provides. The model also enhances the innovation capacity of the region, but also to a better acceptance of the benefits of using innovation as a tool for development.

## Discussion

inDemand is now looking for 12 Mirror regions from all over Europe whom will couple up with one of the pilot regions to follow the process step by step with personalised support.

Mirror regions are a follower community that are committed to implement the inDemand model in their territory through the partnership that they create or have already in place to this purpose. Mirror regions can fully benefit from first-hand experience of the pilot sites, which saves time and energy, at the same time it helps to avoid pitfalls and reduce the risk of failure. It also enables interested regions to concentrate the maximum effort on the co-creation process and the successful uptake of the co-created digital solutions by the user provider.

Mirror Regions will learn how to foster the cooperation between key actors within the region and will contribute to the innovation capacity building of the region itself.



## Personal exposure monitor as a citizen's tool for big data and health awareness improvement

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Air pollution is a specific challenge in focus of WHO and all public health professionals widely, and it is connected with a wide spectrum of diseases, not only respiratory and cardiovascular diseases.

For public health risk assessments, however, it is necessary to quantify human exposure to specific pollutants of concern. Personal exposure monitoring is in function of “citizens for science” and for personal health approach, for better observing, understanding, protecting and enhancing our health and environment. AirBeam device measures fine particulate matter (PM<sub>2.5</sub>), temperature, relative humidity and noise level. Real-time monitoring of PM<sub>2.5</sub> were performed by citizens, during 24-hours’ period and paired with personal activity diary. This device is helpful to understand more about the associations between air pollution concentration and personal exposure depending on activity. The approach is important not only for health professionals, using big data approach in monitoring of environment indicators important for population health, but also as motivation for citizens to understand the importance of air quality monitoring for their health (it could be helpful in changing behaviour and energy resources).

Small pilot study of personal exposure monitoring to PM<sub>2.5</sub> in Serbia (Belgrade, Novi Sad) with small portable measuring device “AirBeam” by Habitatmap for PM<sub>2.5</sub> was conducted. It is an open source tool that measures fine PM<sub>2.5</sub>, temperature, and relative humidity using a light scattering method, no sensors directly measured particulate mass. The device sends its monitoring measurements at the real-time to mobile app. It shows in easy-to-understand way what is the concentration of PM, as well as some other variables (humidity, temperature, and noise levels).

Monitoring air quality with similar devices could be very useful for the places where there are scares or no monitoring of air pollutants, or where citizens do not have enough information about it. Personal monitoring exposure could be a part of personal attitude and behaviour.

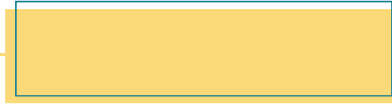
This pilot study has demonstrated, as proof of concept, that small, portable, low-cost devices for measuring air pollution could be useful tool in generating knowledge and have significance in clinical researches that aim at tracking personal exposure and linking it to the health effects of the individuals as well as increasing citizens and community engagement on air pollution problems.

Also, this study initiated further development of small devices independent of mobile phones. Opportunities to gather big data on personal exposure and health status via citizens4science approach should be further developed and utilized. Healthcare professionals could take leader’s role in the approach citizens for health.

Healthcare professionals could lead the action of personal monitoring towards health and put citizens at the heart of the big data agenda, as a way to rise awareness, save health on individual and population level (and provide long-term financial savings).

Keywords

Air quality, personal exposure, citizens for science, big data, citizens for health



# Improving Health Workforce Performance with eHealth and mHealth: Looking forward into the future of healthcare

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## Context

The transformation of health entails the use of eHealth and mHealth technologies in the pursuit of the objectives of Health 2020, considered critical to overcome health systems challenges. One main aim are the objectives of the European policy framework and strategy for the 21st century and of the Global Strategy on Human Resources for Health: workforce 2030. The health systems' context is demanding innovation and digital technologies: Increasing demand for health services from ageing populations, greater mobility of patients, limited supply of health workers due to higher rates of retirement than of recruitment, pressure to maintain access while controlling costs, and the new digital skills requirements for an effective healthcare digitalization.

## Methods

This research illustrates how new technologies, moreover mHealth and eHealth, can improve health workforce performance and how healthcare delivers services responding to population needs. A scope literature review covering European and African cases combined the following terms "Human Resources for Health", "eHealth", "mHealth", "healthcare service delivery"; and "digital skills". The results were then compared with the WHO Workforce 2030 strategic objectives.

The analysis considered the following topics: communication and management technologies, examples of impact on health workforce performance (availability, accessibility, acceptability, quality), discussion of facilitators and barriers to the optimal utilization of new communication and management technologies, implications for the for education of health workers, for management of health services and health quality, for policy-making, and for research.

## Results

eHealth and mHealth technologies have been used in several European and African countries, more seriously since 2000. Therefore, it seems that they are not yet mature enough to support healthcare service. More recently, these technologies have been tested in the context of the digitalization of healthcare services: Electronic Health Records, Telemedicine, Internet of Things -sensors network at home/mobility, Big Data/Artificial Intelligence, New Diagnostic systems, Robots, Social networks (addressing social dynamics in health consumption and behavior). The number of these applications are steadily growing every year. The literature review shows some relevant impact of eHealth and mHealth on health workforce performance with the following effects:

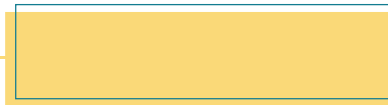
- a) Availability: eHealth/mHealth improves availability and cost-effectiveness of services to patients;
- b) Accessibility: it improves patients' access to services (e.g. specialized care services at a distance);
- c) Acceptability: mHealth services are more transparent, and make communication with patients easier (and it can be further used within the health system);

d) Quality: recent developments of mHealth show considerable improvement in patient safety processes;

However, the availability of digitally competent healthcare professionals seems to be a prerequisite to achieving these results.

### Discussion

Facilitators and barriers to the optimal utilization of new communication technologies relate to individuals, to professional groups, to provider organizations, to institutional environment, regarding economic, legal, political factors. Among the most important are HRH digital skills; the utilization of mHealth/eHealth tools presents significant implications for the education of health workers, for the management of health services, for policy-making, and for research. The technology is here; it is already changing other markets but healthcare is still lagging. Are health professionals prepared to make the best use of it? What are the main barriers to overcome? How can we leverage health professionals' skills to effectively transform healthcare in the next decade?



## How Big Data could improve the performance of health care systems in Europe

Author: Mag. Anja Laschkolnig <sup>1</sup>; Mag. Claudia Habl <sup>2</sup>

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EU Member States are trying to better integrate e-Health and its functions into their national health systems, amongst others with the objective to improve the performance and sustainability of their systems.

One central aspect, besides the transferability of health data across borders of MS/C and therefore the organizational, technical, semantic and legal interoperability of e-Health implementations across the countries which is very much covered by the the e-Health Network, it is the access to health information by decision makers, health personal and citizens alike.

Based on a previous analysis, our work would like to give the European Union and its Member States ideas on how to use the strengths and assess the opportunities or possibilities of Big Data for Public Health without threatening privacy or safety of citizens.

By doing so the activities of the planned third Joint Action to support the e-Health Network and the new Joint Action for Health Information shall be taken into consideration.

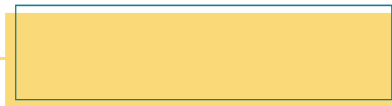
We think that Big Data in Health should be seen as a tool to reach certain purposes that benefit the patient or citizen and that can be utilised to improve the system performancy. It is though important, that current ethical standards must be maintained and not be compromised for potential benefits of Big Data.

As there is a growing tendency to "mistrust" the use of big data in many societal sectors, we think that it is necessary to develop and implement a communication strategy to increase the awareness of the added value of Big Data in Health and encourage a positive public mind set towards the field in Europe.

Further we call policy makers but also providers of "big data solutions" in Europe to

- Strengthen human capital with respect to the increasing need for a workforce that can utilize the potential of Big Data in Health
- Expand existing and explore new sources of Big Data in Health and secure their quality and safety
- Promote open use and sharing of Big Data in Health without compromising patients' rights to privacy and confidentiality
- Increase target-oriented application of Big Data analysis in health based on the needs and interests of stakeholders including patients
- Identify the potentials of Big Data analysis, improve analytical methods and facilitate the use of new and innovative analytical methods
- Implement governance mechanisms to ensure secure and fair access and use of Big Data for research in health

- Ensure purposeful investment steered by the European Commission to warrant cost-effectiveness and sustainability of systems
- Clarify and align existing legal and privacy regulation of Big Data in Health





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# PhD Session

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## Friday

## 22<sup>nd</sup> June

### Professional's attitude and behaviour in an accountability context: the physician's case

Author: Dr Erik Renkema

*University of Groningen, Groningen, Netherlands*

#### Context

Physicians work in a context of public and professional accountability. Accountability might induce physicians to engage in behaviours like reducing litigation risks or a reluctance to report incidents, which could undermine achieving the positive goals of these accountability systems. Previous research has not explained in detail how physicians deal with the increasing pressures from accountability systems. This knowledge is crucial to assure that physicians act in line with professional standards and societal values.

This thesis aims to reveal how physicians perceive and behave in the context of public and professional accountability, and the personal goals they attempt to achieve.

#### Methods

Data were collected on physicians' thoughts and emotions (attitude) regarding the accountability context, the influence of work conditions on litigation risks, and how these factors influence various defensive behaviours.

First, in-depth interviews with 31 physicians were conducted, transcribed and inductively coded. Hierarchical cluster analysis was used to identify clusters of physicians based on their litigation attitude. Second, a questionnaire was distributed in eight Dutch hospitals to measure physicians' litigation attitude, perceived patient pressures and defensive medicine behaviour. Exploratory factor and multiple regression analyses were carried out to determine relationships and interactions. Finally, semi-structured interviews were conducted with 22 diverse stakeholders in the litigation process to identify relevant work conditions.

A job-crafting lens was applied to research how physicians craft their work in the accountability context. Therefore, narratives and real-life accounts were analysed on how physicians perceive and craft their work, including the aims of their crafting behaviours.

#### Results

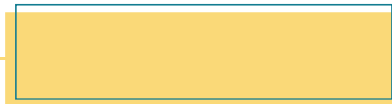
Two equally large physician' clusters were identified: one with a positive and one with a negative litigation attitude. The negative cluster was relatively more concerned regarding litigation risk, whereas the positive cluster seemed less bothered. Physicians with a negative attitude showed often a reluctance to disclose incidents. In a public and professional accountability context physicians perceive: pressure from patients, the necessity of applying high-risk procedures, and emotional pressures and doubts. Survey results showed that a negative litigation attitude and perceived pressures from patients had a direct and positive relationship with defensive medicine (assurance and avoidance behaviour).

Physicians craft their work in various ways. They apply unnecessary testing, and avoid care procedures to avoid high risks and conflicts with patients. Incidents are shared with colleagues and their assurance is asked to reduce emotional stress. To avoid accountability consequences, they show reluctance to disclose incidents, and offload responsibility for incidents onto colleagues.

## Discussion

Many physicians perceive public and professional accountability as a work stressor. The thesis shows how this context evokes behaviours that contribute to physicians' self-serving aims of maintaining their reputation, performance and well-being, but sometimes run counter to the original aims of these accountability systems. As such, the oft-heard call for 'openness' about medical incidents will not be easy to achieve.

Managers should set the required conditions to fulfil physicians' needs to interact, offer peer support and create a fair and just work culture to eliminate behaviours, such as offloading responsibility onto others, that have negative consequences for colleagues and for the organization. Policymakers also should take physicians' contrary behaviours, in response to current policies, into account. Further, physicians and patients need to be aware that when physicians perceive pressure from patients for care this can lead to defensive medicine behaviour that negatively affects the quality and safety of patient care.



Author: PhD Marjolein Herps

*Vilans, Utrecht, Netherlands, Maastricht University, Maastricht, Netherlands*

Individual support planning (ISP) is regarded as a key factor in professional and person-centered care for people using long-term care. In the Netherlands, the Chronic Care Act requires that service provider organizations develop and implement ISP for each of their service users as a way of enhancing person-centered support. In this thesis, we aimed at improving our understanding of how ISP functions in practice and how it impacts on support processes. We focused on the (residential) care for people with intellectual disabilities (ID) through five studies.

#### Methods

For the first study, we studied relevant Acts and policy documents and consulted two expert panels (N=56) to reflect on the findings. We identified requirements relating to ISP content and procedures, person-centeredness and ISP policy (as developed by service providers) and the consequences of these requirements for ISP in practice.

The second study was a participative, qualitative study in which we held individual, qualitative interviews with 61 people with ID in the Netherlands.

The third study consisted of an individual, semi-structured interviews with staff to analyze goal attainment of 101 individual support goals found in 34 ISP documents. We developed a rating scale which included statements derived from existing literature on ISP effectiveness and goal setting theory.

For the fourth and fifth study, we used a sample of 209 ISP documents, stemming from eight different service provider organizations. In the fourth study, we explored general aspects of ISP documents and then conducted mixed linear regression analyses to examine the relation between client characteristics and the content of goals and support resources. In the fifth study, we qualitatively analyzed the content of the ISP documents for the topic of 'sexuality'.

#### Main findings

Policy and requirements on ISP content and procedures, person-centeredness and ISP policy as developed by service providers, have at least three implications.

First, meeting system requirements (checking boxes) can become a priority for service provider organizations, which could lead to the ISP document becoming used as proof that requirements are being met, rather than a tool for individual support. This finding is supported by results of the fourth and fifth study. These studies demonstrated that ISP documents contain a vast amount of information (the ISP documents varied between 3 and 76 A4-pages) and show a significant discrepancy between the amount of information that describes impairments and weaknesses in functioning, and the information on support strategies, agreements or personal goals.

Second, because stakeholders in the field (such as budget allocation agencies) frequently change requirements (often annually) and 'new' requirements are added, organizations face the challenge of keeping up with current requirements and demands, and implementing them while maintaining workable ISP procedures.

Third, requirements are set generally for people with ID using professional services at large. However within this group there is significant diversity and variation. Since organizations are inclined to standardize support delivery, tensions arise when individual preferences, circumstances or needs require adaptability from service provider organizations in form, processes and content of the ISP. This adds to the risk of ISP becoming a paper exercise with a main focus on requirements rather than on the people being supported. This finding is supported by the experiences of people with ID, who often do not feel involved in their ISP (development and usage in daily practice).

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# Differences in health economic modelling guidelines in Germany and the Netherlands: a case study of one intervention

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### Context

At their roots, the German and Dutch healthcare systems are very similar, both based on the Bismarckian model, but they have evolved very differently in recent years. This is especially true for the market access of novel pharmaceuticals, and the role of health economics in the price negotiations between government and industries. The guidelines for pharmacoeconomic modelling between the two countries vary greatly. We adapted a previously published model for a novel chronic treatment for heart failure, which is now reimbursed in both the Netherlands and Germany, to study the differences in the guidelines and the conclusions policy makers may draw from the results.

### Methods

A Markov model compares the novel combination drug sacubitril/valsartan to enalapril for the treatment of heart failure patients with a reduced ejection fraction (HFReF). The model uses effectiveness data from the PARADIGM-HF trial and both Dutch and German data using the healthcare payer's perspective, with the price of sacubitril/valsartan set to €3 in both countries. Outcomes reported were incremental cost-effectiveness ratios (ICER), cost-effectiveness acceptability curves and the Germany-specific efficiency frontier, using placebo as an additional reference drug.

### Results

ICERs reported are €12,000 for the Netherlands and €6,000 for Germany, although the health outcomes were similar, the costs included differ extremely. According to the cost-effectiveness threshold of the WHO, sacubitril/valsartan is very cost-effective for the treatment of HFReF patients in both the Dutch and the German setting, with probabilities exceeding 90% and 99% respectively. For the German market, constructing an efficiency frontier using the most relevant comparators proved challenging since treatment with enalapril dominates placebo: health outcomes are improved and costs reduced.

### Discussion

Using ICERs to determine the cost-effectiveness of sacubitril/valsartan results in it being very likely to be cost-effective in both countries. In this case, decision makers will likely conclude the treatment to be cost-effective, but the ICER for the Netherlands is twice as high as the ICER for Germany, mainly based on methodological differences. For other treatments this may have a big impact on the drawn conclusions. A main difference is the inclusion of indirect medical costs: notwithstanding the perspective chosen on the German side, indirect medical costs do not have to be included, but they are a main contributor to the Dutch costs. In conclusion, this study shows big differences in the results that come out of health economic models, making cross-border comparisons difficult. European health economic guidelines would be an option to improve the current situation.

## The Impacts of Economic Crisis On Health: The Case of Turkey

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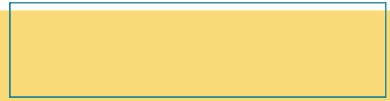
Economic crisis can have devastating and destructive effects of the socio-economic structures of the countries. It is known that the economic and social factors are important determinants of health. In this context, it is possible that the economic crises may also have impacts on health and health systems.

The aim of this research is to reveal the impacts of economic crises on health and healthcare system in Turkey. In the study, economic crises of 1994, 2001 and 2009 were examined and the impacts of these economic crises on 23 indicators obtained from secondary data sources related to health and healthcare system, were examined using ARDL bounds testing approach of econometric time series analysis. While the indicators related to the health were used as dependent variables in this study, macro economic indicators (inflation, real GDP and unemployment) were included in the models as independent variables. Economic crises of 1994, 2001 and 2009 are included in models as dummy variables. Eviews 9.5 package program was used in the analysis of the data obtained in the research with ARDL bounds testing.

As a result of the analyses made, in terms of the effects of economic crises on health in Turkey, it was found that the 1994 economic crisis affected the 5 of the 23 indicators significantly ( $p < 0.05$ ) in a negative way, namely, under-five mortality rate, crude mortality rate, crude suicide rate, vegetable-fruit consumption and number of other health personnel. In addition, no variable was detected that the 1994 economic crisis have had significant positive effect on ( $p > 0.05$ ). The 2001 economic crisis was found to have significantly negative affect 7 out of 23 variables; infant mortality rate, crude suicide rate, vegetable-fruit consumption, sugar consumption, public and total healthcare expenditures and total number of beds. On the other hand, it was found that the 2001 economic crisis affected the variables as mother mortality rate, DTP, polio and measles vaccination rates, death rates from traffic accidents, alcohol consumption and budget of the Ministry of Health significantly positive. 3 of the 23 variables, sugar consumption, public and total healthcare expenditures and total number of beds, were affected significantly negative in 2009 economic crisis ( $p < 0,05$ ). However, the 2009 economic crisis was found to have significantly positive effects on 4 of the 23 variables as infant mortality rates, alcohol consumption, vegetable-fruit consumption and public healthcare expenditures ( $p < 0.05$ ).

It can be concluded from the results of this study that the effects of the crises on health can vary. In the effects of the economic crises on health, however, it has been considered that the severity of the crisis, in what way the health-related behaviors will evolve, and the effects on the healthcare system within the scope of policy preference are also important factors. It is especially suggested in Turkey that the healthcare expenditures should be increased during crisis to prevent the possible negative effects of the economic crises on health. Beside this, it is also suggested that positive effects of economic crises on some health behaviors should be considered as opportunities and then to concentrate on the trainings in these periods in order to make these behavioral changes permanent.

Keywords: Economic Crisis, Impacts of Economic Crises on Health, Health, Health Policies, Turkey.



The logo features the acronym 'EHMA' in a large, bold, black sans-serif font. Below it, the words 'Annual Conference' are written in a smaller, lighter font, followed by the year '2018' in a large, bold, black font. At the bottom, the slogan 'MAKING IT HAPPEN' is displayed in a bold, black, all-caps sans-serif font. The text is set against a background of abstract, flowing lines in shades of yellow, orange, and teal that curve from the top left towards the center. The right side of the image is a solid teal vertical bar.

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