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2019

Systems & Organisational governance

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The effect of human resources management on performance in hospitals in Sub-Saharan Africa – A systematic literature

Authors: Philipos Gile^{1,2}, Martina Buljac³, Joris van de Klundert⁴

¹Ethiopian Higher Education Partnership, Addis Ababa, Ethiopia.

²Erasmus School of Health Policy & Management, Erasmus University Rotterdam, Rotterdam, Netherlands.

³Erasmus School of Health Policy & Management, Rotterdam, Netherlands.

⁴Prince Mohammad Bin Salman College for Business & Entrepreneurship, King Abdullah Economic City, Saudi Arabia.

Healthcare systems, particularly hospitals in low income countries (LICs) mainly in Sub-Saharan Africa (SSA) face major health work force labour issue challenges while having to deal with extraordinary high burdens of disease. The effectiveness of Human Resource Management (HRM) is therefore of particular interest for these SSA hospitals. While, in general the relationship between HRM and hospital performance is extensively investigated, most of the underlying empirical evidence is from western countries and may have limited validity in SSA. Evidence on this relationship for SSA hospitals is scarce and scattered. We present a systematic review of empirical studies investigating the relationship between HRM and performance in SSA hospitals. Following the PRISMA protocol and searching in seven data bases (i.e. Embase, Medline, Web of science, Cochrane, PubMed, Cinahl, Google scholar) yielded 2252 hits, and a total of 111 included studies which represent 19 out of 45 SSA countries. From an HR perspective, most studies researched HRM bundles that combined practices from the practice's domains motivation enhancing, skills enhancing, and empowerment enhancing. Motivation-enhancing practices were most frequently researched, followed by skills enhancing practices and empowerment-enhancing practices. Few studies focused on single HRM practices (instead of bundles). Training and education were the most researched single practices, followed by task shifting. From a performance perspective, our review reveals that employee (nurses, physicians, midwives) outcomes and organisational outcomes are frequently researched, whereas team outcomes and patient outcomes are significantly less researched. Most studies report HR interventions to have positively impacted performance in one way or another. As researchers have studied a wide variety of (bundled) interventions and outcomes, our analysis doesn't allow to present a structured set of effective one-to-one relationships between specific HR interventions and performance measures. Instead, we find that specific outcome improvements can be accomplished by different HR interventions, and conversely that similar HR interventions are reported to affect different outcome measures. In view of the high burden of disease, our review identified remarkable little evidence on the relationship between HR and patient outcomes. Moreover, the presented evidence often fails to provide contextual characteristics which are likely to induce variety in the performance effects HR interventions. Coordinated research efforts to advance the evidence base are called for.

Personality attributes and leadership self-efficacy of health systems management graduate program students

Authors: Sarit Rashkovits¹, Liora Ore¹

¹Yezreel Valley College, Yezreel Valley, Israel.

Background

Since the publication of the prominent report "To Err is Human", scholars have recognised the need in leading changes in healthcare systems. Leadership self-efficacy (LSE), defined as a person's judgement that she can successfully exert leadership by setting a direction for the workgroup, building relationships to gain followers' commitment to change goals, and working with them to overcome obstacles to change, determines the individual's determination in initiating and leading change. However, there is a lack of research regarding personality attributes that predict LSE. This study points to proactive personality and psychological mindedness as possible predictors of the three LSE aspects.

Methods

Sample, Procedure, & Measures – Data were collected using validated questionnaires (Proactive personality – a 10-item scale by Bateman & Crant, 1993; Psychological mindedness – an 11-scale by Shill & Lumley, 2002; LSE – a 12-items scale by Paglis & Green, 2002; Big five personality traits - a 44-item scale by John, Donahue, & Kentle, 1991) by 64 healthcare employees who registered to a health systems management graduate program on the first week of their studies. The participation was voluntary, and anonymity was guaranteed.

Control variables – The Big Five personality factors, tenure in the healthcare industry, in the current organisation, and in management roles, and gender.

Analytic approach – Three hierarchical multiple regressions for predicting the three LSE aspects: setting direction to change, gaining subordinates' commitment to change efforts, and overcoming obstacles to change.

Results

	Setting direction			Gaining subordinates' commitment			Overcoming obstacle		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Gender	.06	-.02	.03	.05	-.1	-.14	.05	-.06	.07
Tenure in management	.12	.01	.10	.27	.21	.32*	.27	-.07	-.04
Tenure in healthcare organisations	-.15	-.26	-.26	-.21	-.27	-.35	-.21	-.30	-.22
Tenure in current organisation	.31	.38	.37+	.31	.31	.35	.31	.33	.24
Extroversion		-.22	-.32*		.02	.01		.12	-.07
Neuroticism		-.26	-.28*		.08	.05		.06	.06
Conscientiousness		.32*	.19		.30*	.19		.05	-.05
Open to experiences		.25	-.04		-.02	-.20		.37	.18
Agreeableness		.10	.15		.41**	.44**		.13	.13
Proactive personality			.45*			.18			.53*
Psychological mindedness			.22			.33*			-.04
R ²	.084	.361	.509	.081	.294	.397	.093	.326	.436
Sig. F change	.365	.007	.005	.090	.005	.015	.418	.062	.057

*p<0.05/**p<0.01/**p<0.001

Discussion

The results show that proactive personality and psychological mindedness contribute to the prediction of the LSE aspects beyond the "Big- Five". Proactivity, the tendency to affect change by defending one's ideas, and aiming to realising them was found as relevant for the LSE aspects of setting direction and overcoming obstacles. A leader, however, also needs to motivate subordinates to be part of change efforts, and psychological mindedness was found relevant to the gaining commitment aspect. These results, pointing to different antecedents for the three LSE aspects, imply that leading change may not be considered as a solitary virtue.

These personality traits may be considered in selections for leadership roles. More research, however, is needed for testing the contribution of these personality traits to LSE beyond the effect of programs aim to enhance OSE. Future research may also investigate the possible role of these traits on the contribution of such programs to the participants' LSE.

Unintended consequences of expenditure targets on resources allocation in health systems: the case of the cost of personnel in Italy

Authors: Paolo Belardi¹, Guido Noto¹, Milena Vainieri¹

¹Management and Health Laboratory, Scuola Superiore Sant'Anna, Pisa, Italy.

Context

Following the financial crisis of 2008, a wide number of European Countries felt the need to implement measures to control healthcare expenditure. These have often taken the form of cutback management initiatives, such as linear or targeted cuts (Levine, 1978; Pandey, 2010; Ongaro et al., 2015). The implementation of such measures may result in unintended consequences due to the complexity of the environment in which these take place.

This article aims at investigating both the effects of a linear cut initiative implemented by the Italian government in order to tighten regional expenditure on personnel and the related unintended consequences on the regional health systems.

Methods

The paper is based on the analysis of the financial statements published by the twenty-one Italian regional health systems from 2012 to 2017.

A quantitative analysis was performed in order to investigate the dynamics of the cost of personnel (PC), purchase of services costs (PSC) and total costs (TC) and their relation. This includes a correlation analysis of the percentage change of each production factor analysed with the total cost change between 2012 and 2017. Moreover, a benchmark analysis of the PC and PSC per-capita cost of each regional health system was performed.

Results

Although the majority of the regional authorities (17 out of 21) managed to reduce the PC under the pressure of the linear cut imposed by the national government, our results show that regions which reduced the PC did not decrease the TC. Overall, the regional health spending on health (TC) increased by 2.5% between 2012 and 2017. This can be explained by the fact that 11 regional health system out of the 17 which managed to decrease the PC, have increased the PSC, thus shifting the allocation of their production factors from personnel to the purchase of services.

Discussion

Reducing public spending is a common strategy widely adopted by governments in times of financial constraints. However, when taking the form of linear cuts, this may produce unintended consequences according to which public organisations “hit the target” – e.g. reducing the cost of personnel – but “miss the point” (Bevan & Hood, 2006) – e.g. achieving an overall reduction of the public expenditure. The case analysed in this paper shows that a linear cut on the expenditure of a specific production factor defined at the national level may have serious implications on the regional and local health systems strategic management. In particular, this kind of interventions may not achieve the desired goal of reducing the overall expenditure since regional and local health authorities may comply with them by changing their resource allocation strategy rather than improving efficiency or cutting back services.

Civil leadership as the future of leadership – Harnessing the disruptive power of citizens

Author: Steven de Waal¹

¹Public Space Foundation, Utrecht, Netherlands.

Introduction

Our societies, institutions and social fabric are currently in the early stages of the third revolution of humanity, the Digital Civil Revolution.

Disruption is not restricted to markets. The same technologies that cause and fuel it, are giving citizens more knowledge and information, public and political influence, and tools to organise themselves and so to disrupt politics, democracy and public services. It totally transforms the media landscape, public opinion, political debate, and the roles of industry and the state towards citizens.

Using multiple examples from across the globe, this book explores, analyses and defines this revolution, its impact, the underlying technology and trends, as well as the special kind of civil leadership needed to harness this new civil power that can disrupt the public domain.

While writing this essay, I had a slogan in mind that paraphrased the famous statement of Bill Clinton in 1998: *“It is not technology, stupid, it is the mentality and power of citizens.”*

One aim of this book is to ensure that disruption and the underlying developments in technology do not take the government officials and executives of public service organisations by surprise, as was the case for many private sector CEO’s some years ago. Simultaneously, this essay addresses those citizens who are actively engaged members of (civil) society and concerned with social fabric, public issues and related policies. At the forefront of civil leadership, they are even more important.

In part based on the author’s academic research and thesis (2014), this book demonstrates an overlap between these persons and their roles. Civil leadership can also be practiced as part of management positions; (luckily) there is civil engagement in the boardroom. In fact, their status, positions of power and access to resources make their embrace of civil values, responsibilities and engagement more crucial to the impact on human society than does its embrace by members of the classic civil society biosphere, one that tends to be limited to volunteerism, philanthropy and the informal networks and connections of civil society.

We find ourselves at a strategically important phase of the Digital Civil Revolution. Its impact on humanity and society is so significant that this book considers it the third fundamental human revolution, after the agricultural and industrial revolutions.

It’s time for a thorough, open and bold exploration of the Digital Civil Revolution; one that will enable you to adapt, plan strategically and master the civil leadership skills required to understand and harness the new disruptive powers of citizens.

Many examples come from health care especially the rise of patient cooperation and patients or families wish to coproduce their health care. The book shows the great effect on governance and leadership in health care organisations.

Healthcare professionals' expectations of a diabetes care performance management system in pre-implementation phase – a survey study with interviews

Authors: liris Hörhammer¹, Juulia Jäppinen¹, Miika Linna¹, Hilikka Tirkkonen², Päivi Rautiainen², Petri Kivinen², Katariina Silander¹

¹Aalto University, Department of Industrial Engineering and Management, Espoo, Finland.

²Joint Municipal Authority for North Karelia Social and Health Services (Siun Sote), Joensuu, Finland.

Context

Performance monitoring systems can be used to support value-based management in healthcare. Follow-up of health outcomes and resource use, and benchmarking between provider organizations and units supports decisions to maximise patient outcomes per euro spent. Deficiencies in practices identified by monitoring require changes at managerial and clinician levels. Despite healthcare professionals' crucial role in operational change and performance information use, limited knowledge of how performance monitoring systems are accepted and used by this group exists. To address this gap, we studied diabetes care professionals' attitudes towards performance evaluation and their expectations of a performance monitoring system in pre-implementation phase.

Methods

A survey was sent to all health professionals treating patients with diabetes, and their supervisors (n=170) in a Finnish social and healthcare district serving a population of c. 170 000. Participants were asked about their perceptions of current diabetes management in the district, their interest towards and perceived role in performance management, expectations of the performance management system, and perceptions of the resource availability. In addition, semi-structured interviews were carried out for a randomly chosen group of professionals in the target group (n=11) to gain deeper understanding of the barriers and facilitators for performance management in their work. We report descriptive statistics of the Likert scale responses to statements, and content analysis findings for open-ended questions and semi-structured interviews.

Results

Half of the professionals responded (n=86/170, 51%). Majority of the respondents were doctors (44%) and nurses (29%) who treat patients with diabetes, and a minority were doctors' (10%) and nurses' (10%) superiors. Over 90% reported interest in the cost of care and the association between cost and health outcomes. Professionals rated their role in performance improvement quite high (average 4.0 on a scale 1-5). Half (53%) of the respondents had heard about the new monitoring system and only 7% had tried the demo version. Respondents supported implementation of the system, but only 29% expected that it would be easy to use. At present, there was not enough time for quality monitoring and 41% expected that there would not be enough resources for implementation. We identified facilitators for system success: assessment and improvement of data comparability, and formal processes for performance information interpretation and implementation of changes suggested by the information.

Discussion

The new performance monitoring system is believed to support and enhance the use of quality information in clinical care and management decisions, and the implementation of the new system has strong support in the region. Although potential benefits are identified, there are doubts concerning allocation of resources to the use of the system. Successful implementation and use of the system require strong managerial support and leadership. The need for technical support in the implementation phase is evident. In addition, social influence to routinise value-based management must be exercised. This encompasses region-wide agreement on how to use and interpret the information. This study is representative for one regional integrated social and health care system in Finland. However, future research is needed to gain knowledge of the facilitators and barriers of the implementation of value-based information systems in other countries and health care systems.

Challengeable management in Iran's health system – A qualitative study

Authors: Hassan Joulaei¹, Kamran Bagheri Lankarani², Hamidreza Khankeh³

¹Shiraz HIV/AIDS Research Center, Institute of Health, Shiraz university of Medical Sciences, Shiraz, Iran, Islamic Republic of.

²Health Policy Research Center, Institute of Health, Shiraz university of Medical Sciences, Shiraz, Iran, Islamic Republic of.

³Department of Clinical Science and Education, Karolinska Institute, Stockholm, Sweden.

Context

A global glance on health systems shows new challenges on their management and leadership, which is generally rising from increasing the cost of health care services along with growing demands for new and expensive health technologies (1). Integrating medical education in the Ministry of Health, in Iran, has made more complex its planning and management (2). Moreover, Iran similar to the other developing countries has been faced many challenges for well competent management that affects the success of health system (3). Hence, the present study is implemented to explore the opportunities and challenges of effective management in Iran's health system.

Method

This research is part of a macro qualitative study performed at the national level to “develop a model for Iran's health system management”. In this regard, grounded theory approach was used. To collect data, 30 policymakers and managers from different levels of health system with sufficient experience were interviewed. Sampling was first purposive, after that, during analysis, theoretical sampling method was applied. Data collection and analysis processes were performed simultaneously. At the beginning of the study, analysis was microscopically, but subsequent analyses were more general to achieve complete development and accreditation of interpretations. Constant comparative analysis was used to analyse the data. Also, in order to amplify the validity of the findings and extraction of supplementary data, a focused group discussion was conducted. The trustworthiness of our study was evaluated using the four criteria including: credibility, conformability, transferability, and dependency.

Results

Three categories, resulted from interpretation of the data, conducted the researchers to "disorganised health system management" as the main theme (Figure 1). These categories were; "Incompetent management", "Unmotivated management", "Politicised management". The study participants claimed that incompetent management is the first and foremost barrier for development of Iran's health system. Rapid change of managers and their programs from national to grassroots levels due to political parties' changes reduces the motivation of managers for long term planning. Moreover, carelessness of meritocracy on the one hand and Physicians' superiority approach on the other hand has led to put low competent managers in management positions. For example, one of the participants mentioned: *“When new managers enter a workplace, it takes them some time to adapt. Once they become familiar with the new environment and learn their jobs, their term as manager will be finished”*.

Discussion

Referring to the participants' experiences, Iran's health system management is chaotic due to its politicisation, and low competency and motivation of the managers. Consistent with other studies, almost all participants believed that politicisation of the management system has resulted in short duration of management and reduction of their motivation to implement long term plan (4). Similar to other developing countries, our results have also shown centralised decision-making, lack of an enabling work environment, imperfect training system and lack of a road map, as the pitfalls of effective management system (3). Another stated obstacle to have a competent manager, was physician-based approach in appointment of any management position, including irrelevant, in health system. Protecting managerial technical position against politicisation, appointing managers in accordance with job responsibilities and their competencies, providing enabling work environment, and supervision of the managers based on a comprehensive and long-term plan are suggested to improve Iran's health system management.

The role of informal controls in the quality of care in Dutch hospitals

Authors: Margré Kooman¹, Bionka Huisstede², Hilco van Elten¹

¹Erasmus University Rotterdam, Rotterdam, Netherlands.

²University Medical Center Utrecht, Utrecht, Netherlands.

Hospital management relies on a variety of tools and techniques to realise organisational performance, such as profitability, quality of care, patient satisfaction. Following prior literature, we distinguish between formal and informal management tools/techniques (or: controls). Formal controls include budgets, planning procedures, and performance monitoring. Informal controls focus on values, norms, and trust-based controls. Literature shows that different types of controls have different effects on hospital performance (e.g.: Van Elten, Van der Kolk, & Sülz 2019). Our study evaluates the extent to which informal controls are used in hospital departments and how these affect quality of care, alongside traditional formal controls.

We use a survey to collect data from 83 Dutch hospital managers. The survey draws on existing measures where possible, and other survey items that are tailored to the specific situation of hospital management (e.g.: Campbell, Roland, & Buetow 2000, Speklé 2012). We measure among others quality of care, the use of informal controls, formal controls (e.g. budget use for operational planning and monitoring of processes and employees), decentralisation of decision rights, environmental dynamism and manager type (e.g.: medical manager vs business manager). The survey is pretested by a hospital manager and by two researchers with hospital and management backgrounds. The pre-test has led to minor adjustments in the survey.

We rely on OLS regression analyses to test our hypothesis: *the use of informal controls increases the hospital department's quality of care*. We control for the influence of formal controls (budgets), as well as for several literature-based antecedents of control.

We find that informal controls (mean = 4.16) are used to a greater extent than formal controls (i.e.: budgets, mean = 3.25). Informal and formal controls, both measured on a 5-point Likert scale, are positively correlated ($r = 0.38$; $p \leq 0.01$). We find that informal controls, such as having regular face-to-face meetings where goals are being shared and aligned, positively affects the medical unit's quality of care. More traditional, formal controls – i.e. the use of budgets – do not positively contribute to quality of care. Furthermore, we find that quality of care consists of two dimensions: 1) technical/medical quality of care (including medical care, facilities, evidence-based care) and 2) interpersonal quality of care (including: emphatic care, patient centered care and patient satisfaction). Both dimensions of quality of care are positively affected by informal controls. Also, in more decentralised hospital units, interpersonal quality of care is perceived to be higher.

When evaluating effect sizes, we find that the influence of informal control on both dimensions of quality of care (interpersonal and technical/medical oriented care) are rather similar. This is somewhat surprising, as the interpersonal care dimension measures aspects of care which seem more prone to informal controls (emphatic care, patient-centered care, patient satisfaction). However, we note that we measure the variables based on perceptions, using a rather narrow 5-point Likert scale. The latter limits the variance in our constructs. Furthermore, because we rely on cross-sectional data, we cannot statistically infer causality.

Nonetheless, our findings contribute to the governance of hospital organisations. Informal controls play an important role in effective organisational governance and helps pursuing high quality of care. Unlike formal controls (which primarily relies on systems and budgets), informal controls demands skills, competences and leadership from hospital managers to cultivate an environment with face-to-face meetings, goal sharing and alignment.



Social and healthcare managers' work wellbeing

Authors: Niina Herttuala^{1,2}, Lauri Kokkinen¹, Anne Konu¹

¹Health Sciences, Faculty of Social Sciences, Tampere University, Tampere, Finland.

²Hospital District of South Ostrobothnia, Seinäjoki, Finland.

Context

Managers hold key positions in social and healthcare sector (Nyberg, Leineweber and Magnusson Hanson, 2015) and are stretched by organisational reforms, economic constraints, technological advances, changing management fashions, patient (un)satisfaction and employee ill-being. However, we lack studies on managers' work wellbeing (Salmela-Aro, Rantanen, Hyvonen et al. 2011). The purpose of this study was to describe factors that support and factors that prevent managers' work wellbeing by reviewing international studies and interviewing Finnish social- and healthcare managers.

Methods

We systematically reviewed international research literature and found 22 studies that met our inclusion criteria. We then recruited seven Finnish social- and healthcare managers for thematic interviews. All the data were analysed by using content analysis.

Results


Supportive and preventive factors for managers' work wellbeing were identified in the literature review. Based on previous studies, several factors such as managerial position, decision latitude, job control, social support and ethical culture at the workplace affect managers' work wellbeing. The interviews further suggested that the factors affecting social- and healthcare managers' work wellbeing could be divided into five broad categories: 1. Individual factors; 2. Social factors; 3. Professional support from one's own manager; 4. Work related factors; and 5. Organisational factors. All of these categories include both supportive and preventive factors for manager' work wellbeing.

Discussion

Individual and social factors, professional support from one's own manager, work related factors and organisational factors affected social and healthcare managers' work wellbeing. Compared to previous studies on employees' work wellbeing there were some specific characteristics in managers' work wellbeing, such as the effect of financial responsibility. On the other hand, managers shared many of the factors affecting the work wellbeing of employees. Professional support from one's own manager seems to be a key factor in maintaining work wellbeing also in managerial positions and the same applies to work related factors, such as suitable workload and achievable deadlines. We conclude that social- and healthcare organisations should set goals to managers' work wellbeing and clearly take these goals into policies and practice. More research on social- and healthcare managers' work wellbeing would help us to establish a greater degree of accuracy on this matter.

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Integrating health & social services in the Caribbean: a governance nightmare

Author: Damian Greaves¹

¹St. George's University, St. George's, Grenada.

This paper discusses the integration of health and social services for the Caribbean based on information collected from 20 senior officials from seven ministries of health across 12 island states in the region. The paper contends that effective governance is paramount to the integration of health and social services. The capacity to guide and coordinate institutions across the social and health landscape and mobilise its many stakeholders, organisations and social groups to deliver services seamlessly to clients is critical to integration.

The purpose of this paper is to explore and assess leadership challenges experienced in health and social care integration. These challenges will be examined in the context of current governance arrangements of health and social systems and the changing perceptions of the functions of government as well as the role of the state.

The study comes out of a larger study which utilised grounded theory to collect and analyse data on the experiences and perceptions of 20 senior health managers on the leadership of health systems from seven ministries across the region. It used semi-structured in-depth interviews comprising open-ended questions. Data analysis encompassed open, focused and theoretical coding.

Health systems governance arrangements are inimical to efficient leadership of integrated health and social services. The challenges that constrain integration are tied to the unique cultural, organisational and political characteristics of island states in the region.



Management and leadership in hospitals 2030

Authors: Vuokko Pihlainen^{1,2}, Tuula Kivinen¹, Johanna Lammintakanen¹

¹University of Eastern Finland, Kuopio, Finland.

²Central Finland Health Care District, Jyväskylä, Finland.

Abstract

Healthcare managers continuously face challenges and driving forces for changes such as the transition to digitalised service delivery, increasing patients' involvement, and adapting to the needs and requirements of future workforce. The aim of study was to describe the Finnish experts' perceptions of management and leadership competence (MLC) and how to develop it for the future in hospital context. The experts expressed opposing and conflicting views of management and leadership in 2030. On the basis of these varying views a framework of management and leadership competence development was constructed integrating individual and organisational perspectives.

Methods

The Argument Delphi Method was employed to gather the research material in three-round web-based panel in which a total of 33 Finnish experts participated anonymously. Moreover, an inductive content analysis was used in this qualitative study. The Argument Delphi Method was adopted to identify the experts' distinct perceptions of the future development and not to reach any consensus of the issue. The experts represented such roles as hospital managers or leaders, researchers and teachers, management or healthcare students, representatives of the physicians' and nurses' trade unions, and political decision-makers. They worked in different locations of the country.

Results

In study, the experts identified a few core competencies of management and leadership and future competence requirements. However, some described shortcomings were such as strategic understanding and basic knowledge of management. These need to be improved in education by using varying methods and renewing management practices. Some future trends of management and leadership were identified regarding directions of how management and leadership will be orientated and organised in hospitals. To improve MLC in a systemic way, recruiting practices need to be developed in hospitals. MLC requirements in all management positions need to be clarified, as well as evaluation methods for MLC developed. Moreover, hospitals need to support managerial networks and enable mentoring practices. In sum, management and leadership will be evolved as competence for the future when individual and organisational viewpoints are combined.

Discussion

Management and leadership competence are usually studied from individual perspective. However, to meet the future challenges a more holistic view needs to be adopted. Therefore, the integrated organisational and individual perspective in this study was highlighted a broader entity of management and leadership, its competencies, development and related organisational practices. However, there were several identified issues to be improved in individual knowledge of management, and in organisational practices and in managerial education. These quite traditional and conventional trends of management and leadership and its development were shown the prevailing diversity of understanding management and leadership. The importance of managerial work in organisation is seen varying and forms a challenge for the future in hospital organisations. To develop MLC tailored managerial training and practice is needed. It is essential to improve identification of developable applicants who meet requirements and afford them suitably attractive management career options.

Learning to lead? A process analysis of how innovation programs facilitate management development in healthcare

Authors: Maarten Janssen¹, Kim Putters¹

¹Erasmus University, Rotterdam, Netherlands.

Context

Given the commonly accepted idea that programmatic approaches bring about innovative practices, programs are often designed to simultaneously facilitate and stimulate management development and innovative practices. Aiming to enhance our understanding of how learning takes place within these innovation programs, this study focused on the question as to 'How do innovation programs foster management development and learning for participants and their innovative practices. Theoretically, this study draws upon process & learning theories to analyse how these programs work, how participants contribute and profit from them and how learning takes place within these programs.

Methods

For this study we draw upon data from three case studies 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 neighbourhood-based initiatives by increasing participants' innovative capacity in practice. The *Innovation Program in Rehabilitation Care* is one-year program – financed by the Dutch Ministry of Health and implemented by professional branch organisations – aimed at the cultivation of innovations by supporting participants in learning how to implement radical innovations. The *High Potentials innovation program* is a regional management development program aimed at educating 'high potential' professionals and turn them into leaders of the future. Our fieldwork in all three programs is grounded in extensive ethnographic data collection, consisting of participant observations, semi-structured interviews and document analysis. As researchers, we immersed ourselves in the programs and studied the design, implementation and evaluation of the programs and their projects.

Results

Results show that innovation programs have performative effects on participants and their challenges. Through processes of facilitation, legitimation and prioritisation, innovations programs have an effect on way the participants learn and through that on the innovative practices. Programs offer the context and means (space, time, skills & peers) to be able to learn individually and collectively. Learning profits from a program's legitimacy as participants feel room to experiment, fail, learn and improve their own skills and their projects within the program. Learning itself takes place by focusing on both hard- & soft-skills; by incorporating working across boundaries as crucial elements of the program design and by offering concrete experiences; reflection on those experiences and more linear teaching on core elements of healthcare management. The full paper provides more detailed information in these processes of learning and shows more elaborately how management development and working on practical cases goes hand in hand.

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 prioritisation as ways of how an innovation program influences the learning processes of educating managers and leaders of the future. It's through these processes that innovation programs gain meaning for practice. They are 'performative accomplishments' as such and strongly intertwined with the learning processes of their participants. This study concludes that learning within innovation programs – as they are by definition value laden, affected and enacted by actions and decisions of managers – can be useful ways to work on management development when the crucial processes are well dealt with. As such, this study contributes to an improved theoretical understanding of the governance of innovation programs as means to work on management development and learning on the level of individuals, organisations and the healthcare sector.

Knowledge management – A profiling model for the healthcare sector

Authors: Ira Haavisto^{1,2}, Riikka-Leena Leskelä¹, Paulus Torkki³, Aki Jääskeläinen⁴, Virpi Sillanpää⁴, Nina Helander⁴, Valtteri Laasonen⁵, Tommi Ranta⁵

¹Nordic Healthcare Group, Helsinki, Finland.

²Hanken School of Economics, Helsinki, Finland.

³University of Helsinki, Helsinki, Finland.

⁴Tampere University, Tampere, Finland.

⁵MDI, Tampere, Finland.

Context

In this study we investigate how information management and knowledge management matures in healthcare networks, and how levels of maturity can be identified. The study builds on previous profiling model research in fields of information management, strategy management, and performance management (e.g. Jääskeläinen and Roitto, 2015). There is indication that profiling models can help evaluate the ability to manage knowledge in networks and improve the organisational and network performance (Bititci et al, 2015). The purpose of this study is to design and test, in the Finnish healthcare setting, a profiling model for information and knowledge management.

Method

The first phase of the study is a literature review of existing maturity and profiling models (25 articles) in the fields of business intelligence, information management and information systems, knowledge management, and performance measurement and management, to identify content for the model, i.e. variables and evaluation statements for the variables. In the literature review, hundreds of variables and evaluation statements were analysed and selected in two iteration processes following themes extended from the knowledge management model by Choo (2002). Focal themes i.e. vision, strategy, management, and knowledge management process were established. In the second phase, to evaluate the model, a survey based on the profiling model was carried out in Finland. The results of the analysis and feedback related to the model and its usability were collected in focus group interviews in participating organisations.

Results

The results of the literature review and the evaluation of the model resulted in a profiling model in information and knowledge management for a healthcare organisation or a healthcare network. The profiling model can serve as a framework for maturity of information and knowledge management, and also function as a self-evaluation tool for organisations, or as an evaluation tool of the healthcare network for example for policy makers. The model constitutes of themes such as; vision and strategy, organisational structure, information and knowledge needs, obtaining information, structuring information, data storage, information products and services, sharing information and data, data usage, performance measurement and indicators, as well as the respondent satisfaction with the level. The model is preliminary designed for the public healthcare sector.

Discussion

This study contributes by combining the existing models and linking them to the established process model of knowledge management by Choo (2002). Most of the existing maturity models have the assumption that more is better, i.e. it is always desirable to obtain more sophisticated technologies and practices. The model developed in this study creates profiles which combine satisfaction of organisation and the maturity. This study also contributes by testing the designed model. While many maturity and profiling models have been presented in the literature their implementation in practice is less common.

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Desired improvement in resilience in NHS top leadership – Characteristics of long serving NHS CEOs

Authors: Mark Exworthy¹, Naomi Chambers²

¹University of Birmingham, Birmingham, United Kingdom.

²University of Manchester, Manchester, United Kingdom.

Abstract

The crisis in NHS top leadership is facing a decline in the number of long serving CEOs, with the average tenure around 3 years. Yet, evidence suggests longevity is associated with higher performance. We shall conduct in-depth interviews with 10 NHS CEOs (who have been in the same post or in multiple posts) for more than 8 years (more than double the average) and analyse the transcripts thematically. The findings shall provide insights into NHS policy and practice regarding training, recruitment and board development. They shall also inform our understanding about resilient leadership, organisational culture, and post-bureaucratic organisations.

Methods

We plan to interview 10 CEOs between February–May 2019 with findings available for the EHMA conference. We shall conduct a biographical life narrative interview method (BNIM) with these senior NHS managers. We shall prompt them to elaborate or clarify certain points in this 'story' of these managers' careers. We shall pose counter-factuals (what if...?) and alternative scenarios (how might have this incident been different?). Given the flexibility of this approach, we do not have a specific interview schedule but will respond to the interviewees' comments. Our responses will be guided by topics identified in the literature. We will interview them face-to-face, at a location and time of their convenience. We expect that each interview will last 1-2 hours. Interviews will be audio-recorded and transcribed. Analysis will be conducted thematically, looking for patterns between individuals, similarities and differences in their accounts. Initial feedback will be given to the participants for validation of findings.

Results

To be confirmed.

Discussion

We envisage lessons for policy and practice in:

- Recruitment and retention of NHS CEOs;
- Improving length of tenure among NHS CEOs;
- Training and personal development for aspiring CEOs;
- Board development.

We anticipate making an academic contribution to a greater understanding of:

- Resilient leadership;
- The challenges of leadership in post-bureaucratic organisations;
- Impact of healthcare system culture on leadership (rather than the other way around).



Health care leaders' opportunities for managerial work

Authors: Tiina Tuononen¹, Pekka Salkinoja¹, Eero Raittio¹, Johanna Lammintakanen¹, Anna Liisa Suominen¹

¹University of Eastern Finland, Kuopio, Finland.

Context

Diverse functions of health care organisations form a challenge to those working in leadership positions. Leaders have to manage everyday actions in their organisations in addition to tackling the demands of reforms and structural changes. It is important to have motivated and capable leaders in health care. However, it is similarly important to offer them appropriate opportunities to carry out their leadership work. This study aimed to explore health care leaders' opinions about time and opportunities for managerial work.

Methods

The target group included provincial chief dental officers (CDO) in the public dental services and their superiors in 18 counties in Finland in 2018. Responses were received from 15 CDOs and from ten of their superiors who were chief physicians, health care or social and health care managers. The data were collected via electronic questionnaire, including statements on work time management and opportunities for managerial work. The respondents were asked about having adequate time for leadership and development tasks, sufficient opportunities to improve leadership expertise, facing pressure from superiors or employees, the need to take unfinished work at home, and whether working at home was considered free time or working time. Answer options for statements were 'never', 'seldom', 'often' or 'always'. For the analyses, answer options were combined into two categories: 'never/seldom' and 'often/always'. These were compared between the CDOs and their superiors.

Results

CDOs reported a lack of time for leadership work more often than the superiors (53/30%). Only a half of participants in both groups stated that they had enough time for development tasks. Concerning the improvement of leadership expertise, two thirds (67%) of CDOs reported that they had sufficient opportunities, which was a higher proportion than that of their superiors (50%). CDOs disclosed having less pressure from their superiors (100% never/seldom) than did the superiors (40% often/always). Facing pressure from employees was similar in both groups – approximately one third reported that. Superiors took work tasks home significantly more frequently than CDOs (80/40%), and among superiors these were more often not counted as working hours (70/30%).

Discussion

Factors supporting or enervating health care leaders work all merit investigation. All of the participants in this study were full time leaders. Yet, many of them stated that they did not have enough time for leadership and development tasks. It is likely due to this that many of the participants took work tasks to be done at home and surprisingly often in their free time. This unpaid work was more common among superiors, even though only a third of them stated not having enough leadership work time. Leadership expertise is important to a person's performance as a leader. CDOs in this study seemed to have better opportunities to improve their expertise than their superiors.

Opportunities for competency development through global health management student immersion

Authors: Kristin Wilson¹, Usman Khan²

¹Saint Louis University, St. Louis, MO, USA.

²European Health Management Association, Brussels, Belgium.

Context

Identifying, measuring, and advancing health care management and leadership competencies is important in the development of future health care leaders. Many health care service organisations and academic programs have identified various competency frameworks, and many are revising competencies needed for future development. While many student health care study tours exist, a student immersion experience into another country's health care system provides unique opportunities to measure enhanced competency development and allow students to challenge current views and paradigms. Through these experiences, students are uniquely prepared to take on the challenges of envisioning and implementing Health Management 2.0 as future leaders.

Methods

Graduate students from a highly ranked, accredited, competency-based U.S. health management and policy program participated in an immersion course within NHS England as part of their curriculum. Based in London, students interacted on-site with a cross-section of NHS leadership. As part of course requirements, students completed a self-assessment of progress towards the identified course competency constructs in critical thinking, management, and political/community development. The self-assessment was framed using the Kirkpatrick Four Level Training Evaluation Model. The identified future Level 4 long term outcome is defined as positive organisational impact related to the course competencies. A mix of level 1 and 2 assessed competency progress through a 5-point Likert scale survey. Level 3 evaluation was incorporated through students working in the field via qualitative comments. Mean scores of each competency construct were calculated to measure progress towards the future Kirkpatrick Level 4 outcome.

Results

Cumulative cohort results (n=20) indicate that combined competency development on the identified constructs was perceived high (mean=4.75) by the students as reported on the self-assessment, with individual competency construct means ranging from 4.65- 4.85. The first cohort evaluated their progress on identified competency constructs slightly lower (mean = 4.5) as compared to the 2nd cohort (mean = 4.83). Level 3 behaviour qualitative data indicate competency-based behaviours in practice as described and reported by students on the self-assessment. Within the Kirkpatrick Levels of Evaluation, progress towards Level 4 competency development is occurring for the individual and cumulative cohorts.

Discussion

Immersion courses into other health systems provide important experiences for future leaders of health care and facilitate the development of identified competencies. More long-term evaluation following the cohorts into their professional placements will further determine impact of the competency-based experience. Regardless of the type of paradigm shifts occurring within countries moving towards Health Management 2.0, there is value in students experiencing other health systems to gain new understanding and competence in healthcare management and leadership not otherwise gained with usual formats of preparation and training. These experiences may generate innovation and collaboration around goals such as stewardship of resources, improved population health, and advancement of quality of life and care in their respective health systems. Providing global opportunities and experiences for current and future leaders enhances their own competency development while contributing to further advancement of Health Management 2.0.

Narratives about workplace spirituality in healthcare projects

Authors: Heidi Pirkola¹, Marjo Suhonen^{2,3}

¹University of Oulu, Oulu, Finland.

²Research unit of nursing science and health administration, University of Oulu, Oulu, Finland.

³Medical Research Center, Oulu, Finland.

Context

Workplace spirituality (later: WS) is a complex, multi-dimensional phenomenon which improves overall well-being of workers as well as work outcomes. The phenomenon of WS is supported by the organisational culture. WS consists mainly on sense of community and meaningful work. From the society's point of view, the ongoing restructuring of healthcare service sector in Finland will most likely be mainly carried out as different projects. When the fact is that healthcare projects often fail to achieve their goals then the WS might be the solution to improve projects' success. WS in healthcare projects has not been studied before as far as we know. The purpose of the study is to describe WS in healthcare projects from the project managers' viewpoint.

Methods

The participants of the study were project managers and leaders (n=20). The project as well as the participants were selected by purposive sampling. The inclusion criteria for the project were that it had to be an extensive healthcare project located in Northern Finland. The inclusion criteria for the participants were that they had had education in management as well as the title of and some work experience as project manager. The participants gave their informed consent. After this they were interviewed by thematic individual interviews. The themes included the project managers' views of WS as well as the project managers' support in experiencing WS in healthcare projects. The data were analysed by thematic narrative method.

Results

As a preliminary result three narratives related to WS in healthcare projects from the viewpoint of project managers were found and they are as follows: a narrative of sense of community; a narrative of importance of the project manager and a narrative of greatness of the project. Project work is a challenge to WS because project work is done as part of the daily work and especially in extensive projects work is done physically far away from each other. Project manager has a crucial and central role in experiencing and advancing WS. When supporting WS in healthcare projects the project manager creates an enabling environment which becomes visible in better work outcomes and perceived overall satisfaction. Sense of community seems to be crucial in WS. Team members need time together to reach the common understanding of achieving the goal which is also the project managers' first priority. They want to work together to succeed.

Discussion

The results of the study help to understand WS as a phenomenon as well as project managers' influence and importance to WS in healthcare projects. The results of the study can be used in healthcare projects internationally. Especially project managers can use the study to improve WS. This may advance projects to achieve their goals.

Challenges in health workforce planning: caring for a healthy health workforce

Authors: Eszter Kovacs¹, Mariann Kovacs¹, Anna Kozak¹

¹Semmelweis University, Budapest, Hungary.

Health workforce (HWF) is a cornerstone of every healthcare system and has a key role in the operation of high quality and safe healthcare provisions. Health policy often carries out strategic HWF development and planning and considers macro-level factors that might influence the operation and sustainability of the system. However, the following are often neglected from this perspective: mental health and well-being characteristics of the HWF. Mental health promotion is an essential dimension of any HWF development, since health professionals belong to a highly vulnerable profession, facing physical, mental and emotional challenges in their daily routine. Additionally, chronic stress and the lack of supportive working environment might result in burnout. Several research studies have aimed to study different aspects of burnout (e.g., stages, volume etc.) and identified holistic approaches to cope with emerging challenges. The present chapter aims to review contemporary literature and emphasise significant topics related to improving mental health and HWF development. As key messages, we underline the importance of the holistic approach and the role and responsibility of multiple environments. Policy makers, organisational management and health professionals are inevitable stakeholders in developing mental health and well-being of HWF, such as ensuring sustainable and resilient HWF for providing care to population needs in a long time run. Stakeholders on all level (individual, organisational and policy) should define explicit interventions jointly in order to analyse the situation, monitor changes, educate the HWF and prepare suitable programs improving mental health.

Curriculum change in health management and leadership studies in medicine in Finland

Authors: [Heli Parviainen](#)¹, Heli Halava²

¹Tampere University; Faculty of Social Sciences; Health Sciences, Tampere, Finland.

²University of Turku; Faculty of Medicine, Turku, Finland.

Complex and fluid health care environments require not only professional skills but also expertise in comprehensive and collaborative leadership. Professionals in health care are working more and more often in multi-professional teams. Therefore, especially in hospitals, physicians are expected to take responsibility for the management of financial and human resources but often without previous management training or mentorship.

In Finland, specialty training in medicine is classified as a specialised postgraduate degree. It can be undertaken at all five medical faculties in Finland. To complete the specialist degree, five to six years (300-360 ECTS) of medical practice is required. In addition to the practical training period in hospitals, the training includes service in public health centres, theoretical courses, management studies, and successfully passing a national written exam.

In 2008, there was a major innovation in medical specialist training programs: for physicians and dentists to assume any management role in their health care system, they should have a minimum level of 10 ECTS of management education. Therefore, a core curriculum dealing with leadership, human resources, economics, communications, data management and other management topics was included in national guidelines. Here we describe how these compulsory leadership studies have been implemented in the Universities of Tampere and Turku.

During the years 2009-2017, in Tampere 1,825 specialist trainees have participated in compulsory management and leadership studies, and 1,769 in Turku. According to the feedback, during these years, attitudes towards management skills have improved.

In Tampere, students participate in six study modules. Pedagogical solutions used for each subject's one-day-module include academic lectures on the theoretical bases, the integration of theories into health care practices, as well as student-inspired workshops based on preliminary orientating reading materials assisted with web-based solutions and gamification. The online education network Moodle has been used for completing web-based assignments to deepen trainees' understanding on academic lecture topics.

In Turku, attendees select contact studies (3-6 ECTS) from yearly available 20 ECTS and proceed at their own pace. Portfolio and project comprise 2-5 ECTS each, and it is up to the attendee's discretion to decide on the proportion of these three sections. Contact studies are arranged as academic lectures on the theoretical bases, including the integration of theories into workshops. Preliminary orientating reading materials are provided, and the online education network Moodle is utilised. The contact studies have taken place in Turku, in addition to online video provided, to enable trainees to participate nearby their workplaces.

In addition, advanced management studies (20 ECTS) are offered both in Tampere and in Turku.

Due to the changing health care environment, development of medical doctors' management and leadership skills is needed in addition to professional expertise. Even though not all professionals aspire to be managers, they are often thrust into these positions without having the necessary educational background to carry out management duties. It will take another 10 to 20 years to realise the full impact of these curriculum innovations on the health care delivery system in Finland but we predict that what took place in 2009 with the establishment of these educational programs will serve the medical profession, health care services and patients in Finland very well.

Defining a relation: financiers and healthcare executives

Author: Tessa van Dijk¹

¹Erasmus School of Health Policy & Management, Rotterdam, Netherlands.

Context

Healthcare executives all over the continent have been dealing with an abundance of reforms in the last decade. These changes make them constantly rethink and reshape their organisational governance, leadership role and partnerships.

The Dutch healthcare sector provides a good example as executives had to deal with several changes in a short period of time: the healthcare system reform towards managed competition (2006), new payment schemes (2006), decentralisation (2015) and long-term care reforms (2015). These reforms require new skills and competences from the manager; but also ask for new (and renewed) partnerships. Research in this direction focusses mostly on partnerships with other healthcare organisations (HCOs) in the form of networks, medical specialists, government, neighbourhoods, municipalities and patients.

However, in order to make this change happen, we first and foremost need the money to make it possible. Since financiers are dealing with their own reforms due to the financial crisis in the form of Basel III and Solvency II (2008 and beyond) relationships have changed and edged. The question this research poses is therefore: how have relationships between healthcare organisations/executives and financiers changed over time and what new skills and competences does this require from the manager 2.0?

Methods

The data collection for this research is twofold. Between 2017 and 2018 twenty interviews have been conducted with financiers (banks and health insurers), healthcare executives and financial advisors who mediate between the former two. This resulted in a considerable amount of data that was used for a large-scale survey amongst Dutch healthcare executives. This was done in collaboration with the Dutch Association for Healthcare executives in the beginning of 2019. The results need to be collected and analysed in the following months which will provide us mainly a descriptive image. The last part of the survey is important for this research question and is defined as: the relationship with banks and health insurers. Within this part questions were raised about power, legitimacy and urgency. Furthermore, whether the relationship of the HCO and the financier has changed over time, what happens in case of financial insolvency and questions about alternative forms of financing.

Results

HCOs are depending on the commitment of banks and health insurers for financial operations. To start with banks, there is a clear change in the relationship between banks and HCOs before and after the system change in 2006 and before and after the implementation of post-financial crisis regulation (Basel III & Solvency II). Interviewees agree that banks became more reluctant to invest and when they did, they were stricter and demanded more additional information and requirements. This also had positive effect on HCOs, since they had to act more as private organisations and had to be critical in where to allocate money within the organisation.

Regarding health insurers, the complication reveals itself in the context of contracting. Powerplay, negotiations and responsibility messiness make it possible to shift between the credit facility of the bank and the pre-payments of the insurers. In some cases, to the benefit of the HCOs, in some to the bank or the health insurer.

This leads us to think that healthcare executives perceive both banks and health insurers as powerful, legitimate entities that are entitled to making urgent claims. Nevertheless, the search for a new balance and security is essential to overcome the restricting regimen and conflicting interests by collaboration and consensus.

Discussion

When redefining the relationship between healthcare executives, health insurers and banks there is a lot to say about power, legitimacy and urgency. However, the question remains how healthcare executives, the managers 2.0, deal with them in the context of an increasingly complicated and internationalised healthcare setting. In a time where partnerships are essential, a new balance might be found in some cases while others are still struggling. We can learn from both sides. Above all, it requires specific skills and competences from healthcare executives to operate in a setting of increased dependencies. What are these skills and competences and how can innovation still be promoted when healthcare organisations are so depended on their financiers? Our results try to shed some light on this complicated setting.

Because the data coming from the large-scale survey is not yet collected and analysed, this section will contain results that come from the interviews. Furthermore, some tentative hypothesis deriving from the survey are discussed.

2019

Sustainability

EHMA

European Health Management Association

SDGs in healthcare organisations – for better environment and better health

Authors: Marija Jevtic^{1,2}, Catherine Bouland²

¹University of Novi Sad, Faculty of Medicine, Novi Sad, Serbia.

²Université Libre de Bruxelles (ULB), Research centre on Environmental and Occupational Health, School of Public Health, Brussels, Belgium.

Context

The global challenges of today are numerous, big and extremely complicated. Mass non-communicable diseases are a constantly growing problem with an emphasis on malignant diseases, cardiovascular diseases and other chronic diseases. At the same time, it does not eliminate the threat represented by infectious diseases. Health systems are constantly facing challenges. They are entrapped between humanity and empathy and caught by economic constraints while aiming to provide quality services. Growing poverty, disrupted environment, conflicts and migration, have a direct impact on the work process and pose new demands to health organisations, primarily to hospitals that require quality and sophisticated infrastructure. How SDGs can be a useful guide to better hospitals?

Methods

17 Sustainable Development Goals (SDGs) represent a universal call to contribute comprehensively to solving global challenges, in order to eradicate poverty, ensure peace and prosperity for all, protect environment and also exercise the right to health and health protection.

In this paper, an analytical approach was used in identifying the connection between certain goals of sustainable development and health organisations in order to improve the quality of service, as well as the sustainability of the organisation itself (and its infrastructure).

Results

The paper points to a solid connection not only to SDG 3 (Ensure healthy lives and promote well-being for all at all ages), but also to other goals, which in different environments and conditions can be of various intensity. Nevertheless connections are strong with other goals as well: 1 (End poverty in all its forms everywhere), 2 (End hunger, food security, improved nutrition), 4 (Inclusive and equitable quality education and lifelong learning), 6 (Sustainable management of water and sanitation), 7 (Access to affordable, reliable, sustainable and modern energy), 8 (economic growth, full and productive employment), 9 (Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation), 10 (Reduce inequality within and among countries), 11 (Make cities inclusive, safe, resilient and sustainable), 13 (Take urgent action to combat climate change and its impacts), 16 (Peaceful, inclusive societies, access to justice build effective, accountable and inclusive institutions), 17 (The global partnership for sustainable development).

Discussion and conclusion

The mutual interconnection of causally related links of particular SDGs can be used to achieve improvement in health organisations. SDGs as a tool can also be applied in circumstances where a large range of indicators is present in relation to the specific criteria being observed. This also depends on the level of development (country, region, local self-government) and other conditions, such as migration, climate change, energy capacity, water supply, food quality and nutrition. With all human resources, these external factors affect the hospital primary task - quality of health services and satisfaction of patients and employees. Today's hospitals are exposed to the limitation of financial and resources that can affect the quality of work and the treatment of patients. Analytical approach to SDGs can identify the challenges that the hospital is exposed to and, through careful planning, transformation, investment in certain components, it will contribute to sustainability and more successful outcomes in providing health services in the short and long term. The use of SDGs in hospitals can also be considered as one strategic approach to achieve better results with long-term care of resources and infrastructure.

Motivation in times of change: evidence from the field

Authors: [Eva Krczal](#)¹, Arleta Franczukowska¹, Alexander Braun¹

¹Danube University, Krems, Austria.

Context

In times of constant change maintaining a motivated and engaged workforce is an essential factor. Reforms may have negative effects on professionals' work motivation when they are associated with restricted autonomy, increased bureaucracy or a feeling of being controlled. Motivation has been largely examined through surveys that include established variables from traditional models of motivation. The current research draws a special focus on qualitative data gathering methods and reflects the contemporary relevance of traditional motivational theories. Further, the results deepen our understanding of the motivational processes and could help leaders to improve the way they attract and motivate health professionals.

Methods

We conducted a systematic literature research on studies investigating motivation at work in times of change and reforms. Electronic databases from psychological, social and economic sciences were searched. The electronic search was supplemented by a manual search of selected journals. Further search strategies included forward citation tracking for key articles and hand searching of the reference lists. Only studies employing qualitative research or mixed methods were eligible for inclusion. Abstract screening was conducted by two independent reviewers. Any disagreements were resolved by discussion and consensus between the two reviewers. Full-text screening of pre-selected studies followed the same procedure. The quality of selected studies was assessed by a predetermined checklist including mainly methodological quality criteria. Data abstraction forms were developed, pilot-tested and discussed by all reviewers. The two main areas of interest were research methods employed, the results obtained in terms of motivational factors and the interplay between these factors.

Results

Most studies relied on common data collection methods like semi-structured interviews, in-depth interviews or employed a mixed-methods approach (interviews in combination with quantitative surveys). We also found alternative methods, among them the method of empathy-based stories (MEBS) or passive role-playing via Facebook or a case study employing grounded theory procedures.

Work-life balance and the quality of private life are of increasing importance. Other motivational drivers relate to the closest working community (motivated and engaged colleagues, supervisors, productive work climate). Besides, the socio-cultural context (patient-provider relationships, recognition from the community) has been proposed as a motivational source. Results emphasise the interplay between different motivational drivers. The balance between job stability and growth needs for example is expected to affect work motivation. Research focusing on the younger generations reports a positive attitude towards change. The opportunity to constantly learn and develop through new tasks and challenges represents an important motivational source.

Discussion

Exploring the multi-layered interplay between motivational factors, qualitative research studies contribute to a better understanding of motivational processes. In addition to exploring individual determinants and outcomes of motivation, qualitative research attempts to gain a better understanding of the complex relationships among these factors, including the moderating and mediating effects of individual, organisational and contextual characteristics. Together, the results contribute to a more comprehensive picture of how reforms can be managed successfully. Leaders should consistently translate and integrate reforms with the professional's drivers and values. Improving motivation requires systemic thinking and understanding the complex interplay of factors that operate in a specific context. Reforms are likely to impact a number of motivational factors. Policy makers and leaders should carefully consider such impacts. For example, financial incentives may induce specific work outputs, but as regarded for themselves they are unlikely to be effective in improving individual and organisational performance.

Observatory on full-time employment of nurses in Norway

Authors: Lill Sverresdatter Larsen^{1,2}, Eli Gunhild By²

¹UiT The Arctic University of Norway, Tromsø, Norway.

²Norwegian Nurses Organisation, Oslo, Norway.

Introduction

Nurses and Midwives comprise over 50% of the health workforce. The World Health Organization projects a global shortage of 9 million nurses and midwives by 2030 (WHO.org). Strategies for recruitment and retention of nurses in the health workforce are critical to meet this shortfall. In Norway there is already a shortage of 6000 nurses in 2019 and this shortage is expected to increase to 28,000 by 2035.

Since 2008 full-time employment of nurses has been an expressed goal of both the employers and employees' organisations. However, currently two out of three registered nurses in the health workforce are employed part time indicating little progress has been achieved in reducing part-time work among nurses over the past ten years. With an increasing shortfall of nurses increasing full-time employment has become critical strategy to utilise a needed workforce resource. It is recognised that change to a culture of full-time employment is needed. Yet, many employers post only part-time job openings for nurses ranging from 10% of a full-time job and upwards.

The purpose of this project is establishing an Observatory on Full-time Employment of Nurses in Norway. This includes monthly monitoring of all job openings for nurses by percent of full-time employment in the hospital and community care sector respectively. Publication of results and political activism through media are utilised to engage healthcare administrators, politicians and nurses themselves in public debate in order to create a force for change.

Method

The Norwegian Nurses Organisation (NNO) engaged the media company Retriever to collect and analyse data on the publicly available online NAV Job Database that registers all job postings in Norway. All job postings for nurses were collected on a weekly basis and analysed monthly including employer, hospital/community care sector, percent of full-time. Monthly data are displayed on the website of the NNO and spread via social media.

Results

From February 2017 through January 2019 35,408 nursing positions were posted in nav.no of which 17,933 were full-time (100%) employment, an average of 51%. In the hospital sector, monthly full-time postings ranged from an average of 44% in September 2017 to 59% in May 2018. There is a slightly positive trend over the 24 months. In the community care setting monthly full-time postings ranged from an average of 44% in April 2017 to 60% in January 2019. There is a clear positive trend. Over this period media coverage in local and national news outlets focusing on the nursing shortage has increased and there is increased interest in the full-time employment debate.

Discussion

This study has established an observatory on full time employment of nurses. Systematic monitoring, feedback of data on employers' job posting practice, data publication and public debate appears to be creating awareness and is changing practice. There is still a long way to go before the goal of full-time employment for nurses is achieved. There are many reasons for offering full time employment to nurses. A full-time nursing staff means greater continuity of care for patients and family, better patient safety and quality of care. Nursing student are demanding full time employment as they often must pay back student loans, and full-time employment is required by banks for a housing loan. Considering the current and future challenges of recruiting and retaining nurses, full time employment is a critical strategy.

Medical military leadership 2.0 – recruiting clinical directors

Authors: Marisca de Jong¹, Frank Ruesen¹

¹Institute for Defence and Partner hospitals, Utrecht, Netherlands.

Context

The Institute for Defence and Partner hospitals has 36 surgical teams. All these teams work in twelve Netherlands civilian hospitals and are deployable for peacekeeping, enforcing or humanitarian missions. During a deployment they will work in a military hospital. This military hospital is being led by a medical leadership triangle, consisting of a military commander, a medical doctor who is also the clinical director, and a senior nursing officer. These three military actors need to work in a configuration in which they haven't before, and at the same time are forced to work together under potentially dangerous circumstances. All military actors in the medical leadership triangle must be aware of their own and each other's position and responsibilities and work together as equals, which is different than their normal 'military' chain of command.

Aim

A clinical director is a surgeon or anaesthesiologist with extra management tasks and responsibilities in a military hospital, then he or she is working in a civilian hospital. It is not clear yet which competencies, knowledge and leadership roles a clinical director has to attain to be a valuable partner in the medical leadership triangle. The objective of this research is to determine the minimum level of competencies, knowledge and leadership roles surgeons and anaesthesiologists should own or develop to be effective as a clinical director in a military hospital. For this aim the following hypothesis will be tested: "The competencies of effective leadership are also applicable on surgeons and anaesthesiologists to become a valuable partner in the medical leadership triangle as a clinical director".

Methods

This design study starts with conducting a literature study to determine the competencies, knowledge and leadership roles to be an effective medical leader. These results will be verified in a qualitative study by interviewing all military actors of the medical leadership triangle who have been deployed in Afghanistan (2006-2010) and Iraq (2018), to research if these competencies, knowledge and leadership roles are also applicable in a military environment. With these aspects it is possible to make a profile for recruiting surgeons and anaesthesiologists who are able to participate in training to become military clinical directors.

Discussion

The results of the research are expected to show that not every military surgeon or anaesthesiologist is capable of being a clinical director by successfully executing the extra management tasks and responsibilities, although the general opinion of them is that they are all capable and qualified. The Netherlands Ministry of Defence should change the current selecting process of new military surgeons and anaesthesiologists, by assessing the candidate's potential to become a clinical director in the future. If the surgeon or anaesthesiologist has the ambition of becoming a clinical director an additional course has to be developed to attain the minimum level of competencies, knowledge and leadership roles. For further purposes it is necessary to conduct a similar research on the competencies, knowledge and leadership roles of both military commander and senior nursing officer, to obtain the best mix of players within the medical leadership triangle.

Developing healthcare leaders' responsibility in creating social impact

Authors: Stephen Brookes¹, Eva Turk^{2,3}

¹University of Manchester, Alliance Manchester Business School, Manchester, United Kingdom.

²SanAstra Foundation, Oslo, Norway.

³Medical Faculty, University of Maribor, Maribor, Slovenia.

The World Health Organisation (WHO) defines health as being “*a state of complete physical, mental and social well-being, not just the absence of disease or infirmity*” (WHO 2006).

Reducing and preventing social isolation is very much a part of social well-being interventions and many factors associated with social isolation are unequally distributed in society. It applies at levels of society and successful interventions to tackle social isolation reduce the burden on health and social care services (PHE and UCL 2015: 5). Two examples will be described as community-focused interventions as a basis for leadership development through blended learning.

Method

The paper draws on the experiences of the authors in the implementation of blended learning approaches for healthcare leadership development. This form of learning – increasingly referred to as the new traditional model (Ross and Gage 2006) – combines face-to-face and online learning (Dziuban et al. 2018). This form of blended learning supported also by action learning and applied leadership challenges (Brookes, 2016) can be considered as a form of disruptive technology (Christensen, 2000) which can transform both executive education and encourage wider collaborative leadership development with those who currently do not have access to learning. Equal access to education is a critical need, one that is particularly important for those in our underserved communities (Dziuban et al., 2018). A model for delivery of such blended learning that has the potential to increase healthcare leader's responsibility for social impact, engaging directly with those whose impact this is aimed at, will be illustrated.

Discussion

The paper argues that leadership development and practice are inextricably aligned.

The leadership challenges associated with creating social impact in tackling social isolation will be explored. This can be described as a ‘wicked’ problem (Rittel and Webber 1973); not wicked in the sense of it being evil but rather one that requires an adaptive leadership approach (Brookes 2016; Heifetz 1994) in tackling the underlying and intractable conditions that lead to social isolation. The two examples will include community-based activities to alleviate poverty, mental health and loneliness and the opportunities to improve health literacy. Health literacy enables adults to make informed health decisions and it argued that this can be improved through collaborative learning and community-based activities (de Wit et al. 2017). The paper will conclude by drawing together the blended learning approach, action learning and applied leadership challenges and a cascaded approach of learning in tackling these particular wicked problems.

Values and work ethics in health care in Italy. National research results and the ISMETT-UPMC Italy experience

Author: Giulia Padovano¹

¹ISMETT, Palermo, Italy.

Context

ISMETT is an institute for scientific-based care and research (IRCCS) in treatment of end-stage organ failure. It is included in the Italian NHS. 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 5 operating rooms. In 2018, ISMETT participated in a research conducted by RUSAN – *National center of excellence for monitoring and improving the quality of human capital in healthcare companies* – in collaboration with FIASO – *Italian Federation of Health and Hospital Agencies*- on the theme: “*Values and Work Ethics in Health Care*”.

Methods

The aim of the research was to provide an overview of the employees’ experience and perception of ethics, focusing on the meaning attributed to it by health care providers, and what they consider values in the workplace. The survey was conducted through an online questionnaire on a sample of 1,542 operators (nurses, physicians, technicians, aides, and administrators), working in 24 companies in 11 regions. There were 32 questions, three types of question: multiple choice, open-ended, and Likert scale. The level of agreement with the statements was expressed with a scale of value from 1 to 6, where the highest value indicates the maximum level of agreement. Participation of employees was voluntary. A sample of about 100 employees per company was randomly selected. Timeframe for filling in the questionnaire: 4 weeks. The questionnaire was administered between January and February 2018.

Results

Most of the respondents were female (65%), in the 37-51 age range (48%), and working as nurses (30%) or physicians (25%). The research showed that values are solid among health care professionals. About 65% of respondents say they know the anti-corruption rules, but about 15% expressed doubts about their effectiveness. Most respondents (percentage in brackets) denied that the following practices are widespread:

- diverting patients to private practices (60%);
- prescribing unnecessary drugs (71%);
- facilitating friends on waiting lists (54%);
- accepting gifts (57%).

About 60% respect professional ethics of their leaders; 81% say they put the patient's interest first, but they know that cost containment is a must for the maintenance of the NHS, for which they are proud to work (64%). Respondents asked for transparency, equity, and meritocracy. Blind cost containment, bureaucracy, and HR shortage were highlighted as potential or actual critical issues for a good quality of health care.

Discussion

Results of the survey suggest that good health system governance should start with solid ethics and values. Leadership should act as role models, “living” key values in daily activity. Personnel should be selected and managed also taking into consideration adherence to organisational values. Health Management 2.0, characterised by a fast pace of change, digital transformation, need for efficiency, and patient-cantered care, should consider ethics and values as prerequisites for success. ISMETT experience, also thanks to the transfer of UPMC know-how and to the forthcoming adoption of a forefront HR Information System, goes in this direction. Some examples: employee recognition program focusing on adherence to values, training courses on company values, performance management program including values response as assessment factor. Nevertheless, it is also true that ISMETT is facing some challenges in the implementation of these programs in a different context (Italian vs. U.S.) and in a public-private organisation.

Destination Romania: trends in the internationalisation of medical education among Romanian medical schools

Author: Marius Ionut Ungureanu^{1,2}

¹Department of Public Health, Babeş-Bolyai University, Cluj-Napoca, Romania.

²Health Management and Policy Center, Cluj-Napoca, Romania.

Context

Romania has traditionally been a source country of healthcare professionals for other countries. However, during the past 10-15 years, Romania has become increasingly attractive for international medical students from both EU and non-EU countries. The current study explores the drivers of this trend, opportunities and challenges that might arise, as well as its implications on the broader health system goals.

Methods

To achieve the study purpose, secondary data has been analysed and interviews have been conducted with key stakeholders (Medical Universities, medical students, representatives of the Ministries of Health and Education, healthcare professional associations).

Results

Since 2011, 11 of the 13 Medical Schools in Romania have opened additional study lines in foreign languages (English and French) and gradually increasing the number of places allocated to international students. Overall, between 2011/2012 and 2018/2019, the maximum number of students to be trained by Medical Schools in the foreign language lines increase by 86% for the English line (from 715 to 1330) and by 46% for the French line (from 280 to 410). The increase in the maximum number of Romanian students to be trained only increased by 3%. For Medical Schools, internationalisation has been driven mainly by financial reasons and has had a positive impact on curriculum development and improvement, faculty development and efforts to connect to international trends (use of simulation in training, inter-professional education). For non-domestic students, the main reasons for which Romanian universities were attractive are related to lower fees as compared to home countries (or other EU Member States), lower living costs, diplomas recognised throughout the EU, relatively easy-to-achieve admission standards.

Discussion

Findings in the current study show that internationalisation of medical education in Romania has taken place in an organic manner, but in the absence of a formal national internationalisation strategy. However, internationalisation efforts have not translated into significant improvements in health workforce management in Romania. As evidence presented in the study suggests, more efforts are needed if Romania is to extend its attraction to international Medical School graduates for pursuing post-graduate training and jobs in the country.

Acknowledgement

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Can activities among healthcare professionals be more efficiently distributed?

Authors: Roxane Borgès Da Silva¹, Carl-Ardy Dubois¹, Régis Blais¹, Marie-Claire Ishimo¹

¹Université de Montréal, Montréal, Canada.

Context

Limited access to health services, shortage of certain types of health professionals, suboptimal use of service providers, or conditions of practice that do not promote collaboration may compromise the efficiency of health services and have an impact on healthcare quality.

Several countries have focused on better use of human resources in health: skill mix and task shifting are options which could improve healthcare efficiency. Task shifting is defined as delegating tasks to other healthcare professionals of the team. In the case of delegation, the professional who delegates a task keep the responsibility of it. In the case of task transfer, the professional who transfers the task is no more responsible for it.

Objective

The objective of this study is to answer the following question: what are the activities carried out by health professionals that can be transferred or delegated to other professionals and that could generate efficiencies in Quebec healthcare system?

Methods

We used a qualitative exploratory research design. Ten semi-structured individual interviews were conducted with key stakeholders (professional orders, professional services directors, decision makers and health facility directors). Twenty-five individual interviews were conducted with nurses (5), nurse practitioners (5), care attendants (5), nurses (5), general practitioners (5) and medical specialists (5). Interviews were analysed using a directed content analysis strategy.

Results

The framework of Borges Da Silva & Dubois was used to classify activities that could be delegated or transferred in two dimensions: clinical activities (direct and indirect care for patients) and non-clinical activities (administrative and management activities, maintenance and equipment). The interviews highlighted several activities that could be transferred or delegated between all members of the care team. The majority of them related to the transfer and not to the delegation.

Discussion/Conclusion

This study has highlighted several activities that could be delegated or transferred between the different members of the care team and that could improve the efficiency of health services and access to health services in the Quebec context.

A possible risk adjusted capitation formula for Hungary – based on person level calculations

Author: Petra Fadgyas-Freyler¹

¹National Health Insurance Fund, Budapest, Hungary.

Introduction

I have developed a methodology for a risk-adjusted capitation formula that could change the current – mainly historical – Hungarian health resource allocation system into a value-based, more efficient and equitable system. I have set up a model integrating elements from international experiences, especially from the capitation systems of Germany, Netherlands and England. The database of the model uses person-level data (n=9.7 million) and calculates need-adjusted health care cost based on variables that were in Hungary previously not available or not examined. The amount of resources handled covers roughly 80% of all payments for benefits-in-kind paid to providers by the single payer National Health Insurance Fund. It is approximately 64% of all public health spending in 2015 (reference year). Variables referring to demography (e.g. marital status), previously occurred health care costs, end of life status, morbidity data and SES (with proxies for income and education) were also included. The database allows the examination of effect of these characteristics on health care costs (inpatient and outpatient care, prescribing, diagnostics, dialysis, dentistry activities etc.).

Methods

Different models were examined, several stratified linear regression models and an AI model. Due to the big number of people who do not any health utilisation at all, the first model led to negative capitation values. As a consequence, a second model was set up where the probability of utilisation and the actual health spending were calculated separately in two stages. The third model examined the cost with a logarithmic transformation (due to the high cost cases). The fourth model used a GLM approach. In the fifth model (random forest) capitation costs were forecasted for 4,5 million persons with a previous learning population of around 0,2 million persons.

The forecasted costs were then manipulated in two ways, first so that supply effects were neutralised (sterilisation). In the second phase capitation costs were modified according to the typical life expectancy and healthy life years expectancy at people's residence.

Results

All factors used are significantly influencing the personal health spending in Hungary. It is also clear that need and supply factors (e.g. provider capacity, travelling times, GP's unavailability) can be distinguished. The effect of supply could be neutralised via the methodology of sterilisation.

The different models all led to an acceptable R^2 level (around 0,21).

The possible distributional consequences of the new model on health resources at regional (NUTS3 and NUTS4) level have been outlined, comparing the old distribution with the possible new one. The volatility of the changes due to the size of the regional units have been outlined. Necessary further steps toward a possible capitation-based Hungarian health resource allocation have also been described.

Summary

The work has proved the possibility of a new resource allocation methodology in Hungary based on need-assessment and risk-adjustment.

Evaluating the digital transformation of radiology services: a sustainable solution to gaps in the clinical workforce

Author: Mai Webber¹

¹Optimity Advisors, London, United Kingdom.

Information management and technology are critical enablers in transforming the way that health systems source and manage labour resources, resulting in efficiencies and more optimal resource utilisation. The East Midlands Radiology Consortium (EMRAD) began as an Acute Care Collaboration Vanguard in 2016 to create and maintain an innovative NHS imaging network for the benefit of patients and clinicians through value-based healthcare initiatives. The collective procurement of a new, common digital radiology system responded to and subsequently managed local shortages in skilled labour by optimising workforce utilisation over a larger geography. This provides a collaborative operating model and platform to deploy advanced AI diagnostic solutions for timely clinical care, and evidence-based population health management systems.

An evaluation was conducted to measure the performance of the New Care Model (NCM) using actual cost and benefit data provided by trust members of the Consortium. A key comparator for success is the counterfactual, that is, the provision of image reporting services separately through NHS trusts augmented by commercial outsourcing agencies. An economic model was constructed to: (i) quantify the financial benefit of procuring a shared IT imaging system through a consortium approach and, (ii) compare a Business as Usual scenario assuming routine use of commercial agencies, with the NCM scenario where recourse to agencies is reduced and pooling of available NHS resource enabled as a result of exploiting the new shared IT platform. Economic performance was modelled over a 10-year time horizon as concurrent with the lifetime of the technology contract and generates an NPV of £7.28m.

The model developed demonstrated a net saving as a result of applying the NCM approach provided that the necessary annual increases to the conversion of commercial reporting services back into the NHS is achieved. The model is useable by senior health managers to optimise forward planning by allowing them to create scenarios of future imaging services including critical assumptions, dependencies and constraints. In addition, the model can act as a template for future evaluations of efficiency gains associated with moving all providers to a common digital platform in other areas of healthcare both within the UK and internationally. Qualitative interviews with key stakeholders also found that the change in governance structure fostered the development of a more collaborative workforce and more mature collegiality.

The results of this evaluation demonstrate the value of a strong clinical, information and operational governance structure and is of particular relevance to localities that consistently struggle with labour shortages in key operational areas. This method of collaboration supported through technology is fundamental in creating more sustainable and integrated health care systems where geography does not act as a barrier to the provision of quality healthcare. Furthermore, it lays the foundation for greater digital transformation through the use of 'Big Data' and 'AI'. By standardising the way that data is shared, and results reported, deep learning techniques can be utilised to provide additional validation of human reviewed scans, leading to increased accuracy and more consistent diagnoses. With informed consent and ethical oversight, large data sets of anonymised patient images could be used to further develop AI models leveraging reinforcement learning techniques that have the potential to improve clinical outcomes and reduce clinical variation. EMRAD is currently partnered with several leading firms specialising in machine learning techniques in order to actualise this vision.

Hospital revenue can serve as a proxy variable for surgeons' technical efficiency

Authors: Yoshinori Nakata¹, Yuichi Watanabe², Hiroshi Otake³

¹Teikyo University, Tokyo, Japan.

²Waseda University, Tokyo, Japan.

³Showa University, Tokyo, Japan.

Context

Evaluation of surgeons' technical efficiency is the keys for the hospitals to survive in the healthcare market competition. However, the calculation of technical efficiency requires some mathematical knowledge and special software. The healthcare managers often use the revenues that surgeons make for the hospital. The purpose of this study is to determine the relationship between surgeons' technical efficiency and their revenues by using multiple regression analysis on surgical data.

Methods

We collected data from all the surgical procedures performed in Teikyo University Hospital from April through September in 2013-18. Output-oriented Charnes-Cooper-Rhodes model of data envelopment analysis was employed to calculate each surgeon's technical efficiency, which is our dependent variable. Inputs were defined as (1) the number of medical doctors who assisted surgery, and (2) the time of surgical operation from skin incision to skin closure. The output was defined as the surgical fee for each surgery. We used as the dependent variable the natural logarithms of mean efficiency scores. Seven independent variables were selected; revenues, experience, medical school, surgical volume, gender, academic rank and surgical specialty. Tobit model multiple regression analysis was used. A p-value < 0.05 was considered statistically significant.

Results

The data from total 17,227 surgical cases performed by 313 surgeons in 2013-18 were obtained. We performed multiple regression analysis for 222 surgeons who published information on both medical schools and experience. The results of Tobit model multiple regression analysis that included and exclude surgical specialty as a control variable were similar (TABLE 1 & 2). Revenue had significantly positive association with mean efficiency score ($p = 0.000$). Surgical volume had significantly negative association with mean efficiency score ($p = 0.000$). The other coefficients were statistically insignificant ($p > 0.05$).

Discussion

From our analysis, we demonstrated that the revenue can be a proxy variable for surgeons' technical efficiency because they had a significantly positive correlation. The larger their revenues were, the more technically efficient they are. Their experience, medical school, gender, academic ranks or surgical specialty did not have any significant predictive values for their technical efficiency. When a surgeon increases the revenue by 1%, his/ her efficiency score will increase on average by 0.46% (TABLE 1) and by 0.52% (TABLE 2). Both statistical models reached the same results. These findings confirmed that healthcare managers' practice of evaluating surgeons with their revenue is robust.

TABLE 1

Results of Tobit model multiple regression analysis that included surgical specialty as a control variable. Data are presented as mean \pm standard error.

* indicates that the coefficient is significantly different from zero.

Dependent variable: Natural logarithm of mean efficiency scores

	Coefficients	p-value
Revenue (logarithme) *	0.463 ± 0.096	0.000
Experience	0.002 ± 0.007	0.803
Medical School	0.282 ± 0.111	0.799
Surgical Volume (logarithme)*	- 0.475 ± 0.108	0.000
Gender	- 0.005 ± 0.114	0.962
Rank (Professor)	- 0.077 ± 0.115	0.507
Rank (Associate Professor)	- 0.037 ± 0.108	0.733
Surgical Specialty	0.168 ± 0.114	0.142

TABLE 2

Results of Tobit model multiple regression analysis that excluded surgical specialty as a control variable. Data are presented as mean ± standard error.

* indicates that the coefficient is significantly different from zero.

Dependent variable: Natural logarithm of mean efficiency scores

	Coefficients	p-value
Revenue (logarithme) *	0.518 ± 0.074	0.000
Experience	0.000 ± 0.007	0.968
Medical School	0.013 ± 0.109	0.905
Surgical Volume (logarithm)*	- 0.537 ± 0.086	0.000
Gender	- 0.014 ± 0.110	0.896
Rank (Professor)	- 0.065 ± 0.117	0.577
Rank (Associate Professor)	- 0.049 ± 0.110	0.655



The evolution of a collaborative innovation network in dementia care: a case study of the AAL project PLAYTIME

Authors: [I.A.G.M. Geerts](#)^{1,2}, [L.J.A.E. Snaphaan](#)^{1,2}, [I.M.B. Bongers](#)^{1,2,3}

¹Tranzo, TSB, Tilburg University, Tilburg, Netherlands.

²Mental Health Institute Eindhoven, Eindhoven, Netherlands.

³Erasmus Centre for Healthcare Governance, Erasmus University, Rotterdam, Netherlands.

Context

To address the societal challenges of dementia, a collaborative innovation approach is required in which stakeholders collaborate in *all* stages of the innovation process to aid the development of sustainable innovations that support people with dementia. Despite its potential, very little is known about the evolution of such networks through the stages of the innovation process. This study therefore aims to get insights into the evolution of a collaborative innovation network over time, with focus on lessons learned and challenges encountered. Simultaneously, this study aims to overcome the encountered challenges by feeding back the obtained results to the network partners.

Methods

This case study is performed in the collaborative innovation network of the three-year AAL funded project PLAYTIME, in which eight partners, including healthcare organisations, companies and knowledge institutes, from three different European countries collaborate to develop and scale-up a serious game for people with dementia. During the first 18 months of the project, the collaboration between the partners of PLAYTIME is systematically followed using several qualitative and quantitative data collection methods: project partners are interviewed, questionnaires are administered, project documents are analysed, and participatory observation during plenary meetings and teleconferences is performed at different moments in time. Data collection and analysis was mainly guided by the conceptual model of Kaats and Opheij (2014) focussing on the underlying processes of network collaboration. Obtained results were fed back to and discussed with the project partners of PLAYTIME during three plenary meetings.

Results

This study provides various insights into the evolution of the collaborative innovation network of the project PLAYTIME, specifically regarding the five processes of Kaats and Opheij (2014): shared ambition, mutual gains, relationship dynamics, organisation dynamics and process management. For example, results showed that it took time to shape a shared ambition among the partners of PLAYTIME, and that the shared ambition in the middle of the project needed to be readjusted due to the shared notion that it was probably too ambitious. Feeding back the obtained results to the partners of PLAYTIME was found to enable open discussion and to provide insights into processes that could be improved.

Discussion

The study of the evolution of a collaborative innovation network over time can help us understand the sustainability of such networks, which in turn facilitates the development of innovations for people with dementia. The approach taken in this study is innovative: instead of focussing on the change of nodes, ties and the structures of the ties in networks over time, this study mainly focusses on the underlying processes of network collaboration. Since the project PLAYTIME is still on-going, data collection and analyses of the collaboration between the partners will be continued until the end of the project.

What levers to mobilise to optimise the health and productivity of workers aged 45 and over in the healthcare sector

Authors: Carl-Ardy Dubois¹, Kathleen Bentein², Frédéric Gilbert², Alexandre Prud'homme¹

¹Université de Montréal, Montréal, Canada.

²Université du Québec à Montréal, Montréal, Canada.

Context and objectives

Workers aged 45 and over are making up a growing portion of the healthcare workforce. However, these workers also pay a heavy price in terms of disabilities related to musculoskeletal disorders (MSD) and mental health problems. The purpose of this study was twofold: 1) to develop a deeper understanding of the interrelated factors that are associated with the occurrence of MSD and mental health problems among those aged 45 and over in the health care sector in Quebec; 2) to examine the extent to which current organisational practices may contribute to reduce or not the burden of workplace MSD and mental health problems.

Methods

The study was organised into two components:

- A quantitative component. The design is a cross-sectional study based on a survey of 2,400 workers aged 45 and over and recruited from 10 health care organisations in Quebec. The sample included all occupational groups involved in healthcare, except physicians. The following variables were included: workers' socio-demographic and employment characteristics, resources accessible to workers, work-related demands, workers' history with regard to MSDs and mental health problems. The analysis process used regression techniques to examine factors associated with the occurrence of MSD and mental health problems.
- A qualitative component. The design is a multiple case study (3 three healthcare organisations). More than 40 interviews were conducted. The analysis process used thematic analysis techniques and the constant comparative method.

Results

The quantitative component of this study showed a high vulnerability of all occupational groups to MSD and mental health problems. The occurrence of MSD is positively associated with both physical and psychological demands and is not significantly affected by resource-related factors. The occurrence of mental health problems is positively associated with psychological and emotional demands as well as work-family balance but inversely associated with several psychosocial resources (support from colleagues and supervisor, decision latitude). The qualitative component highlighted three key weaknesses in current organisational responses to MSD and mental health problems among those aged 45 and over: 1) organisational systems and procedures that address health and safety issues (information, communication, analysis and organisational learning, case management) are only at an early stage of development; 2) key organisational actors are not fully engaged in health and safety issues; 3) organisational interventions are limited in both their scope and depth.

Discussion

MSD and mental health problems are associated with a complex set of factors that are related to various spheres. Beyond the individual sphere, many of these factors relate to conditions at the team and organisational levels. This study's results suggest that urgent actions are needed on two fronts: 1) bringing current organisational work-related health and safety systems towards more advanced stages of maturity; and 2) mobilise the commitment of key organisational actors to develop interventions that simultaneously target workers and their work environment. The results of this study offer insights that can be used to develop, implement and assess new, more comprehensive and multidimensional interventions, tailored on the needs of those aged 45 and over. This additional step is needed to identify the most effective and economically viable strategies and combinations of activities that can be scaled up to reduce the burden of MSD and mental health issues among those 45 years of age and older.

Management of environment in the hospital area – importance of noise monitoring

Authors: Marija Jevtic^{1,2,3}, Emil Zivadinovic², Sanja Bijelovic^{1,2}, Natasa Dragic^{1,2}

¹University of Novi Sad, Faculty of Medicine, Novi Sad, Serbia.

²Institute of Public Health of Vojvodina, Novi Sad, Serbia.

³Université Libre de Bruxelles (ULB), Research centre on Environmental and Occupational Health, School of Public Health, Brussels, Belgium.

Context

The World Health Organization underlines the importance of noise as a negative environmental factor in the 21st Century, especially auditory and extra auditive health impact. Public health professionals recognise environmental noise as the factor leading to anxiety, hearing impairments, sleep disturbance, cognitive disorders in children and cardiovascular diseases. Environmental noise is, also, a stressogenic factor that affects human mental health. Noise monitoring, i.e. noise level control, is high priority activity in eliminating this potentially negative physical environmental factor. Noise monitoring is important for quality management in healthcare facilities, in order to achieve the greatest possible content among patients and employees.

Methods

It is possible to perform 24-hour noise measurements in order to determine the basic noise indicators (L_{day} , $L_{evening}$, L_{night} , L_{den}). We can also perform the short-term measurements in specific time terms in order to determine the equivalent/relevant noise levels, and all this in accordance to the national norms and standards SRPS ISO 1996-1 and SRPS ISO 1996-2.

Results

Research of the Institute of Public Health of Vojvodina (IPHV) shows that in Novi Sad, the percentage of highly annoyed population is 11-25% during the day, and 6-13% at night. In the vicinity of the Clinical Center of Vojvodina there is a Sports Center, a noise measuring site, referred to by the City Noise Measurement Programme as belonging to "Resting and recreation areas, hospital and rehabilitation zones, cultural and historical sites, major parks". Based on the data of IPHV for the time period 2012-2016 in SC, L_{day} was in the range 55.8 dB - 65.4 dB; $L_{evening}$ 58.5 dB - 68.6 dB; L_{night} 49.3 dB - 65.2 dB and L_{den} 59.3 dB - 71.0 dB. In relation to the national norm, basic noise indicators are overpassed in 100% of measurements, while 18% of population living nearby is highly annoyed during the day, also 10% during the night, consequently.

Discussion and conclusion

The research shows that the environmental noise originating from road traffic annoys people, but there is no exact data about connection of the most vulnerable population (hospitalised patients) to noise exposure. There is a need to determine the actual noise levels which affect the hospitalised patients through measuring the noise level, both in direct hospital environment and its nearby area, allowing a better understanding of the impact of noise in occurrence/exacerbation of the disease. Noise monitoring should be the part of the total monitoring of hospital conditions. It is important for achieving a higher level of content among patients and employees with the aim of sustainability of quality of service and environmental conditions in healthcare facilities.

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Successful implementation of lean as a managerial principle in healthcare – a conceptual analysis from systematic literature review

Authors: Riikka Maijala^{1,2}, Sini Eloranta^{3,2}, Tero Reunanen³, Tuija Ikonen⁴

¹Turku university Hospital, Uusikaupunki, Finland.

²University of Turku, Turku, Finland.

³University of Applied Sciences, Turku, Finland.

⁴Turku university Hospital, Turku, Finland.

Context

Lean health care can be described as a management philosophy to develop a hospital culture through continuous improvements (Dahlgaard & al. 2011). Leadership and management practices are critical to successful implementation of Lean Thinking in health care (Andersen & al 2014, Lorden & al 2014, Aij & Rapsaniotis 2017). Purpose of this examination was to identify and analyse the characteristics of leadership and management associated with a successful Lean Thinking adaptation in healthcare.

Methods

A systematic literature review was undertaken using electronic databases. Among the 1,754 peer-reviewed articles identified, nine original articles and three systematic reviews met the inclusion criteria. Data on informants, methods, and settings were extracted and collated. Content analysis was used to conduct a review of the nine original studies describing and analysing the success factors of Lean Thinking adaptation. The characteristics of leadership and management were analysed by using the Concept of a/the Managerial Windshield that divides leadership and management into four ontological dimensions: activities, style, focus, and purpose, each with typical developmental stages of skills and capabilities.

Results

Considering the results using the Windshield concept emphasises the philosophy, principles, and tools of Lean thinking. Lean leadership and management factors in health care were mainly conceptualised as skills and capabilities such as problem solving, making changes occur, empowering, communicating, coaching, supporting, facilitating, being democratic, organisational learning, and organisational success, all of which represented middle-stage or advanced managerial skills and capabilities.

Discussion

A conceptual analysis of systematically reviewed studies of Lean leadership and management point to certain traits as being typical when adapting Lean thinking to healthcare. The Concept of the Managerial Windshield is useful when categorising and analysing essential managerial skills and capabilities for Lean implementation. Findings are beneficial when learning and educating the skills required for Lean transformation in health care organisations. The current study has some limitations. Although a careful search approach was used, some papers from the journals not indexed in the searched databases may have been overlooked. Another limitation was that the literature searches were carried out only for a 5-year period. Not to miss any important qualitative information, three systematic reviews were included to widen the perspective and ensure that no essential information was missed.

Study on the safety climate in Latvian hospitals: the first evidences

Authors: Evija Palceja^{1,2}, Reinis Upenieks^{1,3}, Lilian Tzivian¹, Valdis Folkmanis¹, Juris Barzdins¹

¹Faculty of Medicine, University of Latvia, Riga, Latvia.

²Health Inspectorate, Riga, Latvia.

³Children's Clinical University Hospital, Riga, Latvia.

Context

Hospital-based studies from different countries show that medical errors occur in approximately 10% of hospitalisations. The fundamental source of errors is weak safety culture. Studies suggest possible relationships between safety culture, climate and outcomes, including medical errors. The first Latvian concept for patients' safety was accepted in 2017, however, in Latvia there are only few measurable safety indicators, lack of research on patient harm and safety culture, and assurance that the proposed concept fits the actual hospitals' needs. Assessment of safety culture was recommended by international experts as an appropriate way to get the impression on patient safety situation.

Methods

The aim of the study was to assess the highest and the lowest characteristics of patient safety climate within staff of different hospitals in Latvia. Twenty-four hospitals were enrolled into the study. Validated Safety Climate Survey was used to assess six safety domains: teamwork climate, safety climate, stress recognition, job satisfaction, perceptions of unit management, and perceptions of hospital management and work conditions. Assessment contained 42 questions expressed from 1 to 5. Reliability analysis and descriptive statistics was performed for each domain. In addition, descriptive statistics was performed for each question individually and for demographic variables of participants. Colour coding was used for individual questions score to mark those at risk, where mean score was below 3,5. In addition, in this stage of research three clinical university hospitals (CUH): CUH-1, CUH-2, CUH-3 were compared for each domain and question.

Results

Study sample included 744 participants, mostly women (92%) aged 40-65 and worked more than 10 years. Of them, 681 (91%) worked full time: (40%) in therapeutic and (22%) in surgery/operating theatre units. 146 (20%) participants were physicians, 321 (43%) were nurses, and 75 (10%) were from an administrative staff. 167 (22%) participants never attended a patient safety training. According to the Safety Climate Survey, the highest values were observed for job satisfaction (3.63 of 5). The lowest values were observed for safety climate (3.43). 7 of 13 safety climate and 6 of 13 teamwork climate items scores were below 3,5. The lowest scores were observed for items on the level of staffing (2.55), difficulty to discuss errors (2.88), to express disagreement with doctors (2,78) and to *speaking up* about problems with patient care (3.01). CUH-1 showed significantly higher safety climate scores (3,57) comparing with CUH-2 (3,23) and CUH-3 (3,27).

Discussion.

Participants of training program "Teamwork role on healthcare quality and safety" from different healthcare institutions across Latvia participated in this study during year 2017-2018. Results show similarities with international researches and are usable for future national wide strategies, including Safety Climate Survey as a regular tool to measure safety culture. Results show differences in safety climate scores between CUH1 and CUH-2, CUH-3. CUH-1 unlike to others has established patient safety policy, leadership and reporting and learning system for 5 years. WHO, OECD, safety experts highlight incidents reporting, safety indicators and patient-reported measures as important components of a safety measurement system. Learning from errors and improving performance is limited when safety culture is low and it is difficult to discuss failures openly. Speak-up and communication gaps needs strong leadership and specific teamwork training.

Acknowledgements

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Patient safety practices in secondary healthcare – an umbrella review

Authors: Jenni Hämäläinen¹, Pirjo Räsänen²

¹Hospital District of Helsinki and Uusimaa (HUS), External Evaluation Unit, Helsinki, Finland.

²Hospital District of Helsinki and Uusimaa (HUS), Helsinki, Finland.

Context

Adverse events and patient harm are common in healthcare. They lead to additional procedures, longer care periods and sick leaves, thus increasing the costs for healthcare, society and patients. One way to improve patient safety is to apply standardised uniform practices (*patient safety practice*) in different functions of healthcare.

Our aim was to identify what is known about the effectiveness of patient safety practices which can be commonly used in secondary healthcare. The research questions were 1) which patient safety practices are effective and 2) which patient safety practices are not effective in improving patient safety in secondary healthcare?

Methods

The literature review was carried out applying the principles of an umbrella review. An umbrella review aims to produce an overall picture of a certain phenomenon by reporting both the beneficial and harmful aspects of the phenomenon based on an existing research evidence. The review considers only systematic literature reviews and meta-analyses.

We focused on adult patients and on the patient safety practices which can be commonly used in secondary healthcare. We excluded studies focused on individual specialty or patient group, drug or therapy. Also, studies focused on diagnostics, a particular hospital unit, infection control or personnel management were excluded. Literature search was made using several databases. The inclusion criteria were 1) article on patient safety in secondary healthcare, 2) systematic literature review or meta-analysis 3) conclusions were also based on quantitative studies reporting health outcomes, 4) published in 2011-2018, 5) the full text available, 6) published in English.

Results

A total of 312 articles were identified and of them 40 fulfilled the inclusion criteria. One study was identified by a manual search. A total of 19 studies were selected for the review.

According to preliminary results uniform patient safety practices may improve patient safety when used to detect and respond to changes in the patient's vital functions, to assess the overall condition of elderly hospital patients and in prevention of in-patient falls. The research evidence also supports the implementation of preoperative checklists. Evidence is weak or contradictory for many patient safety practices, for example for medication reconciliation and clinical pharmacist's role in medication process. Practices used in nursing reporting or patient transferring lacks evidence of their effectiveness.

Discussion

Evidence is so far incomplete and partly contradictory on which patient safety practices improve patient safety. This is due to the small number of studies using controlled trial or comparative frame, or because evidence is not gained in such studies.

The results of this review can help to evaluate the performance of hospitals from the point of view of patient safety and to identify potential areas for development. For example, the safety of care for the elderly could probably be promoted by systematically identifying and assessing, even at hospital, the factors that decrease the ability of elderly patients to function.

Future reviews should explore the effectiveness of patient safety practices on different patient groups and healthcare settings. Outlining the review in this way may bring forth practices that did not appear in this review.

Dual Vocational Education and Training in the Republic of Moldova: opportunities and benefits for healthcare sector

Authors: Elena Mornealo^{1,2}, Olga Schiopu^{1,2}, Aliona Grossu^{1,2}, Aliona Bahnarel^{1,2}

¹Union of Private Healthcare Providers of the Republic of Moldova, Chisinau, Moldova, Republic of.

²Medpark International Hospital, Chisinau, Moldova, Republic of.

Context

An adequate and accessible health workforce is fundamental to an effective health system and qualitative health services. Many countries are facing a “crisis in human resources for health”. The demand for developing effective and efficient policies and interventions to improve scale-up and retention of the health workforce is acknowledged internationally. However, almost all established strategies address the shortages of highly qualified workforce in healthcare. The experience of piloting dual education program for nurse aids in Moldova will further be discussed providing for the solution of health workforce shortage while scaling up education and career opportunities.

Methods

In 2018, the Union of Private Healthcare Providers of the Republic of Moldova joined the educational system – dual Vocational Education and Training (dVET) aiming to prepare skilful nurse aids. The first elements of dVET were pioneered in Moldova in 2014 and the system is regulated by a Government decision of January 2018. The dVET sets a direct link with the labour market, being guided not only by the needs of the individuals to acquire skills, knowledge and competences, but also by the requirements of the labour market. Piloted in Moldova in healthcare from 2018, the program was designed by the partners to merge apprenticeship with theory at the medical college and practical training at the healthcare institutions. The one year-long curriculum provides the training framework. Master instructors from the healthcare institutions are trained and certificated to supervise the educational process. The ratio of practice-based training to classroom education is 70:30.

Results

Candidates, who successfully passed the admission, have been enrolled in the program, in the status of apprentices. Master instructions from the healthcare institutions offer the trainings, participate in regularly assessment of apprentices, as well as in final examination. After completion of the dVET program, the healthcare institutions have the right to employ selected leavers, gaining trained specialists, who show a high level of motivation and loyalty. The healthcare and education systems are also benefiting from such successful partnerships which address the common challenges. The program is financed from the state budget and co-funded by the healthcare institutions that are offering also the apprenticeship salary and all the necessary facilities and equipment for implementing the program. Thus, apprentices are actually employees with special status, regulated by the law and the individual contracts signed, where the description of the rights and obligations as well as of the cooperation conditions are included.

Discussion

The measures and actions to educate and train, retain and sustain the health workforce that has necessary qualifications should be taken at many organisational levels, up to each individual institution. DVET could be an effective solution in training non-academic occupations in the healthcare sector. Having the direct link and consistent focus on the labour market it aims to train the specialists where labour market supply is insufficient or inadequate. The benefits for private partners are qualified personnel, loyal employees, low staff fluctuation, high performance of the leavers, deductible training expenses. For the apprentice it is a unique opportunity to study and work simultaneously. While dVET is a joint responsibility and ownership of the educational partner and the healthcare institution, there is a high potential of launching dual training for various non-academic occupations addressing the shortage of trained work force in healthcare.

A model for estimate the complexity of tender procedures for the purchase of goods in healthcare sector

Authors: Fabrizio Schettini¹, Emanuela Foglia¹, Elisabetta Garagiola¹, Emanuele Porazzi¹, Lucrezia Ferrario¹, Paolo Torrico², Marcello Faviere², Francesco Santucci², Carla Buonamici², Valentina Rosellini², Giacomo Pieraccioli², Monica Piovi²

¹LIUC-Università Cattaneo, Castellanza, Italy.

²ESTAR – Ente di Supporto Tecnico Amministrativo Regionale, Tuscany Region, Firenze, Italy.

Context

In recent years, the NHSs are forcing to implement spending review processes, to improve inefficiency areas and free up economic resources. The purchasing processes represent an inefficiency area, which have been centralised at regional and national level, to be optimised. This fact has consequently affected the purchase procedures, leading to biggest calls for tender, often not reaching the expected efficiency. These themes are little explored, in scientific literature, but acquired very high priority for the practitioners. The present contribution aims to design a Complexity Index for Tender Procedures (CITP), related to the management of the whole tender process before its beginning, useful also to evaluate the organisational efforts.

Methods

Firstly, the identification of all the relevant variables to be considered in the design of a model for the CITP in healthcare was conducted, starting from a structured literature review (Tranfield et al., 2003) and an analysis of the purchasing processes items proposed in European and Italian laws (Directive 2014/23-24-25/UE; Legislative decrees 163/2006, 50/2016). A focus group (Dey et al., 2009), with 7 domains experts and 3 academic researchers were conducted, in order to validate the pilot variables defined in the first step. A Delphi method (Okoli and Pawlowski, 2004) was also adopted, to decline, quantify and create consensus concerning the list of variables and their connections emerged from the previous focus group. Finally, the process of variables and CITP framework validation, was accompanied by a nominal group technique (Delbeq, 1975), in order to define the contribution of each variable and item, to develop the CITP framework.

Results

108 experts were involved in the study, and 56 completed the priority questionnaire, with a response rate equal to 52%, with a good regional representation. Results revealed that the presence of a tender preliminary phase, number of batches and companies involved in a tender procedure, are the main dependent variables to be considered in the design of CITP (Figure 1), in addition, the criteria of adjudication act as moderator. These main variables were also declined, in detail, into other sub-variables or scales (Table 2). As reported in Table 1, the perceptions about the variables' priority in the definition of CITP revealed that the tender preliminary phase assumed the higher weight (0.4), followed by number of batches (0.3), economic amount (0.2) and number of companies involved (0.1). Services, healthcare devices and IT were identified as the top three purchase items that increase the complexity of the tender procedure (Table 3).

Discussion

From a theoretical viewpoint, this contribution represents a first attempt to fill literature and practitioner gap, on the topic. In terms of operative implications, the present study provides practitioners with a CITP, raising new awareness on the variables that affected tender procedures and suggests interventions for its appropriate management, until its beginning, in terms of necessary resources, organisation and communication. In summary, future steps will be: i) test the CITP in the real world practice, taking into consideration, firstly, adjudged tenders, to evaluate the ability of the CITP to predict and weight the real resources absorption; ii) underline if there exist a scalability and replicability in different tender purchasing items.

Acute care for elderly: effective governance at regional level in light of labour shortages in rural regions. A case study focussing on evening-, night- and weekend services in Southeast Friesland

Authors: Oemar van der Woerd¹, Wilma van der Scheer^{1,2}, Roland Bal¹

¹Erasmus School of Health Policy & Management (ESHPM), Rotterdam, Netherlands.

²Erasmus Center for Healthcare Management, Rotterdam, Netherlands.

Context

In the Netherlands, life expectancy and treatment complexity of elderly populations is increasing. Combined with a shortage of general practitioners, geriatric specialist, nurses and other health professionals in rural areas, urgency for innovative and sustainable care for the elderly is emerging. Professionals are largely deployed within organisational boundaries, but decreasing capacity makes it difficult to maintain accessibility for acute care in evening-, night- and weekend shifts (ENW-services). Nursing homes, general practitioners and the regional hospital run against the boundaries of their treatment capacity, creating awareness for the necessity to further flesh out effective regional governance.

Methods

As part of the national program Dignity & Pride, initiated by the Ministry of Health, Welfare and Sport (VWS) to improve the quality of care in nursing homes, ESHPM is working with 12 regions to sustainably reorganise medical care for elderly populations. The region Southeast Friesland functions as a case study for this contribution. In this region, one pilot aims to organise acute care for elderly by sharing ENW-services between care organisations. Characterised as short-cyclical action research, we follow daily care practice for three months. Participant and non-participant observations (30 days in total) are conducted within nursing homes, general practices, the participating hospital as well as in regional project team meetings. Interviews (n=25) are conducted with care providers (general practitioners, nurses and medical specialists), health executives, managers, patients and informal carers. The fourth month functions as a comeback month, where results are shared with pilot participants for member-checking.

Results

The pilot involves participating nursing homes, general practitioners and the regional hospital exploring possibilities in task reallocation and regional cooperation to overcome labour market bottlenecks. There is a strong sense of the necessity to cross organisational boundaries as well as a willingness to experimentally aligning scarce medical expertise for a sustainable regional coverage. Specifically, for ENW-services, new modes of triage are experimented with, allowing for optimising general practitioners' capacity and shifting patients to day care. Currently, cross-organisational and professional networks are being built to allow for this shift. Data collection for our project is currently focused on network governance for interprofessional and interorganisational collaboration. Intermediary results are fed back to project management to allow for adjustments.

Discussion

In light of labour shortages in rural regions, effective governance is highly subject of interest to sustainably organise medical care for elderly populations. To overcome regional labour market bottlenecks, professionals and managers need to think beyond their own interests and are forced to collaborate across organisational and professional boundaries. However, in the search to find these innovative and sustainable solutions, difficulties and dilemmas are emerging for both professionals and managers. As such, this research gives empirically insight into the notion of interprofessional and interorganisational collaboration in healthcare on regional level. It builds on the metaphorical use of networks as an analytical concept of regional collaboration and theoretically enriches the thinking of network governance, by describing networks as processes of an in-between and in-between liminal space. Further comparative research is desirable how these processes in healthcare take place among several rural and sub-urban regions and how this shapes Health Management 2.0.

Are physicians and nurses used optimally?

Authors: Roxane Borgès Da Silca¹, Carl-Aardy Dubois¹

¹Université de Montréal, Montréal, Canada.

Context

Giving budget restrictions, demographic and health changes, and technological change, the work of nurses and doctors in hospitals is in transformation. In the context of growing costs and the shortage of specialised resources, issues related to the activities carried out by health professionals and their efficiency are submitted to the managers and researchers.

The purpose of this study was to provide a portrait of the activities performed by health professionals during their working hours. What is the share of clinical and non-clinical activities performed during their working time? How do these activities affect the efficiency of the organisation of care?

Methods

To answer these questions, we conducted a scoping review. Scoping review aims to provide an overview of the type, extent and amount of research available on a given subject. Scoping reviews are recommended when exploratory research is needed to clarify a concept or object of research. A total of 2346 articles were identified by applying research equations combining different keywords and MeSH terms to three bibliographic databases, Cinahl, PubMed and EconLit. After a rigorous selection process, 26 studies were selected. The methodological quality of the studies has been evaluated by applying the grid Mixed Methods Appraisal Tool (MMAT) Nearly all the studies (24) were conducted in hospitals across ten countries. Thirteen studies focused on the clinical and non-clinical activities of nurses, eleven on those of physicians and two on the activities of both professions.

Results

Direct care accounts for 25% to 41% of nurses' working time and 15% to 34% of physicians' time. Indirect care occupies 22% to 59% of nurses' time and 57% to 69% for doctors. Non-clinical activities account for 4% to 38% of nurses' time and 0.3% to 15% for physicians. Several activities represent sources of inefficiency. For the latter, a significant part of non-clinical activities is devoted to "Training and professional development". The tasks related to the operation of the care units are not very present in the activities of the doctors. This type of activity is found more in the work of nurses. The addition of paraprofessional staff to the health care team is an attractive avenue for professionals to focus on the tasks within their area of expertise and on direct patient care.

Discussion

This literature review has clarified the definitions of the concepts underlying the clinical and non-clinical activities performed by nurses and physicians in hospital settings. Our study provides an overview of the activities they perform during their working hours.

This literature review has highlighted the fact that clinical activities related to direct patient care that are at the core of effective and efficient professional practices, do not constitute the bulk of nurses' activities in hospital settings.

Areas of inefficiency in the organisation of daily work have also been identified. However, the studies selected did not enable to quantify these inefficiencies and to compare them with each other.

Ehealth, advanced technologies and health workforce: a chance for shaping a real human resource policy. An insight in a needed deep change from Tuscany, Italy

Authors: Chiara Barchielli¹, Milena Vainieri¹

¹Sant'Anna, Pisa, Italy.

Context

The healthcare system is probably one of the most complicated systems existing: entropic, deeply influenced by human factors, emotions dependent, a display of individual's powerfulness and a never-ending theatre for gaining influence on the system itself. The factor that is complicating the picture even more is the technology-driven growth it experiences. It always had, of course, but nowadays the innovation speed is so high that is changing the context itself; in this turmoil of changes vast areas of power remain void, and spaces for change appear; power will be in the hands of the one that understands what are the drivers and of those who will keep the pace.

Methods

Semi structured interviews were conducted in Tuscany to key actors practicing on the entire spectrum of assistance related to robotics and to those pathways that can be considered "entirely new" (physicians, nurses, technicians). Intensive tech areas as well as out-of-hospital care setting healthcare workers engaged in the new care pathways were selected and interviewed to investigate their perceptions about the opportunities and risks of the new technology in terms of organisations in particular in terms of HRM.

Expected Result

Nearly 500 interviews were carried out and, even if still working on data collected, we can state that new and innovative pathways like the ones offered by robotics really boost engagement throughout staff and they sense an HRM exists, as it had to be created for this new challenge.

Discussion

Increased healthcare investments in robotics can be understood looking at the great picture: shortage of staff, increasing costs for labour, abuse of overtime work. "Robots never demand raises and are able to work around the [clock](#). Robots can perform tasks that most humans could not possibly do" but still, they remain machines. That is the reason why healthcare system has to develop a real and consistent Human Resource Management (HRM), as it has to integrate two different natures, machines and humans, because robots are going to be part of our lives and permeate them so health workers will have to adapt and see the positive aspects, especially in regards of patients. Those devices are in fact designed to perform unsafe, challenging, highly-exposed-to-human –error better than humans. This will save them time and outcome related issues. This will save the system money in terms of decreased length of stay (e.g. a keyhole surgery performed by Da Vinci will recover faster than a laparoscopy) and will ensure a larger access to care, even by people that live in remote areas. This paper goes through every mentioned key element to try to better understand what kind of chances we can take advantage of in the shaping of HRM policies in order to better manage the entropy, namely bringing some order in the healthcare compositum system.

2019

Digital Transformation

EHMA

European Health Management Association

User-requirements for the development of a game-based learning environment for mental healthcare professionals to enhance their skills in eMental Health

Authors: Joyce Bierbooms^{1,2}, Inge Bongers^{1,2}

¹Tilburg University, Tilburg, Netherlands.

²Mental healthcare Eindhoven, Eindhoven, Netherlands.

Context

Although the rise of new technologies has offered numerous possibilities for alternative treatment ways in mental healthcare (eMental Health), the uptake by mental healthcare professionals is disappointing (e.g. Wozny et al., 2017). An important reason for this is the lack of skills professionals' experience in finding and using online technologies (e.g. Donovan et al., 2015). Hence, to increase the adoption of eMental Health there is a need to offer professionals possibilities to enhance their skills. A potential strategy is to develop an environment with training possibilities in which mental healthcare professionals can practice their skills (e.g. Goldberg & Katz, 2016).

Methods

This study is part of a larger project with the end-goal of designing a validated game-based learning environment (GBLE) for mental healthcare professionals. We use a user-centred design, which means the end-user of the envisioned environment (a mental healthcare professional) is involved right from the start in the steps and decisions that are made during the design process. The focus in this part of the study is on getting an understanding of the context and characteristics of the potential users of the envisioned GBLE, the needs and values they consider important regarding the enhancement of their professional skills to use eMental Health, and their intentions to use a GBLE. The data was gathered by a mixed methods approach: a questionnaire, a focus group and 17 interviews. Subsequently, data triangulation was used to draw the different 'personas' as a first step to identify the user-requirements for a GBLE.

Results

We identified the professionals' context and characteristics, their levels of adoption of eMental Health, their need for skill enhancement, and the drivers and barriers to use a GBLE. The majority of the respondents (n = 290) see themselves as minimal (25.5%) or passive users (43.1%), though positively valuing different eMental Health applications. There is a discrepancy between the perceived value of eMental Health and the experienced skill level of different tools, which elucidates tools that are eligible for training in the GBLE (e.g. VR, biofeedback). Finally, the professionals' drivers and barriers were identified, e.g. ease of use, alignment with learning needs, multi-player options, competition, and management support. Based on the data we were able to find five initial personas, based on the levels of adoption of eMental Health. The personas will be presented in detail at the conference and will be assessed in light of the user-requirements for a GBLE.

Discussion

The rationale of this project is that a GBLE for mental healthcare professionals should seamlessly tune up to their reality. The identification of personas delivers important information for designers to create a product that enhances effective onboarding and application of the GBLE (e.g. Meinel & Leifer, 2014). For example, knowing that a majority of mental healthcare professionals are minimal to passive users of eMental Health, combined with knowledge about values, skill levels, drivers and barriers, and requirements for change (Feijt et al., 2018) provides insights into what is needed for the GBLE. Besides the identification of *personas*, other parts of the user-requirements concern the different *scenarios* in which a mental healthcare professional would use the GBLE, including detailed descriptions of work processes of mental healthcare professionals that need to be addressed in training facilities (Van Gemert-Pijnen et al., 2011). This will be the next step in completing the user-requirements.

Understanding value adding and diminishing mechanisms of a digital follow-up system for cancer patients during and after treatment

Authors: [Emilia Riikonen](#)^{1,2}, Sauli Miettinen¹, Anna-Maria Hiltunen¹

¹HEMA Institute, Department of Industrial Engineering and Management, Aalto University, Espoo, Finland.

²School of Business, Department of Information and Service Management, Aalto University, Espoo, Finland.

Context

A growing number of people face cancer during their lifetime but because of new effective treatments, more patients survive. Therefore, health care systems need to manage with increasing amount of both cancer patients and cancer survivors with a need for long-term follow-up. From a societal perspective, health care systems are expected to produce maximum amount of value, i.e. good clinical outcomes and good patient experiences with the resources given. Digital solutions offer a possibility to scale the follow-up from unstructured and face-to-face format to a more structured and systematic format.

We explored views of healthcare professionals on a digital follow-up system implemented in a gynaecology clinic in a university hospital in Finland. The system is implemented in several parts of the patients' care pathway: in a diagnostic outpatient clinic, in an outpatient clinic, where patients visit before and during oncological treatments, and in an oncological day hospital.

Methods

The aim is to present a preliminary analysis of an interview study exploring health care professionals' experiences of the mechanisms adding or diminishing value of a digital follow-up system. The data consists of eight (N=8) thematic interviews of health care professionals (N=4 registered nurses, N=4 gynaecologist). The interviews were transcribed verbatim and analysed for different words or sentences describing perspectives of healthcare professionals. These words and sentences were then categorised.

Results

The durations of the interviews were between 30 minutes to 54 minutes, and average length was 46 minutes. All the informants had long experience in health care industry in several positions. Some informants had longer experience working with the digital follow-up solution under investigation than others: some health care professionals were involved with the solution from the piloting and implementation 1,5 years before the interview, some had only couple of months experience with the solution. This allowed us to capture experiences in different phases of a learning curve. According to the data, this system allowed the health care professionals to prioritise and manage their duties more freely: they were no longer as tied to the phone, but rather had more time for necessary consultations before reacting to patients' messages. Furthermore, a correct level of care was easier to achieve as patient contacts were first handled by nursing personnel who passed further only matters that required consultation of a medical doctor.

Challenges of the system were mainly related to a system integration to electronic medical records (EMR). This follow-up system was separate from the EMR and the information did not move between the different systems. This had raised some questions, as it was not always clear where to search the relevant information about the patient. Furthermore, health care professionals expressed unclarity on user roles as it was not always clear who should be in charge of the digital system.

Discussion

A digital follow-up system can improve the task management of health care professionals as the system allows task prioritising better than traditional phone hour or face to face follow-ups. However, system integration and clarification of user roles should be considered when implementing new digital solutions.

The medicine information sources used in HUS hospital and HUS Pharmacy personnel work processes

Author: Teresa Lyly¹

¹Aalto University, Espoo, Finland.

Context

Ensuring patient safety is a major goal in hospital patient care. In HUS we collect information of the risk situations that patients meet during the hospitalisation and about 30% of the reported hazardous situations consist of problems with patient medication in HUS. These results point out that patient medical safety can be further increased in HUS hospitals. The use of several techniques is essential, as the variety of medical deviations is large. In this study we examined the sources of medicine information the HUS hospital nurses and the pharmacy personnel use during their daily tasks. A new digital tool: Lääketiedon tukimateriaalit in Hoitotyön Pharmaca Fennica in Terveysportti-portal was piloted in co-operation with the HUS hospital nurses.

Methods

In this pilot we collected information of the medical information needs among nurses working in HUS hospitals and HUS Pharmacy personnel. The study was carried out by making 2 electric queries to these personnel groups. In the first query a new digital medicine information tool Lääketiedon Tukimateriaalit from Lääketietokeskus was piloted with HUS in the Hoitotyön Pharmaca Fennica web portal. The second query was addressed to HUS Pharmacy personnel. During this query also the newest digital tools in HUS could be applied, as both Lääketalo (=Medicinehouse) and TerveyskyläPRO (VirtualHospital for healthcare professionals) had been opened in VirtualHospital (=Terveyskylä). The results of these queries were analysed with SPSS statistical tool.

Results

The nurses use medicine information in the duties constantly and a lot of time is spent on finding out proper information. They carry out approximately 7 different types of medical tasks in their workflows from IV-medicine dilutions to patient consultations. The nurses in HUS use both traditional written information (45%) and digitalised medical information (55%). There was no scientific correlation found out either with the length of experience of the nurses or with the possibility of using mobile tools in their duties. The time the nurses spend during using the Tukimateriaalit-portal is about 2 minutes and 46 seconds, in the query the time spend in finding information from other sources was above 5 minutes for 50% of the replies.

The analysis of the pharmacy personnel survey has started.

Discussion

The nurses replied that faster and mobile medicine information applications are preferred in their work in the future. The Tukimateriaalit-portal works technically excellently, and the portal is now in normal production. The medical companies can load the updated information and this proper information is then simultaneously available to the nurses with no time delays, no extra trainings or posting costs needed. The time spend on one session (2 minutes 46 sec) is much shorter than what the nurses told about their normal medicine information (50% above 5 minutes).

We hope to create and find out ways to use and benefit the traditional Terveysportti- and the newer HUS Terveyskylä portals with new and future medicine information channels both for the patients' and the professionals' medicine information needs.

Using data to transform clinical quality and patient outcomes – Connect Health raises the quality and efficiency of MSK and pain community services across whole systems

Author: [Andrew Walton](#)¹

¹Connect Health, Newcastle upon Tyne, United Kingdom.

Context

Connect Health is the largest independent provider of integrated community MSK (musculoskeletal) services in the UK, serving over 300k patients pa across 19 NHS (National Health Service) organisations and 100+ businesses. MSK is a growing problem with 17.8m people affected in the UK and it is the third largest area of NHS expenditure. Between 20-33% of people worldwide live with a painful MSK condition (source WHO). Our services are designed to focus on the patient experience - being seen in the right place, at the right time, by the right clinician. To do this we need robust data.

Methods

Clinical outcome measures are used to determine the health benefit of an intervention. The EQ5D questionnaire is one of the most commonly used generic questionnaires, giving self-reported health outcomes across five dimensions – mobility, self-care, usual activities, pain and anxiety. Capture of scores at initial contact and after discharge is required to assess health change over treatment period. EQ5D collection began on paper in 2010 and transferred to electronic in 2015, but amongst the many tasks for busy clinicians, completion rates were not considered a priority and were usually below 10%. Identifying which clinicians were failing to complete outcome measures would involve a large manual exercise which was impractical. How did we encourage staff to collect the data – easy access, individual feedback of outcome stats, highlighting learning.

Methodology: We input EQ5D into the electronic templates, that were then pulled out of the data warehouse automatically so need for paper was eliminated.

Results

Carrying out over half a million appointments per year, Connect has one of, if not the largest MSK data collection in the world. This project transformed our data collection and reporting to involve a data warehouse, allowing live interrogation of all data collected, at the push of a button. Our data collection rates increased to >75% in 18 months, and the resulting robust Quality of Life increases demonstrated are significantly above reported benchmarks for community services. These findings are published in a peer reviewed journal. It is reasonable for clinicians to find that 20-30% of what they have been doing is of low or no clinical value which leads to a significant shift in performance. Our data warehouse feeds back a variety of personalised data sets to clinicians, over a chosen time period. This includes; collection rates, diagnosis made, treatments and patient rated health outcomes.

Discussion

We believe the technological advancement of a data warehouse can transform performance. This live and accessible data allows clinicians to benchmark against their peers informally and can be used in formal clinical supervision sessions with team leaders. Good practice can be disseminated and can inform personal development in a positive way. It provides visibility of conditions seen, KPIs (waiting times, referrals to secondary care, red flags / urgent care) and more. Score shifts provide evidence for commissioners, service and individual level education (eg score shifts emphasise educational needs). Importantly it has transformed and improved practice, contributing to the development of global knowledge on how to improve healthcare in practice. In this session the live data warehouse will be visited online, the data benchmarked, and discussion stimulated as to what this all means for patients, the taxpayer and the future of MSK service.

Digital Health Innovation Lab Slovenia

Authors: Eva Turk¹, Mojca Cirn², Gregor Cuzak³

¹Medical Faculty, University of Maribor, Maribor, Slovenia.

²Technology Park, Ljubljana, Slovenia.

³ECHAlliance, Ljubljana, Slovenia.

Introduction

The HealthDay.si community was established in 2014 with the main goal to help each other in entering international markets and embracing change of healthcare markets through cooperation and introduction of digital solutions.

Since then, the HealthDay.si initiative has grown beyond has 100 organisations (companies, public institutions, institutions, societies) that regularly respond to the initiatives of the Healthday.si. The initiative is moving on from organising annual conference and events into developing the Digital Health Innovation Hub (DIH).

In 2018, DIH.HealthDay.si took a step into Health Insurance Innovation Initiative to health insurance companies, which met with a very positive response from both insurance companies and start-ups in Slovenia. The goal of the DIH.HealthDay.si is to accelerate the transfer of innovations into the Slovenian health system.

Methods

In 2019, together with the network of partners, we prepared a program to support innovative companies from the innovation to the patient.

To support the start-up companies, the DIH.HEalthDay.si formed an Expert Council, mentors, and a special program to speed up the start of the respective innovation.

The program consists of three sets, and it continues to support the companies in the core:

1. Start-up company support program;
2. Opening a dialogue with professional institutions and public institutions to implement changes in the regulatory field;
3. Building the community through the Healthday.si communication platform.

Results

As a start, we chose 5 start-ups that already entered technology registration procedures with their innovation on different levels in the healthcare system, either by starting a clinical trial, or already waiting for the Health Council decision.

Conclusion

To become a representative of all innovators in the field of digital health, offering a professional support program, tailored plans for each selected innovator, with mentors and facilitating the dialogue with different stakeholders, DIH.HealthDay.si wants to contribute to the progress of Slovenian healthcare system and acceleration of innovation in it.

Large-scale deployment, implementation and adoption of the national Prescription Centre and Patient Data Repository services in community pharmacies and public primary healthcare centres in 2010–2016 in Finland

Authors: [Vesa Jormanainen](#)¹, Marina Erhola¹, Minna Kaila²

¹National Institute for Health and Welfare (THL), Helsinki, Finland.

²University of Helsinki, Helsinki, Finland.

Context

The introduction of electronic health record (*EHR*) in the Finnish healthcare began in the 1970s and first extensive *EHRs* were deployed in the 1980s. In the 1990s, information networks facilitated development of telemedicine and patient data exchange. The use of *EHRs* in healthcare became more widespread in the 2000s. However, successful implementation of regional or national integrated interoperable information systems remained a challenge until 2010. The study objective is to examine deployment, implementation and adoption of the national *Kanta services* in community pharmacies and primary healthcare in municipalities, *Hospital Districts (HDs)* and *Special Catchment Areas (SCAs)* in 2010–2016 in Finland.

Methods

National *Kanta services'* implementation started in May 2010 with *Prescription Centre (ePC)* and was carried out regionally (*design HD*). *Patient Data Repository (PDR)* implementation started in November 2013 and was carried out by *EHRs (design EHR)*. Both implementation programmes were carried out in national level cooperation (steering by *THL*) and sharing knowledge and best practices between participating partners. Pilot projects were supported by government grants. Study data consist of dates on which community pharmacies and *primary healthcare centres (PHCs)* deployed and adopted *ePC* and *PDR* in 2010–2016. Deployment time in days (years) was calculated from first to last deployment separately for *ePC* and *PDR* for 661 community pharmacies, 147 *PHCs*, 311 municipalities, 20 *HDs*, five *SCAs* and on national level. In addition, average deployment times for *ePC* and *PDR* were compared for six *EHRs* that were used in *PHCs*.

Results

Nationwide adoption of both *ePC* and *PDR* took 5.5 years, and 4.5 years in four *SCAs* (except one 5.1 years), and 2.5–5.1 years in *HDs*.

Nationwide *ePC* adoption in community pharmacies and *PHCs* took 3.4 years, and 1.8–3.4 years in *SCAs*, and 8–1,259 days in *HDs*. *ePC* was deployed in community pharmacies in 2.4 years, and 0.9–2.4 years in *SCAs*, and in 42–735 days in *HDs*. Nationwide *ePC* adoption in *PHCs* took 3.4 years, and 1.8–3.4 years in *SCAs*, and 1–1,258 days in *HDs*.

Nationwide *PDR* adoption in *PHCs* took 2.0 years, and 1.1–2.0 years in *SCAs*, and 1–597 days in *HDs*.

In 2010–2016, six *EHRs* were in use in *PHCs*. Pegasos was used in the first *ePC* adoption and Effica in the first *PDR* adoption in *PHCs*.

Discussion

This is the first scientific study in which deployment, implementation and adoption of two national *Kanta services (ePC and PDR)* were evaluated managerially by calculating deployment times (in days or years) by service and services combined in community pharmacies and *PHCs* on local (municipality), regional (*HD, SCA*) and national levels in 2010–2016 in Finland. The *Kanta services* are a unique solution worldwide, too.

Nationwide adoption of a single *Kanta service* took approximately two years, regardless of whether the process involved higher number of actors (600 community pharmacies) or fewer organisations (150 *PHCs*). In general, the fewer *EHRs* were used in a *HD*, the shorter the deployment times for *ePC* and *PDR*.

As a rough estimate, making *ePC* and *PDR* available for municipality citizens required at least 900–1,000 successfully completed deployment, implementation and adoption projects carried out locally and regionally in cooperation between multiple actors over a lengthy period.

Strengthening e-skills and leveraging the digital health workforce – Digital transformation of the health workforce

Authors: Eszter Kovacs¹, Peter Szegner¹, Miklos Szocska¹

¹Semmelweis University, Budapest, Hungary.

Digitalisation of health systems shows rapid growth and implies an essential transformation in healthcare. It may realise significant changes in health service performance, while it impacts care provision and the daily scope of practice of health professionals. The expansion of the digital ecosystems influences health care models (e.g. integrated care), patient pathway management (e.g. electronic health records and telemedicine), new treatment technologies and devices (e.g. smart care and products).

These current changes shape the attitude of the health workforce towards digital healthcare. Digital maturity varies between countries, while the utilisation of digital tools and solutions, telemedicine also shows a wide variety. Therefore, the digital preparedness, responsiveness towards telemedicine and willingness to incorporate change regarding digital transformation into healthcare is diverse in the EU.

Transversal skills are required to adapt the advanced technologies in cross-border healthcare and health workforce development. In order to prepare and educate the future health workforce, incorporating e-skill development and upskilling of health professionals should be channelled into policy dialogues. Discussing the applicability of different concepts, strategies, and innovative tools of digital transformation; mobilising people and resources for digital transformation in healthcare institutions and developing cultural sensitivity towards digital health capability are inevitable in managing change.

The present study aims to summarise and discuss the recent challenges of digital skill development needs and emerging digital competences, skill gaps of the health workforce in the digital age. Improvements in digital literacy and e-skills, enhancing digital preparedness and digital capability of HWF could contribute to leveraging and strengthening health workforce and mitigate mismatches and gaps. In strategic health workforce planning, policy aims to develop responsive, adaptable, resilient, productive and sustainable health systems and health workforces, thus health professionals should be prepared and supported in emerging challenges posed by digital transformation.

Academic Collaborative Centre 'Technological and social innovation for mental health'

Authors: Inge Bongers^{1,2,3}, Joyce Bierbooms^{4,5}, Liselore Snaphaan^{1,6}

¹Tranzo, TSB, Tilburg university, Tilburg, Netherlands.

²Mental Health Care institute Eindhoven (GGzE), Eindhoven, Netherlands.

³Erasmus Center for Health Care Governance, Rotterdam, Netherlands.

⁴Tranzo, TSB, Tilburg university, Eindhoven, Netherlands.

⁵Mental Health Care Institute Eindhoven, Eindhoven, Netherlands.

⁶Mental Health Care institute Eindhoven, Eindhoven, Netherlands.

In 2018, Tilburg University (TiU), Technical University Eindhoven (TU/e) and Mental Healthcare Eindhoven (GGzE) in the Netherlands formalised their collaboration in the Academic Collaborative Centre (ACC) 'Technological and social innovation for mental health'. Within this ACC both science and practice on the one hand, and technological and social innovation on the other, collide. We aim for sustainable innovations for mental healthcare that are incorporated in daily practice (systemic change).

To achieve this systemic change, we use a human-centered research approach, using methodology such as:

- participatory research designs;
- living labs;
- research through design;
- fourth generation methodology;
- realistic evaluations.

We will do this not from the ivory tower of science, nor from the perspective of one party within this playing field. We involve all stakeholders in the intertwined process of innovation and research: knowledge institutes, health care organisations, companies and the people themselves (clients, professionals and citizens). In other words, the ACC aims to be a fourth-generation university (Steinbuch, 2016): working in a geographically defined area and on the basis of an equal cooperation between different parties and disciplines. It enables local networks in creating their own value.

Our approach of joining forces has led to a number of highly relevant projects in three stakeholder domains (clients, professional and organisational level). The impact of these different multi-disciplinary collaborations is that we are able to create more sustainable innovations that provoke systemic organisational change in health care in general and mental healthcare in specific. This goes along with an opportunist matching of funding to different innovation and research projects.

At the conference we are looking forward to showcasing the ACC 'Technological and Social Innovation for mental health' by elaborating on its vision, goals, approach and by means of an illustration of the different projects in the three domains. We will seek discussion on the ACC impact on sustainable and integrative health care.

Developing a strategic evidence-gathering tool for digital health interventions

Authors: Olli Halminen¹, An Chen¹, Henni Tenhunen¹

¹Aalto University, Espoo, Finland.

Context

Application of value-based healthcare policies affects all current actors in social and health care field, and also those Digital Health Intervention (DHI) product and service providers wanting to enter the industry or expand their market. The companies need efficient and credible methods to evaluate and demonstrate their efficiency in value creation. However, current evidence-collection activities for DHIs are still fragmented, unsystematic, and lack unification and consistency. The lack or weak quality of evidence inhibits the growth of DHI companies. We aim to construct a validated strategic tool for DHI companies to collect evidence and communicate the value of their innovations.

Methods

This study included a thorough literature review of the current models and tools of collecting evidence and evaluating DHIs. To ensure and improve the practical relevance of the tool developed during the project, we conducted a multiple-case study with 6 DHI companies and interviewed key personnel from the companies to collect their views and comments on the tool. Expert panels and workshops were arranged to reflect on and conceptually test the tool.

Results

We present a strategic evidence-gathering tool for DHI companies. With strategic, we mean that the tool takes into account the company's future goals of developments and the business environment in order to understand a) what kind of evidence is needed and b) what are the justified means for gathering this information. The tool is developed from the technology company point-of-view, meaning that the focus is on specific intervention and its fit for different organisational and national contexts, as opposed to being fixed for one organisational or national framework. The tool consists of four steps:

1. Define Context-Intervention-Mechanism-Outcome (CIMO) logic of the intervention;
2. Identify the stages of DHI company and growth/development goals;
3. Gather stakeholders' claims and expectations;
4. Formulate the research and evidence-gathering plan.

Above activities are synthesised into a strategic view of evaluation and evidence needs for the company.

Discussion

Our tool can help guiding the sense-making process of the company to understand what topics regarding the evidence gathering they should be addressing, and how the evidence should be gathered. With the tool, DHI companies can plan the ways to collect and show the evidence that can be beneficial for them to entry into, occupy, expand or sustain in the market and become a strong competitor in its international business.

Coordinating care with mining patient's well-being data from electronic health records

Authors: Eija Kivekäs¹, Ulla-Mari Kinnunen¹, Marko Auvinen¹, Markus Huhta¹, Reetta Kälviäinen^{1,2}, Kaija Saranto¹

¹University of Eastern Finland, Kuopio, Finland.

²Kuopio University Hospital, Kuopio, Finland.

Context

Standardising the structure and content of electronic health records (EHRs) improves the quality of documentation and consequently, the quality of patient care. Structured language supports care workflows and delivery (Kinnunen et al. 2016, Liljamo 2018) supporting data re-use for management purpose, and reminders placed in EHRs provides healthcare professionals with specific information. Reminders can be designed to reflect best practice and notify healthcare professionals to take or avoid certain actions (Varonen et al. 2005). Reminders could be stickers on EHRs, enabling quick access to patient-specific best practice. This research aimed to identify risks to epilepsy patients' health and well-being.

Methods

Electronic data was collected from a Finnish tertiary hospital (2009–2013). All medical and nursing records of randomly selected adult epilepsy patients (N=100) were reviewed. We used 13 epilepsy triggers and their synonyms as keywords (Kivekäs et al. 2015, 2016). During mining, we reviewed descriptions of triggers, including symptoms like headaches and socioeconomic problems. We used SAS Content Categorization (2012) software to identify highly related phrases. In this study, we entered keywords and their combinations into the SAS program to extract phrases from the data, which were manually and independently interpreted by two authors (EK, UMK).

Results

Triggers described patients' well-being comprehensively. There were differences in the frequency of triggers used by physicians and nurses, and data mining brought to light a difference in emphasis between medical and nursing documentation. The different ways triggers were described in EHRs can be illustrated by the trigger "headache". For example, a physician record reads "Period headaches. Now, along with headaches, the patient has a sensation of hummed in his head". In contrast, a nursing record read, "Patient has been tired for a couple of weeks, he has headaches nearly constantly". This revealed a multi-professional collaboration. Differences were also seen for other triggers, such as socioeconomic problems. For example, a physician record read, "He enjoys his school" while a nursing record read, "Talked about the difficulty of going to school, including loneliness at school and the school's spirit of competition". When mining the data, we excluded words like epileptic and seizure.

Discussion

Electronic documentation improves the quality and safety of care by standardising the structures and content of health records (Liljamo 2018). When used properly, triggers are important safety features and facilitators of well-being. This study has continued the testing of previously defined triggers in term of their functionality and validity in describing epilepsy patient's well-being. There was a different emphasis in medical and nursing documentation, which supported the idea of multi-professional collaboration (Kivekäs et al. 2016). The results have provided healthcare personnel with an opportunity to develop epilepsy patients' care documentation, which may affect the delivery of care (Kinnunen et al. 2016). This study was limited, because it was conducted in a single hospital. However, the review team was experienced, and data mining require expertise in both content and data science.

RHÖN-Campus-concept – Digital theme park to improve digital literacy to different stakeholders

Authors: Dominik Walter¹, Lisa Jörg¹, Johannes Marte¹, Bernd Griewing¹

¹RHÖN-KLINIKUM-AG, Bad Neustadt a. d. Saale, Germany.

Digital networking with intelligent IT solutions and innovative communication systems opens up new paths in health care. In the specially constructed and non-commercial interactive digital theme park of experience on the Bad Neustadt campus, digital tools that are already being used in the clinic are presented in two different areas and can be actively tested by the visitors as well as explained by experts.

Many of these tools, along with partners from research and industry, are developed in close consultation with our physicians, therapists and nurses to improve quality of care or to improve communication among healthcare providers.

The Digital theme park aims to improve digital literacy for patients, employees, partners and interested parties. The complex topic of digitisation is made tangible and the new concepts developed on the Bad Neustadt campus are presented in this way.

The active world is always freely accessible and offers all visitors an intuitive access to inform themselves about a selection of existing tools and also invites you to actively participate.

The comprehensive RHÖN-Campus-Concept, for example, is presented as a visual campus tour in the form of an oversized Campus-Map. It shows the optimal treatment path of the patients and the medical offer.

An intelligent sensory floor provides the nursing staff with real-time and reliable information about impending falls from patients.

A smart, virtual trainer helps with optimising exercise through motion-sensing technology, and therapists tailor the virtual trainer's exercise ideas to their needs.

Featured apps can improve doctor-patient communication as digital health workers. These innovative programs make it possible at home to constantly monitor the health parameters.

An anatomical 3D model makes it possible to discover the human body in a completely new way. Thus, the entire human skeleton as well as the muscles and organs can be considered down to the smallest detail. Through the clear and realistic representations, the relationships of the body's own systems are understood, and the health literacy of the patients also improved.

In the second area, the so-called showroom, many internally developed tools are presented in a realistic way. Employees and partners can familiarise themselves with new network concepts and modern technologies in workshops and become better acquainted with the future or existing digital services of everyday work on the Bad Neustadt campus.

New concepts of future-oriented medicine can thus also be presented to external partners and constantly developed. The main goals are to optimally shape the care processes of patients and to create a future-oriented working environment. The showroom can be booked for tours and workshops free of charge and offers specially tailored offers for each target group.

Due to digitisation and increasing technical progress, all players involved in medical care are required to exploit the opportunities offered by new technologies in terms of the patients' well-being. In order to adequately respond to relevant developments in digital medicine, there are constant adaptations and renewals of the presented digital content and tools. Because only if we deal with the possibilities and challenges of digitisation, including digital literacy we can develop for the health care of the future and create the necessary trust.

Healthcare professionals' information needs in different sectors of the health services

Authors: Samuli Pesälä¹, Kimi Ylilammi², Pekka Mustonen³, Minna Kaila⁴, Otto Helve⁵

¹University of Helsinki, Helsinki, Finland.

²Statomaly Ltd, Helsinki, Finland.

³Duodecim Medical Publications Ltd, Helsinki, Finland.

⁴Public Health Medicine, University of Helsinki and Helsinki University Hospital, Helsinki, Finland.

⁵Children's Hospital, Pediatric Research Center, University of Helsinki and Helsinki University Hospital, Helsinki, Finland.

Background

Healthcare professionals use medical online sources in their clinical work, but little is known how their information needs differ in various sectors of the health services nationwide. In Finland, Physician's Databases (PD) serves as an online medical source for healthcare professionals working in the following healthcare sectors: primary care, specialised care, pharmacies or private care. Every medical article opened is included in the log file according to the Internet Protocol address. The aim of our study was to assess how the information seeking behaviour by healthcare professionals differ in each healthcare sectors in Finland.

Methods

Characterisation in information needs among healthcare professionals in different health services (primary care, specialised care, pharmacies and private care) was made by collecting medical article openings from the log files of PD during 2012-2015.

Results

The visual patterns of the openings by the professionals in different healthcare sectors were distinct. The number of article openings remained stable throughout the years, although a large peak and notch occurred in four health services at the same time (Figure).

Conclusions

Assessing the log files of PD, brings new knowledge on healthcare professionals' different information needs in health services. Results can be used in developing services and qualifying databases.



A pilot of a new virtual automated medicine dispensing system – Use experiences and changes in workflow

Authors: Teresa Lyly¹, Antti Isotalo², Henni Tenhunen¹

¹Aalto University, Espoo, Finland.

²Hospital pharmacy of Vaasa Central Hospital, Vaasa, Finland.

Context

To produce more efficient solutions for managing medication storage in hospital wards, a new virtual automated medicine dispensing system software called Opaali has been developed by CGI Suomi. In this pilot study, the new software was installed in a hospital ward unit in Vaasa in Finland. We explored the use experiences of the system and examined how the implementation of the system influenced the workflows of the nurses and the hospital pharmacy personnel compared to traditional automated medicine dispensing systems.

Methods

This research was carried out as a mixed methods study involving both qualitative and quantitative analysis to gain a deeper understanding of the phenomenon. First, an online survey to the hospital ward personnel was conducted in January 2019 to investigate the use experiences and what kind of changes the new system brought to the workflows and behaviours of the nurses. Second, using semi-structured questions, we interviewed the decision-makers and managers in the hospital and hospital pharmacy about the advantages of the system and aspects that were decisive when they chose the Opaali solution for their pharmacy or hospital.

Results

The findings of the online survey of the personnel (N=17) indicated that the nurses found the new Opaali solution to be helpful, mainly because the nurses felt that they can better focus on their patient work. They no longer need to supervise, order, and fill in the medicine amounts in the hospital ward. It was also reported that the ward medicines stay in good order. The interviews with the hospital managers revealed the determinants of the procurement decisions: The Opaali solution was well priced compared to the traditional automated medicine dispensing systems, and the easy implementation and scalability of the software were considered big advantages.

Discussion

Preliminary findings suggest that the new virtual automated medicine dispensing system can streamline the workflows of the personnel in the hospital ward and allocate nurse resources to patient care from the supervision of the hospital ward medicines. There is a need for system improvements, as traditional automated medicine dispensing systems can be laborious and expensive solutions for the hospitals. Overall, automated medicine dispensing systems have not been used extensively in Finland to date, and a large number of hospital patient safety events reported with the Finnish HaiPro-system concern problems regarding patient medication safety. With Opaali solution the hospital ward can transfer medicine logistics tasks to hospital pharmacy. Further research could focus on the comparisons of outcomes and costs between the virtual Opaali solution (and its next generations) and the traditional automated medicine dispensing systems.

The quality of primary health centres from customer perspective – national digital survey as an instrument to assist customer choice in Finland

Authors: [Hanna Tiirinki](#)¹, Salla Sainio¹, Laura Parviainen¹

¹National Institute for Health and Welfare, Helsinki, Finland.

Background

This study is a part of national health care customer survey questionnaire in National Institute for Health and Welfare (THL) in Finland. The aim of the study is to define health centre quality from customer perspective and collect information about customer satisfaction in primary health care services via national digital questionnaire.

A rising need to clarify customer opinions has been recognised within the ongoing national social and health care reform. As part of the reform the government proposes to increase clients' freedom of choice by giving service-users the right to choose the health centre they sign up with. The choosing happens between public, private and third sector organisations. National health centre questionnaire provides information about the functionality of primary health service system and its reform from customer perspective. It creates valid comparative data for health care management as well as information for customers to perform their freedom of choice.

Research question and method

This research was a survey study that is carried out every second year. The digital questionnaire was presented to customers in health centres for four weeks in September and October 2018 (N=14 759). Structured questionnaire included both quantitative and open questions concerning health centre visits, service, given information and guiding as well as treatment plans. Background information about respondents' age, gender, education, native language and the number of visits during the past 12 months were asked. The results of the study were analysed by using statistical methods and quality content analyses.

Results

An early result shows that in general Finnish health centre customers are satisfied. However, the customer satisfaction varies on organisational level. Only a quarter of customers with a chronic illness had usually the same physician and nurse in their visits, which shows the lack of continuity in health services. Long waiting times for practice were also shown as a problem. In some cases, customers did not manage to get an appointment with a doctor at all. Another key outcome is that customer experience of the available information about digital services has weakened from year 2016.

Conclusions

Possibilities of digitalisation have increased significantly but the information of available digital services does not always reach the target group/customers. This might be explained by the increased number of these services but is especially problematic as the full potential of digital services is not achieved if customers have inadequate information of their use and utilisation.

Continuity is valued by customers and is an important part of customer-oriented services, but it is not noticeably taken into account in health care reform. Shared view has to be created on how to add information of health care effectiveness, quality and availability for client choice. Customer reported feedback on health service use should be increased for evaluating health care quality and functionality.

Discussion

This study will produce national, regional and municipality level information of health centres from customer perspective. National digital surveys can be utilised as information sources to assist the customer choice of health centres. Utilized in management and development the results will also increase openness and transparency in public services. The aim is to repeat the survey, which will enable the benchmarking of national data. In future, services will also be given in different forms e-services and (digital) feedback tools/instruments become more common.

Selecting interventions to improve patient-relevant outcomes in health care for aortic valve disease – The Intervention Selection Toolbox

Authors: [Nina Zipfel](#)^{1,2}, Stef Groenewoud², Benno Rensing¹, Edgar Daeter¹, Lea Dijkman¹, Jan-Henk Dambrink³, Philip van der Wees², Gert Westert², Paul van der Nat¹

¹St. Antonius Hospital, Nieuwegein, Netherlands.

²Radboud university medical center, Radboud Institute for Health Sciences, Scientific Center for Quality of Healthcare (IQ healthcare), Nijmegen, Netherlands.

³Isala Klinieken, Zwolle, Netherlands.

Context

Measuring and improving outcomes is a central element of value-based health care. However, selecting improvement interventions based on outcome measures is complex and tools to support the selection process are lacking. The goal was to present strategies for the systematic identification and selection of improvement interventions applied to the case of aortic valve disease and to combine various methods of process and outcome assessment into one integrated approach for quality improvement.

Methods


For this case study a concept-driven mixed-method approach was applied for the identification of improvement intervention clusters including: (1) benchmarking outcomes, (2) data exploration, (3) care delivery process analysis, and (4) monitoring of ongoing improvements. The main outcome measures were long-term survival and 30-day mortality. For the selection of an improvement intervention, the causal relations between the potential improvement interventions and outcome measures were quantified followed by a team selection based on consensus from a multidisciplinary team of professionals.

Results

The study resulted in a toolbox: the Intervention Selection Toolbox (IST). The toolbox comprises two phases: (A) identifying potential for improvement, and (B) selecting an effective intervention from the four clusters expected to lead to the desired improvement in outcomes. In phase A, benchmarking resulted in one outcome measure: long-term survival. For data exploration it was investigated whether unfavourable results occurred due to factors that can be attributed to the operation and operating technique. The care delivery process analysis resulted in 40 potential improvement initiatives. Standard monitoring resulted in an overview of five local initiatives. In phase B, causal chains were constructed for each improvement intervention. The results were presented to a multidisciplinary team, who took a consensus decision on potential improvement interventions with the highest impact on outcomes. The improvements identified for the case of aortic valve disease with impact on long-term survival in the context of the studied hospital in 2015 include: anticoagulation policy, increased attention to nutritional status of patients and determining frailty of patients before the treatment decision.

Discussion

Identifying potential for improvement and carefully selecting improvement interventions based on (clinical) outcome data demands a multifaceted approach. Our toolbox integrates both care delivery process analyses and outcome analyses. The toolbox is recommended for use in hospital care for the selection of high-impact improvement interventions.



mHealth technology: the provision of information and communication services in the field of healthcare on the platform of a professional mobile application PharmBonus

Author: Vladislav Tsvirko¹

¹BSMU, Minsk, Belarus

The main objective of the project is the full-scale implementation of the PharmBonus mobile e-health mobile application. The PHARMBONUS mobile application is a closed community of doctors and pharmacy workers with a medical / pharmaceutical education. The application is a new communication channel integrating doctors, pharmacists, pharmacists and pharmaceutical manufacturers. To date, about 4500 doctors, pharmacists and pharmacists in Belarus have been registered in the PHARMBONUS mobile application. For doctors of all specialties, registration is open in the mobile application. The application allows you to update knowledge, improve skills.

Operating Room 4.0

Author: Jordi Rovira Simon¹, Gorka Sánchez, Carlos García Palenciano, Stefaan Peene, Yves Platteeuw, Carlos Llatas, Vicente Traver, Elena Castellano, Eduardo Montón, Nuria Rizo, Vanessa Tiralongo, Irene Lerín, Isabel Pérez, Álvaro Martínez, Pilar Salar, Sergio Guillén, Salvador Vera, Dani Vera, Ricardo Berrios

¹MYSOPHERA, Barcelona, Spain

Healthcare expenditure represents on average 8.3% of European GDP. Hospitals are highly complex organisations, typically with thousands of employees and hundreds of admissions and operations performed every day, in large spread-out areas. They look very much like “micro-cities” and their costs represent an approximate staggering 60% of total healthcare expenditure. Daily operations in hospitals involve a range of time consuming and complicated processes (care, logistic, operative, etc.), which must run smoothly to provide (cost-) effective, safe and friendly healthcare assistance to the population. A medium-large hospital spends more than 70% of its yearly budget on surgical interventions. Healthcare cuts in recent years, sometimes reducing budgets by up to 10%, have made it more difficult to maintain the high quality and excellent performance of public health services. Indeed, waiting lists for surgical procedures are rising due to an increase in both healthcare demand and service cuts.

Surprisingly, the most complex and expensive process in hospitals —the surgical process— is still managed in a rudimentary way by relying on professionals repeatedly phoning each other to look for available people (i.e. ancillary), information and essential items in time demanding situations. The company MYSOPHERA has identified this need, which has no current solution in the market. By leveraging its cutting edge RTLS technology, the project OR4.0 presents a unique and pioneering service in this project that will transform the delivery of healthcare in hospitals. Automating information, events and tasks will transform hospitals into proactive organisations.

2019

Personalisation

EHMA

European Health Management Association

Genomics to healthcare – Finnish precision medicine studies P5 and P6

Authors: [Kati Kristiansson](#)^{1,2}, Heidi Marjonen¹, Minttu Marttila¹, Teemu Paajanen¹, Helena Kääriäinen¹, Ari Haukkala², Markus Perola^{1,2}

¹National Institute for Health and Welfare, Helsinki, Finland.

²University of Helsinki, Helsinki, Finland.

Context

Research on omics, including genomics and metabolomics, has identified a plethora of genomic regions and several blood metabolites linked to common human diseases and features. This new knowledge combined with large amounts of samples collected to biobanks could provide new tools for predictive, preventive, personalised, and participatory (P4) healthcare. So far, clinical utilisation of omics is fairly diminutive and, above all, unvalidated. P5 study, P4 + Population health, studies the value of returning genetic and metabolomic risk information in prevention of coronary heart disease (CHD), type 2 diabetes (T2DM), and venous thromboembolism (VTE).

Methods

We utilise polygenic CHD, T2DM, and VTE risk scores containing up to 7 million genomic regions, and measurements of 200 blood serum metabolites, testing their prospective clinical significance in a reference population of 30.000 Finnish individuals. We estimate the risk of disease within the next ten years in this population, using omics measurements complemented with traditional risk factor information. The results of the analysis can subsequently be used to calculate an estimate of risk of disease for our P5 study participants. To study the preventive effect of omics information we invited 6.500 FinHealth 2017 study participants in our P5 intervention study with participation rate of 52 %. We return risk scores to the participants as a report and a 'note to doctor' in a secure dedicated website. The impact of our intervention will be studied by following up the participants by questionnaires and through national health registers for five years.

Results

We hypothesise that 1) combining genetic and metabolic risk with traditional risk factors adds value to the personal risk assessment of CHD, T2DM, and VTE, 2) such risk information can be provided online, and 3) receiving genetic and metabolomic risk information will have an effect on the health of the study participants. In our reference population analysis, we observed that T2DM PRS significantly associates with disease risk (HR 1.5, $p < 2 \times 10^{-16}$). The top 8% of the population who had inherited the highest PRS had fourfold increased risk for T2DM. Moreover, almost 30% of the people with BMI >35 and the highest PRS got T2DM in a ten-year follow-up. The onset of the disease also occurred earlier in those with BMI >35. Based on these results we start returning personalised health reports to the P5 participants in May 2019.

Discussion

Expanding the focus from the treatment of diseases to the effective prevention of them requires encouraging and enabling members of the public to take responsibility of their health. Our P5 study is a pilot producing validated genomic data for use in precision medicine and paving the way for a larger precision medicine effort - Genomics to healthcare (P6) – where we return genomic information to 100.000 Finnish biobank participants. To adopt precision medicine in day-to-day practice studies like these are needed to produce proven information for healthcare professionals, decision-makers, other experts in the field and general population.

Value-based military health care: enhancing acute care outcome for the military patient - A PhD research proposal

Author: Henk van der Wal¹

¹Institute for Defence and Partner Hospitals / NL Min. of Defence, Utrecht, Netherlands.

Context

The Netherlands Armed Forces provide medical care for all soldiers and these soldiers are obligated to take their medical care from the military medical service. A soldier also has the responsibility to comply with the measures prescribed for the protection of his/her health. This is included in the Military Personnel Law, but in return the Armed Forces must provide the best care for its military personnel. From a patient-oriented approach, the patient must always come first. In general, civil healthcare has been set up in this way. It simply cannot be assumed that the military healthcare system has also been set up in this way, because of the complicating factor that care must be provided not only in the Netherlands but also, in particular, during military deployment abroad. Military healthcare has been organised around the definition of good care, which says that care must be of a good level and quality. However, it appears that the patient is not involved.

Aim

The aim of the research is to find out how value-based healthcare enables military healthcare to realise the best and most relevant outcome that is important for the military patient, taking into account the circumstances (military operations / acute care domain) and optimal use of resources. The problem analysis briefly states that patient-centred care or involvement of the military patient is not a sub-principle in the design of military health care. It has also been described that military health care is working on a transition to improve quality and capacity. This research aims to anticipate the transition and to provide concrete proposals for the military doctors, military (medical) leaders, and policy makers with an open mind for change.

Methods

This is a qualitative study, using mixed methods to answer the following central research question: 'Under which preconditions and supported by military (medical) leadership, value-driven healthcare is more effective and to what extent more efficient than the current chain design of military healthcare in the acute care domain?'. By answering sub questions in the fields of medical outcomes, civilian and military cooperation and (medical) leadership, the results provide input to enhance military healthcare, with clear added value for the military care provider, military leadership and certainly not in the last place for the military patient.

Discussion

In summary, the compulsory use of the military health care and the chain structure of the military healthcare show that there is not really a patient-centred approach to health care. Research has shown that the patient wants a more central role around his own illness and often knows what is important. For military healthcare in the Netherlands, this patient-centred approach is to be introduced into the system. However, when deployed during a military operation, this patient-oriented approach is not feasible in most cases. In deviation from the most common method of policy making, where a care system is designed top-down, the patient can be involved in what he / she finds important in case of injuries or getting sick in the deployment. This research aims to involve the military patient in the design of the military healthcare. In addition to this research, the NATO doctrine for military healthcare has to be taken into account where, in addition to the chain design, medical outcomes for the military patient are also often mentioned.

Family caregivers: the necessity of new ecosystem

Authors: Eleonora Gheduzzi¹, Cristina Masella¹

¹Politecnico di Milano, Milan, Italy.

According to the aging-in-place model, elders prefer to live at home rather than in nursing homes [1]. Giving the relevance of family caregivers in the home care, aging-in-place model highlights the importance to create a network of health, social and family care for supporting elders' families [2]. This research carried out in Valcamonica (Italy) is part of a project funded by Fondazione Cariplo in collaboration with University of Sacred Heart, a local social service provider and Need Institute. It aims at co-generating, developing and identifying possible sustainable solutions of care that support caregivers in the care of elders.

A community-based participatory research has been adopted, involving local social-care organisations and families of elderly people. Five of the local organisations of Valcamonica decided to take part to the research. Two home care services (SAD and RSA Aperta) provided by these organisations were chosen. All family caregivers, whose elders use at least one of the selected services, were contacted and 53 joined the study. 53 caregivers–elders' dyads have been created: data about services' providers and elderly users were gathered through databases of the five organisations involved, while caregivers were interviewed in order to collect their unmet needs, preferences and expectations of support. 23 out of the 53 caregivers gave their availability to take part to four participatory workshops. They were asked to report current services' criticalities and to co-create with organisations new services of care for improving caregivers' quality of life.

Several issues and possible services' solutions have arisen during workshop and interviews. The main problem is services' fragmentation; there are too many actors, different and sometimes incoherent guidelines and lack of information. Caregivers report the necessity to be informed about services with one voice. They propose to create effective channels that concentrate information about local service providers, reducing the fragmentation of services' communication. A second relevant issue was caregivers' feeling of inadequacy due to the complexity of their task: elders sometimes require demanding and specialised care. Caregivers propose to implement courses involving health and social care professionals such as nutritionists and social workers. Finally, caregivers underline a sense of loneliness in the care of elders, due to the limited and fragmented support of local providers. They suggest to establish mutual-supporting groups that meet periodically to share feelings and issues with peers. These activities are now in the pilot phase.

Clinical, intermediate and social care providers address elders' needs with fragmented and often independent actions, impacting negatively on caregivers and elders' health and quality of life. Thus, the creation of a solid ecosystem is urgent. The present study shows that collaborative approaches are effective tools to enhance the integration of care and create the right environment for innovation. According to results, providers are willing to work for a new ecosystem and family caregivers can have an active role in the integration of services, at least in rural areas such as Valcamonica. Thus, the involvement of these actors may be important in the definition and design of new ecosystems. Moreover, this research highlights that population asks to be supported through complete and structured information, adequate education and social support to face loneliness. The effectiveness of the activities, which have been promoted, will be study at the end of the pilot phase.

Achieving sustainability: The establishment of Sussex MSK Partnership East, review by Good Governance Institute

Authors: Andy Payne¹, Lorraine Reid²

¹Good Governance Institute, London, United Kingdom.

²Sussex MSK Partnership East, Eastbourne, United Kingdom.

Introduction

In the UK, musculoskeletal (MSK) service is a historical and continuous challenge in the NHS. Sussex MSK Partnership East (SMSKPE) is a collaboration that provides integrated MSK service across Central and Eastern Sussex. It was commissioned by the Clinical Commissioning Groups (CCGs) that plan and fund health services for East Sussex residents to address growing pressures on resources. Since its inception, it has improved performance and patient outcomes in a number of ways, providing significant lessons for other organisations.

Methodology

Sussex MSK Partnership East adopted a specific methodology to improve both the efficiency and effectiveness of the organisation. In particular, this included:

- The implementation of a Clinical Referral and Assessment Service (CRAS), which empowered patients to make decisions about their preferred clinical pathway.
- The employment and training of Patient Care Advisors (PCAs), as the deployment of the CRAS created the need for competent PCAs that could ensure patient needs were met with suitable guidance. To achieve this, all PCAs underwent comprehensive training in patient choice, waiting time guidelines and standards, and customer care.
- The provision of highly skilled advanced practitioner standardised triage using common guidelines to review the patient's appropriateness for onward referral. All of whom have undertaken shared decision-making and motivational interview training.
- The appointment of a Patient Director, which improved patient engagement in the service using regular forums, new questionnaires for patients and education events for the local community. The Patient Reported Experience Measures (PREMs) and Patient Reported Outcome Measures (PROMs) provided a consistent flow of patient feedback.
- The implementation of a monitoring and forecasting system to manage demand and patient flow. This providing an early warning system which prompts effective action and helps maintain operational grip.
- Clinical Engagement.

Results

The service has significantly improved performance and patient outcomes in a number of ways. Particularly noteworthy are:

- A reduction in commissioner spend, to the national average, whilst also improving patient experiences and outcomes. This is impressive considering the current financial climate in the NHS and as a result the positive impact on sustainability.
- An improvement in patient engagement with the service, including the development of a series of positive patient stories, working with five patient partners.
- An improvement in relationships with local providers as a result of the use of a dialogue-led procurement process. Therefore, when it came to the bidding process, a sufficient amount of rapport had been established for a mutual understanding of the expectations of standards.

Conclusion

The Good Governance Institute review will illustrate that SMSKPE is an innovative and effective service model delivering sustainability to a locality that, like the NHS as a whole, has traditionally struggled to deliver MSK services efficiently. The local health economy overall has a particularly difficult financial challenge and SMSKPE is one of the few services delivering savings in this environment. Through the introduction of changes such as the CRAS, a Patient Director and PCAs, the service has significantly improved its performance and patient outcomes. There is significant learning for the NHS and other health systems looking to meet the growing challenge of MSK to be gained from this review of SMSKPE, who demonstrate that this issue can be tackled with the right dynamic of innovation and investment.

Delivering community-based integrated care for older people in urban China: the role of social workers

Authors: Guanyang Zou¹, Karina Kielmann², Brendan McCormack²

¹Guangzhou University of Chinese Medicine, Guangzhou, China.

²Queen Margaret University, Edinburgh, United Kingdom.

Background

With accelerated aging of the population, community-based health services (CHCs) in China face the challenges of providing effective services to the increased numbers of people living with chronic disease. Family Integrated Service Centres (FISCs) have emerged in urban centres in response to the increasingly complex social needs of local residents. The FISCs are funded by the local government and contracted out to local non-government organisations staffed with social workers (SWs) to implement services. The existing and future role of SWs in providing services to older people through the FISCs is underdeveloped with little evaluation data to draw upon.

Methods

This study was conducted in four FISCs in two cities of Guangdong Province, China (Guangzhou and Qingyuan) and involved site visits, observations and interviews with 12 SWs, three focus groups with community volunteers. Thematic analysis was used to identify emerging themes.

Results

The FISC provides a friendly and homely space for older people to socialise, be entertained and eat together. SWs mainly provide social and psychosocial support for frail older people, mobilising external health and charitable resources. However, SWs are still new to the public, often misunderstood as 'volunteers'. While there are unrealistic expectations about the role of SWs due to media profiling, they are not yet widely accepted by older people and their families. Trust building with older people and families is challenging and this impacts on the ability of SWs to recruit appropriate older people for case management.

Case management also presents a challenge due to the lack of counselling and communication skills among SWs. In particular, many of the persons SWs manage have chronic diseases, sometimes resulting from very serious conditions. The data suggests that they feel professionally disadvantaged due to a lack of health knowledge. They have a strong desire to improve their case management experience through enhanced health training. However, some SWs oppose this idea as mobilising and linking external health services to address health needs of the older people is perceived as more feasible given their non-health background. CHCs are perceived to be difficult to access due to bureaucratic communication processes.

Discussion

SWs can be an important link for integrated health & social care in China. Improving their professional recognition and certain social work skills e.g. negotiation, counselling, case work and person-centred approaches might enhance current provision of elder care in China.



Piloting an integrated care model for health and social services in Kosovo

Authors: Genc Ymerhalili¹, Ariana Bytyci¹, Osman Maxhera²

¹Accessible Quality Healthcare Project, Prishtina, Kosovo, Albania.

²Main Family Medical Center, Fushe Kosova, Kosovo, Albania.

Introduction

The Accessible Quality Healthcare (AQH) project in Kosovo is funded by the Swiss Agency for Development and Cooperation (SDC) and implemented by Swiss Tropical and Public Health Institute (Swiss TPH) and Save the Children. It supports the implementation of health reform, with a focus on Primary Health Care (PHC) and non-communicable diseases, in 12 municipalities of Kosovo. AQH project is piloting an integrated care model in one Municipality that aims to improve the quality of care provided for patients over the age of 65yrs with Type 2 Diabetes, through better coordination of services provided by the health and social sectors.

Methodology

A multi-sectoral working group (WG), with representatives from: Health Sector, Social Services, local Non-Government Organizations, the Patients' Rights Association, and the Association of Retirees was established. This participatory approach was used as the basis for looking at how the coordination of services between health and social sectors, including community involvement, could be improved by adopting a patient-centred approach. An international expert has supported the WG through the process and, whilst the expert brings their experience and international best practice, it is the local WG that ensures feasibility and sustainability of the integrated care model at Municipality level. The most innovative intervention in the Kosovo context has been the development of a geriatric assessment tool, which comprises a questionnaire to collect information about health and social status of patients. For the first time, a joint assessment is now carried out by both a nurse and social worker in the patients' home.

Results

Based on the findings of the geriatric assessment, a joint individualised patient care plan is developed by a multi-disciplinary team comprising Family Medicine doctors, nurses and social workers. Provision of health and social services is delivered to patients for management of Type 2 Diabetes including: patient education on diabetes management and risk factors, self-management support, family/caregiver support and management of clinical outcome. Monitoring and Evaluation framework has been developed and this is being used to monitor the implementation of activities and evaluate to what extent the quality of care for older people with Type 2 Diabetes has been improved.

Discussion

Integrated services, person-centred care and care-planning are all new concepts in the Kosovo health care system. The participatory approach of having a multi-sectoral WG lead the reform and ensure that all activities are locally – driven and entirely appropriate for the local context has been a huge asset in ensuring a clear commitment to implementation of integrated care model.

How researchers could be supported to achieve meaningful patient involvement: the development of a digital road map for value-based health research

Authors: Simone Harmsen¹, Eva Vroonland², Annemiek van Rensen², [Carina Pittens](#)¹

¹Vrije Universiteit Amsterdam, Amsterdam, Netherlands.

²PGOsupport, Utrecht, Netherlands.

Context

One way to realise value-based health care is by involving patients in decision-making processes in health research and care practice. Patients have unique experiential knowledge that could complement the expert knowledge of researchers and health professionals, and thereby improving health research and care outcomes. Patient involvement means a new way of working for all stakeholders. However, literature focuses mainly on support for and training of patient(representatives). This study aims to contribute to the lack of knowledge about how researchers could be supported to include patients in health research in order to achieve meaningful participation.

Methods

Based upon the principles of the Interactive Learning and Action approach, a qualitative multi-phased participatory project was developed (September 2018-onwards). As an initial program theory, the Reasoned Action Approach (RAA) was used. The RAA was used to guide six interviews with key professionals with networks in health research and patient involvement in the Netherlands. During three focus groups with researchers, their perception of, experiences with and needs to realise patient involvement were explored. Content analysis was performed, and results will be translated into a road map (online website) which will be validated via several interactive multi-stakeholder sessions.

Results

Generally, the consulted researchers already had prior to their involvement a positive attitude towards patient involvement; it was actually the perceived norm to involve patients in research design and execution. However, not all researchers felt supported to achieve meaningful patient involvement. They are in need of pragmatic tools and methods to help them shape patient involvement. This includes tools on behavioural and relational aspects of patient involvement. Moreover, the main challenge for researchers is to create the right 'mindset'. Meaningful involvement of patients requires a paradigm shift in the research process from a plan set in stone, to a flexible and reflexive process in which researchers open up for the perspective of patients. While some researchers have a reflexive attitude, expressing need for tools and skills for evaluation of patient participation, others had a more positivist approach to patient involvement. The attitudes towards and needs for patient involvement, differ between junior and senior researchers, and between different research fields (i.e. clinical versus fundamental).

Discussion

Our results indicate that to support researchers to achieve meaningful patient involvement, a paradigm-shift needs to be stimulated towards an open and reflexive research process. In addition to providing practical tools, interventions looking to help facilitate meaningful patient participation, should also stimulate this paradigm shift. To support researchers, they indicated to prefer a road map (online website) that provides relevant information and tools for realising patient involvement. Moreover, the road map should focus on the added value of involving patients by sharing experiences of peers and providing scientific evidence, thereby implicitly stimulating the paradigm shift.

Next Generation Surgical Clinics (NEGSC) – The best innovations are simple!

Authors: [Steph Allgrove¹](#), Steph Allgrove¹, Steph Allgrove¹, Jonathan Refson¹, Chetna Patel¹, Helen Pardoe¹

¹Princess Alexandra Hospital NHS Trust, Harlow, United Kingdom.

Context

Hernias, lumps&bumps (EBL) are common surgical problems that have a significant impact on productive patients in the prime of their life. These patients often wait long periods for appropriate management as they are not always prioritised over more urgent conditions such as cancer. Simple technology can be used as an effective tool in the management of these patients. Next Generation Surgical Clinics (NEGSC) were piloted at Princess Alexandra Hospital, Harlow (PAH) as part of our 'NHS For the 22ndCentury' Initiative.

Objectives

We wanted to improve the pathways for EBL, improve patient experience by significantly reducing waits, and deliver excellent value for money, implementing a world class service which was cost effective.

Methods

All patients referred to surgery over a 3mth period between May-July'18 for EBL were randomised to 2 groups, one group were offered participation in NEGSC (test group), the other to existing systems (control group). Both groups at first appointment were either listed for surgery, discharge or need for further imaging as appropriate. Those listed for further imaging in NEGSC were offered a telephone clinic (TC) follow up within 6-8wks with a 15min slot between 12-1pm or between 5-8pm so as to not interrupt their normal working life. The control group would wait as standard for their follow-up appointment in clinic. Patient information sheets were developed in association with PAH Patient Panel for study participants to ensure patients understood the study. Patient satisfaction questionnaires were put in place for TC patients. Patients could opt out at any time during the process.

Results

206 patients participated in this study, 126 in test and 80 in the control group. 100% of patients offered NEGSC opted in the study. Both groups had a similar number of follow up appointments requested (30% - NEGSC v/s 24% - non-NEGSC). NEGSC listed (for surgery) less patients at first appointment (44% - NEGSC v/s 60% - Non-NEGSC), NEGSC discharged more patients than non-NEGSC (25% - NEGSC v/s 15% - non-NEGSC). At last data analysis, NEGSC had seen double the number of follow-up patients than non-NEGSC (84% - NEGSC v/s 47% - non-NEGSC). Patient satisfaction questionnaires were responded to by 60% of patients in NEGSC. Overall satisfaction was 92.69%. Total referral to treatment (RTT) analysis is awaited.

Discussion

NEGSC has been able to bring about a step change in patient care using (simple) telephone technology as a tool. Not all patients need face to face follow-up, in the next stage Skype/Google Glass virtual clinics will be looked at as a model of care.

MULTI-ACT: More impact of health research on people with brain diseases

Author: Paola Zaratini¹

¹Italian MS Society - Italian MS Foundation (FISM), Genoa, Italy.

Collective governance and transformational governance are instrumental to produce Responsible Research innovation. An important way in which collective and transformational governance is being implemented is through the so-called multi-stakeholder initiatives. Multi-stakeholder initiatives bring together governmental agencies, civil society and the private sector, becoming mutually responsive to each other, with the aim to address complex challenges, that are likely to produce an impact on people and society. In doing so, multi-stakeholder initiatives complement the role of each stakeholder alone in achieving these ends: act like an organisation and think like a movement. So far, most multi-stakeholder initiatives faced challenges in achieving the desired transformational and enduring impact. More is required. Multi-stakeholder initiatives should be further sustained by fostering a collective-impact approach, where each stakeholder has its return of investment, aligned with a shared mission. To secure future successes, none of the needed actions will be achieved without investing in the identification and development of new models of collaborative and sustainable research governance.

The EU-funded MULTI-ACT project aims to increase the impact of health research on people with brain diseases. It will create and implement a new model to engage stakeholders in defining metrics for a given mission and agenda (Nature. 2018 Jul;559(7714):331). MULTI-ACT integrates metrics related to excellence with new measures relating to economic and financial efficiency and to social efficacy. MULTI-ACT is focused on Brain Diseases Research Agenda and uses Multiple Sclerosis as the first case study. MULTI-ACT foresees patients as a key stakeholder in the Responsible Research Innovation process. One of the first challenge Thinking that underling Patient Engagement in MULTI-ACT wants to challenge our notion of good science as such. It argues that excellence, validity and relevance are connected by engaging patients and society in the research continuum as key stakeholder with decision making role.

The project started on 1 May 2018 and will continue for three years. It has received funding from the European Union's Horizon 2020 Research and Innovation Programme under the Grant Agreement No. 787570 (<https://www.multiact.eu>).



Social evaluation integrated in a Complex Chronic Patients Program

Authors: Veronica Gomez¹, Vanessa Martinez¹, Sonia Fernandez¹, Francisca Pavon¹, Oscar Garcia¹, Alba Brugués¹

¹CASAP, Castelldefels, Spain.

Context

Chronic diseases, linked to social and economic issues, compromise patients' welfare. There is an increased demand of health care, being needed specialisation of care and coordination between professionals and health care levels.

Our Primary Care Team (PCT) is in an urban area covering an adult population of 26.923. Attendance for patients older than 64 years is 83.17%. There were more than 3000 consultations related to chronic care to doctors and nurses from June to December 2018.

Workload for doctors represents a delay in identifying needs for Chronic Complex Patients (CCP), unnecessary referrals to secondary level and delay in identifying social needs.

Methodology

In order to achieve excellency in chronic complex patient centred care, our organisation established inside the PCT the role of complex demand nurse manager (GIDC).

We identify proactively CCPs. When considered by PCT family nurse or doctor, GIDC intervenes. Social worker (SW) participates usually to have a full image of patients' needs. Evaluated items are frailty degree, carers' situation, prescription safety, conditions of housing, physical condition, symptoms control, existence of geriatric syndrome, beliefs and values, autonomy and transition between levels of care.

From needs identified, GIDC coordinates interventions through different levels of care, informing PCT professionals on treatment, expected services and results and integrating processes to avoid duplicities, fragmentation or delays. Once situation is stable, GIDC finishes her activity while family nurse, doctor and social worker maintain follow up.

Results

The team has developed activity for six months, from July to December 2018. 517 patients have been identified as CCP. 84 patients have been referred to GIDC for nurse and SW evaluation.

As a result:

- 16 % were admitted in short or long stay intermediate care centre.
- 56 % started a teleassistance service, that provides help in acute situations for patients and carers.
- 78 % asked for legal dependence helps.
- 29 % received a home service for cooking, feeding or house cleaning.
- 16 % were officially recognised as non-autonomous.

Discussion

Teamwork between nurse and social worker has helped to identify social needs on time to prevent conditions worsening.

We consider this model integrates health and social care and provides results with agility and comprehensiveness. It also provides increased access to resources, both avoiding referrals to other levels and creating sub structures inside the team.

Contributing causes to adverse events in home care and potential interventions to reduce their incidence

Authors: Regis Blais¹, G. Ross Baker², Virginia Flintoft², Anne Wojtak²

¹University of Montreal, Montreal, Canada. ²University of Toronto, Toronto, Canada.

With the fast aging population in many countries, the demand for home care is likely to increase considerably in the coming years. The growing complexity of home care services, pressures to discharge patients quicker, and the increasing vulnerabilities of home care clients all contribute to adverse events in home care. The aim of this study was to test the use of the Concise Incident Analysis Tool to see whether home care staff and experts could use the data from this tool to identify potential interventions to reduce adverse events and ameliorate the care environments in which these events occur. Adverse drug reactions and falls are among the most common adverse events experienced by home care clients. A sample of such events was selected from the incident report databases of home care staff in six different programs in three Canadian provinces (Ontario, Alberta and Manitoba). Six teams were recruited and trained to participate in the analysis of events. Following training, each team selected four to five client cases from their organisations with evidence of an adverse event related to one of the two identified topic areas. Efforts were made to identify cases that represent different scenarios, contributing factors, and client demographics to enhance the likelihood of obtaining a broad representation of events and contributing causes. Overall, home care staff in these six programs analysed 27 fall- and medication-related events (13 cases with a client fall and 14 cases with a medication-related adverse event). Interviews were conducted with clients, family members, home care workers, and case managers to get a broad representation of adverse events and contributing causes. Two expert panel sessions, one for falls incidents and one for medication-related incidents, were used to examine the data on these events. Panel members reviewed each case and identified contributing causes, recommendations, unexpected learnings, and surprises. Classification of causes indicates that patient and environmental factors were common in fall events, while organisation and management factors along with patient, task, team, and individual factors were common in medication-related events. Home care settings create specific challenges in identifying and mitigating risks. Some factors, such as variations in home environments, are difficult to address. However, changing care coordination structures and communication methods could ameliorate other factors, including poor communications among staff and limited team and cross-sector communication and coordination. Ensuring that medication ordering and administration processes are optimised for home environments would also contribute to safer care. To prevent adverse events in home care, such as falls and medication incidents, care should be consistently planned and delivered by an integrated, interdisciplinary healthcare team to ensure continuity of care delivery and care coordination across healthcare sectors (hospital, primary care, home care, etc.). The use of cause analysis tools, such as the Concise Incident Analysis Tool to review home care incidents, offers a feasible approach for providing information that informs improvements in care for home care clients. Such tools are suitable for use in many countries struggling with home care safety.

Disease knowledge among older diabetic patients

Authors: Eva Turk¹, Valentina Prevolnik Rupel²

¹Medical Faculty, University of Maribor, Maribor, Slovenia.

²Institute for Economic Research, Ljubljana, Slovenia.

Background

Diabetes is a chronic disease which represents a substantial burden for the patient. In order to accomplish good self-care, patients need to understand and able to accept decisions and be empowered to self-manage the disease on a daily basis. A high level of knowledge about the disease enables the patient to act as an equal partner in the management of the disease.

Aim

The aim of this study was to evaluate the level of knowledge and overall perceptions of diabetes Mellitus Type 2 (DM2) within the elderly population in North-East Slovenia.

Methods

A cross-sectional study of older (age ≥ 65 years), non-insulin dependent diabetes mellitus type 2 patients living in a nursing home, who visited a family physician, DM outpatient clinic or a private specialist practice, was conducted. The Slovenian version of the Michigan Diabetes Knowledge Test was used for data collection. Statistical analysis was performed using IBM SPSS Statistics software, version 19.0.

Results

A total of 225 individuals returned the questionnaire, which represents 75 % response rate. The average score was 8.0 ± 2.4 . Not a single subject responded correctly to all 14 questions. The average score achieved by men and women was 8.8 ± 1.9 and 7.6 ± 2.5 , respectively.

Conclusion

More efforts need to be put in place to increase the health literacy level of older diabetic patients in Slovenia, so that they get empowered for self-management.

The multi-stakeholder perspective of what affects length of stay of patients in hospital – A case study approach

Authors: Sandra C. Buttigieg^{1,2}, Lorraine Abela¹

¹Faculty of Health Sciences, University of Malta, Msida, Malta.

²HSMC, University of Birmingham, Birmingham, United Kingdom.

Purpose

Hospital length of stay (LOS) is not only a function of patient- and disease-related factors but is also determined by other health system-wide variables. Managers and clinicians strive to achieve the best possible trade-off between patients' needs and efficient utilisation of hospital resources, while also embracing ethical decision-making. This study performed in Malta, aims to explore the perceptions of the hospital's major stakeholders as to what affects the duration of LOS.

Design/methodology/approach

Using data-triangulated case study approach, fifty semi-structured interviews were performed with management, doctors, nurses, and patients. Additionally, the hospitals' standard operating procedures, pertinent to the subject, were also included in the thematic analysis.

Findings

A systems analytical approach of the data shows that LOS is a rather complex and multidimensional construct, and is the resultant outcome of various inputs, processes and outputs.

Research limitations/implications

The findings from a single case study approach cannot be generalised across settings and contexts, albeit being in line with current literature.

Practical implications

The study concludes that a robust hospital strategy, which addresses deficient organisational processes that may unnecessarily prolong LOS is needed. However, the hospital's strategy must be sustained by providing good primary care facilities within the community set-up, as well as providing more long-term care beds and rehabilitation beds to support the hospital turnover.

Originality/value

The subject of length of stay in hospitals has so far been tackled in a fragmented manner. This article provides a comprehensive and triangulated account by key stakeholders, most of whom are hands-on in the day-to-day running of the hospital under study, of the complexities surrounding the duration in which patients are kept in hospital. LOS is one important KPI that reflects a hospital's systems and organisational governance and level of integrated care. Hospitals that manage to achieve optimal LOS across clinical departments are more likely to be sustainable.

Patient-safe and friendly-working environment, leadership support, burnout and perceived unsafe performance in value-based obstetric care

Authors: Sandra C. Buttigieg^{1,2}, Emanuela-Anna Azzopardi¹

¹Faculty of Health Sciences, University of Malta, Msida, Malta.

²HSMC, University of Birmingham, Birmingham, United Kingdom.

Purpose

Medical errors in obstetric departments are commonly reported and may involve both mother and neonate (Say et al., 2014; R.C.O.G., 2017). The complexity of obstetric care, the interactions between various disciplines, and the inherent limitations of human performance make it critically important for these departments to provide patient-safe and friendly-working environments [PSFWE] - open to learning and participative safety. Obstetric care involves stressful work, and healthcare professionals are prone to develop burnout (Bo) (Iorga et al., 2017), this being associated with unsafe practices and lower probability for reporting safety concerns (Halbesleben, Wakefield, Wakefield & Cooper, 2008). Healthcare organisations' leaders, who act safely, work safely, speak of safety and engage others in safety standards and initiatives, are considered to be supportive and are crucial in enabling PSFWE. This study aims to test the relationship of PSFWE with perceived unsafe performance (PUF) mediated by Bo. In addition, it aims to test leadership support (LS) as a moderator in the relationships PSFWE[®]Bo and PSFWE[®]PUF, as well as a main effect on PUF.

Design/methodology/approach

The full population of professionals working in an obstetrics department in Malta were invited to participate in a cross-sectional study, with 73.6% (n=184) responding. The research tool was adapted from the 'Safety Attitudes Questionnaire-Labor and Delivery version' (Sexton et al., 2006) and surveyed participants on PSFWE, LS, Bo, and PUF. Analysis was done using structural equation modelling.

Findings

Results supported the relationship between PSFWE, and PUF mediated by Bo. Creating a working environment, which ensures patient safety practices and is open to learning may protect employees from Bo. In so doing, they are more likely to perceive that they are practicing safely. Moreover, LS has a negative relationship on PUF. The study did not support the moderation hypotheses.

Originality/value

This study contributes to patient safety literature by relating working environment, LS, Bo and PUF, with the intention of raising awareness of health leaders' roles in ensuring optimal working environment for healthcare employees. Furthermore, it highlights the importance of key constructs in ensuring systems and organisation governance of obstetric departments that value patient safety in healthcare delivery to mothers and neonates.

Occupational health professionals' attitudes, knowledge and motivation concerning smoking cessation

Authors: Maarit Malin¹, Nina Jaakkola², Ritva Luukkonen¹, Antero Heloma³, Anne Lamminpää¹, Kari Reijula¹

¹University of Helsinki, Helsinki, Finland.

²Kela, Helsinki, Finland.

³National Institute of Health and Welfare, Helsinki, Finland.

Context

The aim of the present study is to assess OH professionals' knowledge and attitudes to current smoking cessation treatment and support (SCTS), as well as their motivation to carry out additional SCTS. OHS teams typically consist of OH physicians, OH nurses and OH physiotherapists. In this study, we focus on how to eliminate the barriers to preventing tobacco use. We seek to increase the efficiency of tobacco use prevention and the counselling services offered by OHS by developing optimised operation models for OHS. Our ultimate aim is to help patients quit smoking.

Methods

We collected data through an online survey of a cross-sectional sample of OH professionals – physicians (n=182), OH nurses (n=296) and OH physiotherapists (n=96) – who were members of trade unions. We measured their attitudes to SCTS, their current and targeted future level of knowledge and skills, and their motivation and attitudes to providing more SCTS than currently. Descriptive data are presented as mean + standard deviations in quantitative variables and percentages in qualitative variables. To analyse the differences between the three occupational health professional groups, we performed one-way analysis of variance (ANOVA) for normal distributed variables, the Kruskal-Wallis test for non-normal quantitative variables and the chi-square test for qualitative variables.

Results

The OH physicians and OH nurses assessed their current level of SCTS provision as sufficient, whereas the OH physiotherapists assessed it as insufficient. The OH professionals had a positive attitude to offering additional SCTS and were highly motivated to enhance their knowledge of this topic and to acquire further training in methods such as motivational interviews. Overall, 42.7% of the OH physiotherapists responded that SCTS was not included in their current job description, but 93.8% of the respondents felt that it should be. All the participants assessed their current knowledge of SCTS and the level at which they would like it to be in the future. The scale of assessment of current and future levels of knowledge was from 0 to 10. The OH physicians self-perceived current knowledge was the highest (mean=7.3, SD=1.2) followed by that of the OH nurses (mean=7.1, SD=1.4) and the OH physiotherapists (mean=4.3, SD=2.5). OH physicians and OH nurses assessed their current knowledge as adequate but were still motivated to obtain further knowledge. The OH physiotherapists' self-perceived current knowledge deviated from that of the other two groups. The result is statistically significant (the Mann-Whitney test, $p < 0.0001$). All the groups were highly motivated to enhance their current knowledge.

Discussion

Although OH professionals are motivated to expand their knowledge and have a positive attitude to SCTS, only a minority of them offer this in their practices. The potential for improving OH professionals' provision of SCTS to employees is significant, especially among physiotherapists, who are often forgotten when planning smoking prevention programmes. The attitudes of OH physicians and OH nurses have been investigated earlier, but to our knowledge, the attitudes of OH physiotherapists have not, until this study in Finland. This suggests that OHS should organise their smoking cessation treatment and support more effectively and strengthen their contributions to tobacco programmes. Problems with implementation might be related to individual variance among the OH professionals a lack of knowledge and training, or organisational barriers such as the absence of protocols. The OHS organisation plays a key role in offering SCTS training to all OH professionals.

Health clerks managing chronic care patients

Authors: [Veronica Gomez](#)¹, Antoni Peris-Grao¹, Pere Olivares¹, Cristina Ruíz¹, Laia Vila¹, Oscar Garcia¹

¹CASAP, Castelldefels, Spain.

Context

Catalan primary care is provided through teams (PCT) that include family doctors, nurses, clerks and social workers. Chronic complex patients (CCP) represent a high percentage of consultations. Answer to patients' demands is usually managed through a doctor's visit, either face to face or virtual, even when the resolution doesn't depend on this professional.

Our PCT covers an adult population of 26.923 adults. Attendance for patients older than 64 years is 83.17%. There were more than 3000 consultations related to chronic care both to doctors and nurses from June to December.

Methods

We decided to implement a strategy involving health clerks to manage such demand in a different way, developing their role as health care agents.

1. We analysed different sorts of demand received from CCP and carers; clinical situations, need for renewal of prescription, administrative purposes;
2. We established pathways facilitating triage of the demands by Health clerks and autonomous resolution by themselves in some cases. This strategy included training to explain possible reasons for consultation from CCP and which professional might solve the situation (nurse, doctor, social worker or clerk);
3. We developed a pilot study to ponder pros and cons.

Results

101 phone calls were registered from June to November 2018. 64,3% were solved by health clerks themselves. 33 visits resulted from the calls: 2 appointments at health centre, 4 emergencies, 27 home visits. Many demands were solved same day of demand.

Discussion

Only a third of CCP care demands needs doctor's visit. Concept of team working is to be really developed, going further those professionals who actually care face to face.

Training health clerks as health agents, reassuring them both from peers and team leaders and establishing an agreement on strategy may avoid two thirds of care consultations of CCP.

We are currently extending the experience to all the team.

Antipsychotic use and the risk of myocardial infarction: a nested case-control study design with an instrumental variable analysis

Authors: Kuan-Pin Su¹, Wei-Che Chiu², Hui-Chih Chang³, Kuo-Cherh Huang³

¹Department of Psychiatry, China Medical University Hospital, Taichung, Taiwan.

²Department of Psychiatry, Cathay General Hospital, Taipei, Taiwan.

³School of Health Care Administration, Taipei Medical University, Taipei, Taiwan.

Context

The association between antipsychotic use and the risk of myocardial infarction is still controversial. While observational studies can adjust for measured confounders by using widely used adjustment techniques, unmeasured confounders will only be accounted for to the extent that they are correlated with those that are measured. The use of instrumental variables has been suggested as a possible alternative to conventional analyses when there is concern about the effect of unmeasured confounders. Hence, this study aimed to assess the association between antipsychotic use and the risk of myocardial infarction (MI) by utilising the instrumental variable technique.

Methods

Data used in this study were retrieved from the Taiwan National Health Insurance Research Database (NHIRD) for the period of 2009-2016. For the exposed cohort, it comprised patients ≥ 18 years of age with a primary diagnosis of schizophrenic disorders, depressive disorders, bipolar disorder, mood disorders, dementia, or other psychoses, and received antipsychotic medications during the study period. As for the unexposed cohort, those patients were randomly selected by using incidence density sampling from the remaining patients in the NHIRD at the time of being observed. The outcome measure of risk of MI was if sample patients were diagnosed with MI during the first year following the initiation of antipsychotic treatment. The main explanatory variable was use of antipsychotic medications. This study used doctor prescribing preference as the instrument variable. The Cox proportional hazard model was used to compare the MI-free survival rates between the cohorts after adjusting for covariates during one-year follow up. To measure the strength of the instrument variable used in the study (i.e., the doctor prescribing preference), we conducted a 2-stage conditional logistic regression model that predicted the relative risk between the cohorts.

Results

We identified 49,667 antipsychotic users first hospitalised or visiting an emergency room for MI during the study period. The adjusted hazard ratio of MI risk was 2.52 (95% CI, 2.36-2.71) for any antipsychotics, 2.31 (95% CI, 2.14-2.47) for first-generation antipsychotics, and 2.77 (95% CI, 2.59-2.93) for second-generation antipsychotics (all $P < 0.01$). Results of instrumental variable analysis showed an additional 11% risk of MI for sample patients (odds ratio = 1.11; 95% CI, 1.05-1.20, $P = 0.028$).

Discussion

In this study, patients treated with antipsychotic medications carried an increased risk for MI than their counterparts. Furthermore, using instrumental variable analysis to control unmeasured covariates, we detected that there was a statistically significant increase in the odds of MI among patients receiving antipsychotic therapies.

2019

Integration

EHMA

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Health and social care professionals as undervalued management partners – is there future for change-oriented organisational citizenship?

Authors: [Sanna Laulainen](#)¹, Joakim Zitting¹, Laura Hietapakka², Timo Sinervo², Vuokko Niiranen¹, Ilmo Keskimäki²

¹University of Eastern Finland, Department of Health and Social Management, Kuopio, Finland.

²National Institute for Health and Welfare, Helsinki, Finland.

Context

Health and social care in Finland, and globally, is facing several ‘wicked problems’ (e.g. aging society). There is a constant urge for reforming structures, practices, division of work, and following the principles of service integration. New competencies are required, like change-oriented organisational citizenship (OCB). It refers to active critical voice and out-of-the-box thinking and taking charge. In addition, it means activity, involvement, self-development, cheerleading, responsibility and initiative. These are virtues of a member of an organisation and as a management partner. This paper explores how change-oriented OCB is enabled or restricted in the context of health and social care.

Methods

The study is conducted as a part of the Finnish joint project entitled ‘Competent workforce for the future’ (COPE, 2016–2019) financed by Strategic Research Council at the Academy of Finland. The research material was gathered jointly with researchers from the University of Eastern Finland and the National Institute for Health and Welfare through group and individual semi-structural interviews (n=101) among health and social care professionals and managers from three health and social care organisations that have implemented large reforms of integration in Finland. The material was analysed by using content analysis.

Results

Both health and social care professionals and managers pointed the significant role of employees in planning and implementing changes and integrated services. The expectancy of the change-oriented OCB was well recognised. However, the complexity of carrying change-oriented OCB out in practice was emerged throughout the research material. Health and social care professionals and managers illustrated individual-based and organisational-based factors affecting positively or negatively employees’ prospects and willingness to work as active change-oriented organisational citizens. The change-oriented OCB requires motivation, ‘space’, trust and commitment. First-line managers have the special role as enablers (coaching) and activators in facilitating health and social care professionals to become active, initiative, and critical management partners.

Discussion

Successful integration of health and social care requires change-oriented organisational citizenship of professionals. However, these different virtues and expectancies are facing challenges and obstacles in practice. Critical perspectives and novel ways of inspecting are needed to understand how health and social care professionals are able to act change-oriented OCB in an authentic way, and how they could be appreciated more as management partners. These interpretations will be exposed to critical discussion in the conference.

How to evaluate CCMs models? A multi-level comparative analysis of different regional models and local initiatives

Authors: Paola Roberta Boscolo Chio Bisto¹, Valeria Tozzi¹

¹SDA Bocconi School of Management, Milan, Italy.

Context

Wagner proposed the first definition of *chronic care models* (CCMs) in 1996. Since then, the debate about chronic diseases has flourished with several studies discussing the role of primary care, as both gatekeeper and system-keeper, and GPs responsible for organising complex bundles of care services (e.g. Bodenheimer et al., 2002; Coleman, 2009; Kadu et. al, 2015). Despite sparse empirical experiences, there is limited evidence on CCMs' effectiveness. The objective of our study is to contribute to the understanding of CCMs and their impact. We investigated CCMs in a selected national health system, contrasting different local initiatives and GPs' practices.

Methods

We conducted a literature review on CCMs, focusing on *genesis* and *functioning mechanisms, typical projects and activities*. We then classified Italian CCMs according to the key variables discussed by previous studies and validated by ad-hoc interviews to key national and regional experts.

We selected 7 regional contexts, looking for mature CCMs. In each region, we sampled a local health authority (LHA), representative of the regional model and displaying paradigmatic experiences of integrated care for *diabetes, ischemic heart failure and heart failure*. Data about CCMs' characteristics were collected via questionnaire to the project representatives at each locale.

We adopted a multiple comparative case study design (Yin, 2009) to contrast different regional models, as enacted and exemplified by LHAs. For all CCMs, comparisons have been developed within each LHA, contrasting GPs' practices and commitment to the specific model. Data about GPs' behaviour were collected via questionnaire and further triangulated with semi-structured interviews.

Results

With different levels of formalisation, all regions institutionalised new projects, settings of care and inter-professionals' collaborations for chronic conditions.

But we found considerable variation across local contexts, in terms of managerial instruments developed to guide and support change in primary care and GPs' associative forms of practice. Each model has its own history: originated either at the regional level or experimentally at a hospital or LHA. All models, but one, received ad-hoc regional funding. Different models display different configurations of the functioning variables discussed by the literature.

Data collected from GPs confirm a clear movement towards associative forms of general medicine, with several GPs sharing the same physical spaces and collaborating on innovative care approaches. The full paper will compare GPs' performances across local contexts. Interesting findings relate to the positive impact of CCMs on health promotion, training initiatives for patients' self-management and effective ways of managing the patient agenda.

Discussion

CCMs are illustrated in the literature as carrier of a rational approach to planning and managing integrated services for chronic patients (e.g. WHO, 2002). But defining and putting CCMs into use imply shifting the boundaries of practice across settings of care and professional domains, often requiring important political, organisational and professional changes. This study shows how even CCMs similar on paper, translate in divergent approaches to integrated care. We describe in details multiple cases and factors that interact at different levels (regional - local - GPs' practice groups) presenting a comparative evaluation of the resulting care models.

There is evidence of CCMs' rapid evolution, with new models replacing the old ones, often without any performance evaluation. We suggest it is crucial to promote a wider interest for the evaluation of well-established as well as experimental CCMs, to avoid replicating ineffective solutions and capitalise on past experiences.

Schools of public health: which model is the best to sustain changes in Health Systems?

Authors: [Laurent Chambaud¹](#), [Fanny Helliott¹](#)

¹EHESP School of Public Health, Rennes, France.


There is no universal model for the organisation of schools of public health (SPHs). While the structural US model is rather homogeneous, with SPHs separate from medical faculties and independent academic bodies within Universities, in Europe, it is more difficult to describe how SPHs have evolved as their development has gone hand in hand with national histories and policies, and a wide variety exists among countries. Even if many SPHs around the world tend to apply the US model, there is no evidenced-based lessons on the effectiveness of different models^[i].

We believe that this variation in organisation and structure of SPHs could influence two main issues all SPHs have to tackle: the ability for SPHs to prepare future public health workforce and the scope of professionals that SPHs have to train.

The results of a European Region survey published in 2014 point out a highly significant gap between current and desired performance as expressed by employers, and pledge for a strengthening of continuous professional development^[ii]. But historical academic requirements and traditional models do not always allow easily the development of an education geared to professional needs.

The scope of public health training also needs to be challenged. If public health and healthcare management workforce are often seen as different in academic curricula, healthcare managers could easily be left apart, even if many SPHs offer courses in health administration. This statement raises the following question: are healthcare managers public health professionals? We strongly think that they are and must be trained as such. Over the last ten years the French EHESP has evolved from a professional school under the authority of Ministry of Health, aiming at training civil servants to an academic status under the administrative supervision of two government departments: the Ministry of Health and the Ministry of Higher Education. This distinctive French model of SPHs could not be anticipated by the De Leeuw classification^[iii]. We did not perform a large international survey, but others SPHs have similar approaches, as in Morocco, Brazil or Argentina. Even if this school under his current status is relatively new, such a “French model” could be of interest as it combines a strong anchoring in professional activities and networks including within the health care system, and the possibility of delivering academic diplomas and performing research activities. Moreover, it facilitates the inclusion of field professionals in the faculty to participate in academic and research activities alongside with the more classical discipline-oriented academic staff.

While this model is probably not an alternative for countries in which SPHs have already adopted a mainly academic structure, it could be particularly interesting for transition or developing countries where health systems face a lack of operational skills from health professionals and managers at the different levels of the system and at the same time need to initiate academic activities.



Visibility of information from bedside to board using hospital dashboards - A case study approach

Authors: Sandra C. Buttigieg^{1,2}, Adriana Pace¹

¹Faculty of Health Sciences, University of Malta, Msida, Malta.

²HSMC, University of Birmingham, Birmingham, United Kingdom.

Purpose

This case study aims to analyse the extent to which performance dashboards can enhance the visibility of information at different management levels so as to assist them in achieving quality and performance improvement in an acute general hospital in Malta.

Methodology

Data were generated via 21 semi-structured interviews with different management levels.

Findings

Management at all levels had greater visibility of information and could make informed decisions, thus, the expected performance improvement was achieved. Although there was an improvement in performance related to waiting time, these tools did not enable managers to improve quality in terms of cost reductions, clinical effectiveness, patient safety and patient satisfaction. It was also evident that different managerial levels had different visibility with the top management having the greatest.

Research limitations

In single case studies, where only one context is used, the findings cannot be reproduced in different contexts; even though most of the results could be matched with the current literature.

Practical implications

The need to have balanced KPIs that take into account other facets of improvements, apart from time, has been emphasised. Furthermore, if middle and departmental managers had greater visibility this would allow them to work towards a strategic fit between the departments that they managed and the rest of the hospital.

Originality

Little is known about the extent to which performance dashboards can enhance the visibility of information at different management levels. This study seeks to shed some light on this issue for implementers and users of performance dashboards.



Barriers and facilitators of care integration in Finland: a case study on two counties with comprehensive integration of primary and specialised health care and social services

Authors: Timo Sinervo¹, Ilmo Keskimäki^{1,2}, Vuokko Niiranen³, Sanna Laulainen³, Laura Hietapakka¹

¹National Institute for Health and Welfare THL, Helsinki, Finland.

²University of Tampere, Tampere, Finland.

³University of Eastern Finland, Kuopio, Finland.

Introduction

Since the early 2000s, government policies in Finland have supported administrative and operative integration of health and social care to create larger authorities for organising services and to strengthen coordination of primary and specialised care, and social services. At the local level, several municipalities have created regional joint health and social care authorities to boost administrative integration and integrated working practices. Of these local initiatives, we address two county level joint authorities, which have implemented several initiatives to integrate services at floor level. Our aim is to evaluate the barriers and facilitators of the success of these initiatives.

Methods

We focus on two vanguard counties, South and North Karelia, which have established joint health and social care authorities in Finland. In South Karelia the authority has operated since 2010 and in North Karelia since 2017. For the multimethod study, we collected intensively data on the operation of the joint authorities and health and social services provided particularly for client groups benefiting from integration. We compiled county policy and evaluation documents on health and social care, run an online survey among employees, and carried out individual and group interviews of management and employees. In this paper we evaluate practical initiatives of care integration, attempting to find successful initiatives and less successful ones, and to evaluate barriers and facilitators to success. We use interview data of 25 middle managers, 19 frontline managers and 31 employees, which were analysed using content analysis.

Results

The two counties have several common features including 130,000-169,000 inhabitants, a larger town with a specialised hospital and several rural municipalities. In South Karelia integrated services for children and young people is one of the success stories, where organisational structures have been changed radically. In North Karelia integration in health and welfare centres is based on co-operation of earlier separate primary and mental health care, and social and substance abuse services on the same premises. The early experiences show that care integration has positive outcomes. The experiences also underline the need of attitude change from professional to holistic needs evaluation and guidance in the service system, shared goals, openness to change, strengthened shared daily management to address smooth work processes between professional groups. Occasionally employees work in same premises and under same management, but still work separately. The change requires holistic view from managers, despite their professional background.

Discussion and conclusions

The establishment of the joint health and social care authorities with a strong emphasis on integrated care seems to be successful. The early experiences suggest a positive impact in terms of efficiency. The integration at the administrative, organisational level or common facilities, however, does not guarantee integration at the floor level. Changing the long culture of professional and sectorial working practices requires changes in attitudes, common understanding of goals and service system and skill in team working. There are several ways to facilitate the changes, such as shared daily management or facilities.

The national health and social system reform currently prepared in Finland may include features, such as increasing privatisation and market-based services, which challenge the development done in the forerunner organisations.

Inter-organisation collaboration of healthcare providers in a competitive system: the perspective of healthcare executives

Authors: Wouter van der Schors¹, Anne-Fleur Roos¹, Ron Kemp, Marco Varkevisser¹

¹Erasmus University, Rotterdam, Netherlands.

Context

Healthcare providers across OECD countries increasingly rely on collaboration to provide care. Such collaboration forms differ from mergers as healthcare providers work together but retain their autonomy. Yet, empirical evidence on the reasons behind different types of collaborations, and what their effects on competition and patient welfare, is lacking. Moreover, earlier research has focused particularly on centralisation of hospital care, leaving collaborations among other providers underexposed. Drawing on the perspective of healthcare executives, this study provides detailed empirical insight into collaboration and the related decision-making processes in all domains of Dutch healthcare.

Methods

Early 2019, an online questionnaire was conducted among a nationwide panel of 714 healthcare executives in the Netherlands. Because of their strategic position within healthcare organisations as end-responsible manager, healthcare executives are especially suited to provide broad and in-depth knowledge on the internal and external processes and decisions. A total of 344 health executives (48%) participated. The study sample was representative for the main domains in the Dutch health system. The healthcare executive was asked to reflect on the most recent collaboration form, between 2012 and 2018, in which (s)he was involved. Questions were asked on (i) the type and origin of the latest collaboration as well as what stakeholders were involved (16 questions); (ii) the underlying motives for initiating collaboration (35 questions); and (iii) the health executives' decision making process: did they, for example, consider the potential trade-off between efficiency and anticompetitive effects when initiating the collaboration? (28 questions).

Results

Preliminary results show that 71% of the respondents has been involved in at least one collaboration form in the period 2012-2018. Consequently, we can identify a total of 243 detailed descriptions of inter-organisation collaborations. Collaborations are often horizontal (63%); i.e. among competing partners in the same sector. Only 14% can be described as vertical; i.e. between partners from different (upstream or downstream) healthcare domains. The remainders of the collaboration forms (23%) consist of both horizontal and vertical elements. Exchange of information and knowledge (48%), coordination of general care (48%) and coordination of complex care (42%) are most frequently mentioned as key elements of the collaboration. The leading motives for collaboration are related to healthcare provision (86%), efficiency (49%) and market or bargaining position (31%). However, motives, purposes and involved stakeholders vary substantially across healthcare sectors. Also, substantial differences are found between the horizontal and vertical collaboration.

Discussion

This study aims to identify the various types of collaborations. Our empirical evidence demonstrates the widespread presence and variety of collaboration agreements across all sectors in Dutch healthcare. We asked healthcare executives to describe their latest collaboration in detail. Following our descriptive identification, we will provide an in-depth analysis of (i) exemplary cases in order to assess which elements of the corresponding collaboration are beneficial; and (ii) the health executive's role in competition policy. These insights should serve healthcare providers, competition authorities and government institutions, both nationally and internationally, in reaping the efficiency gains from collaboration whilst safeguarding competition. Future research is recommended to include a qualitative approach to further unravel healthcare executives' decision-making processes when balancing the pros and cons of a merger vis-a-vis starting a collaboration.

Entrepreneurship for common good: insights from collective entrepreneurship in rural healthcare

Authors: Nour Alrabie¹, Melanie Reuter-Oppermann²

¹TSM-Research, Université Toulouse Capitole, CNRS, Toulouse, France.

²Karlsruhe Institute of Technology, Karlsruhe, Germany.

Introduction

Healthcare is facing serious threats because of reforms and financial challenges, especially in rural areas. To address these issues, some practitioners become social entrepreneurs, also called caring entrepreneurs, who enact change through collective entrepreneurship. However, how do they behave and enact entrepreneurship? In addition to addressing the gap of rural entrepreneurship and healthcare entrepreneurship, this research contributes to the literature by investigating the collaborative nature of entrepreneurial processes in such contexts. To do so, we investigate the drivers of social collective entrepreneurship, with a focus on the investment of time, money and both.

Methods and data

Through a multiple case study approach, we examine the entrepreneurial process of creation of four Primary Care Centers (PCC) in rural areas in France (Case A and B) and Germany (Case C). In all cases, local self-employed practitioners have initiated the project. These PCCs are collaborative spaces as practitioners continue to be self-employed while sharing resources and health objectives. Data was collected by interviews, field visit, and secondary data and examined through narrative analysis.

Case description

Case A and B are multi-professional PCCs located in the southwest of France. Narratives of practitioners of Case A focused on a long entrepreneurial journey of six years by 24 health practitioners who were already working in the village. They secured European funding and inaugurated their PCC after team building, project construction, and implementation. For Case B, a core team of 5 healthcare practitioners invested money, while 9 others invested time, to create a PCC. The core team is composed of two GPs, two nurses and a speech therapist who had their clinics side by side and they built a community sense. The case C is about the creation of two PCC in the Black Forest area. A business angel funded the first PCC. Four years later, peers invested money, created a second PCC and attracted new GPs.

Results

Regional embeddedness and peer co-working turn out to be drivers of collective social entrepreneurship in rural healthcare. These two factors seem to define the major investment of time or money. While in the Case A the regional embeddedness was the engine of collective entrepreneurship, in Case B, the multi-professional peer co-working of GPs, nurses and a speech therapist led them to invest time and money and to create the PCC with other local partners who have invested time. The German case (Case C) can be seen as a continuous process in which regional embeddedness of GPs who have been working in solo and dual practices drove them to invest time to create the first PCC and to secure fund from a business angel. This first collective entrepreneurship of the creation of a physical collaborative space resulted in an experience of peer co-working that led them to invest money and time to create another practice and to hire new GPs.

Supply chain integration in healthcare sector: what strategies are implemented?

Authors: Simone Laratro^{1,2}, Stefano Villa^{1,2}, Valeria Belvedere¹

¹Università Cattolica del Sacro Cuore, Milan, Italy.

²CERIMAS (Research Centre in Health Care Management), Milan, Italy.

Context

The Supply Chain literature has been growing up in the last 30 years, especially in the industrial sectors. Recently, the healthcare sector has attracted the attention of researchers in the area of Operations and Supply Chain Management (SCM). The partnership between suppliers and healthcare organisations is nowadays seen as a lever to increase productivity and improve quality.

The present paper tries to address three questions:

- ·What integration strategies do Healthcare Firms implement with their suppliers?
- ·What are the benefits and the barriers of integration strategies?
- ·What are the organisational conditions for successful strategies?

Methods

To address these three research questions, we have adopted a survey research strategy, targeted to all Purchasing/Logistic Managers of Healthcare Firms of North-Center Italy. The purpose of the survey was to capture the state-of-the art in the healthcare sector regarding supply chain integration (SCI) strategies. The questionnaire tries to analyse in depth the perceived benefits, barriers, and organisational conditions of SCI. Data was collected through a questionnaire administered to Purchasing/Logistic Managers. Before administering it, a pilot test was conducted to validate the questionnaire through interviewing some Purchasing/Logistic Managers. The study has been conducted on a restricted population of healthcare organisations; in the study only the organisations placed in the North-Central Italian regions that respected one of these two criteria were included: i) all public hospitals, ii) private hospitals with over 400 beds. The final target population for this analysis consisted of 137 healthcare firms. The redemption rate was 46%.

Results

Available data, concerning 232 implementation projects, shows that sampled organisations try to achieve a higher level of integration with their suppliers mostly through the adoption of:

- just in time;
- collaborative forecasting;
- consignment stock.

The most recurrent areas of implementation are:

- materials used in the operating rooms;
- medical devices;
- prostheses.

Focusing on the organisational benefits associated with these projects, the highest scores are reported by delivery dependability, speed and traceability. Moving to the economic benefits, the highest averages are reported by reduction of holding cost and of the warehouse space.

Concerning the barriers, only software integration reports a remarkable score. The standard deviations of scores given to the benefits achieved through SCI projects are remarkably lower than those concerning barriers.

Available data also demonstrates that several organisational conditions report high scores, witnessing the complexity inherent in a SCI project in this sector.

Discussion

This paper tries to shed light on the state-of-the-art in SCI in Italian healthcare organisations. It is one of the first attempts to study a topic that insofar has been investigated mainly in manufacturing industries. The preliminary evidence of the survey described in this paper shows that SCI is a relevant area of concern also in the healthcare sector and that it can provide remarkable benefits, even though several organisational conditions must be met in order to properly implement these projects. Our data also shows that SCI projects are implemented in complex areas, as the operating rooms. This points out the strategic nature of such initiatives.

“It is easier to lead alone ... but...” – Managing as a collective practice in integrated care

Authors: [Anneli Hujala](#)¹, [Charlotte Klinga](#)², [Sandra Schruijer](#)³, [Tamara Mulherin](#)⁴, [Sanna Laulainen](#)¹

¹University of Eastern Finland, Kuopio, Finland.

²Karolinska Institutet, Stockholm, Sweden.

³Utrecht University, Utrecht, Netherlands.

⁴University of Edinburgh, Edinburgh, United Kingdom.

Context

Collaboration between health and social care managers is a key prerequisite of integration, however, the significance of cross-boundary collaboration among managers and leaders is seldomly addressed in the literature of integrated care (Klinga 2016). It appears that managers are constrained within their own silos in order to defend their ‘territories’ (Axelsson & Axelsson 2009). Further, while speaking of integrated care, health care dominates the thinking and practice of solutions. In this paper, we reflect findings of studies that were conducted in Sweden, Scotland and Finland. The aim of this paper is to share the lessons learnt regarding cross-boundary collaboration of managers in health and social care.

Methods

Our reflections are based on a series of Swedish, Scottish and Finnish studies we conducted among health and social managers. In coming to a shared understanding of the findings, we also invoked experiences concerning collaboration in other public sectors. The Swedish study explored the importance of co-leadership (pair leadership) of health and social care managers to arrive at sustainable collaboration. The Scottish study focused on collaborative practices of managers working across organisational boundaries in implementing health and social care integration legislation. In the Finnish studies, we facilitated health and social managers, as well as public and private health care managers, to reflect on and improve their collaborative relations. The methods used varied from ethnography, shadowing, interviews, improvisation, photo-voice and observation. Based on the joint meta-analysis conducted by the authors of this paper, we will present the key findings of these studies.

Results

The Swedish study demonstrated the benefits of co-leadership, which resulted in the development of interrelated broader competence, continuous learning and support and shared responsibility for services. The Scottish study revealed ‘double-doing’ of work on the part of managers that was indicative of the stubbornness of boundary maintenance, especially on the part of the health services. One of the Finnish studies highlighted the tensions between public and private health care sectors that are continuously reproduced, despite broad recognition of the need to collaborate. Another of the studies exposed that managers go through the motions of collaboration but avoid confronting the reality of difference. Sustainable integration of health and social care requires managers’ collaboration beyond conventional boundaries, but a tendency to ‘lead alone’ still seems to steer the everyday work of managers and leaders.

Discussion

We want to focus on the importance of reframing and exploring the implications of managing as a collective activity, instead of a single manager orientation, which dominates much of how management is conceptualised. We find it imperative to go beyond the mere rhetoric of valuing collaboration to the actual practice of collaboration. We want to acknowledge and foreground that through the practice of research, we produce actionable knowledge.



The discursive construction of effectiveness in integrated care

Authors: [Lisa Hokkanen](#)¹, Anneli Hujala², Helena Taskinen²

¹Etelä-Karjala Regional Hospital, Lappeenranta, Finland.

²University of Eastern Finland, Kuopio, Finland.

Context

Integrated care is suggested to be a promising way to solve the problems of current fragmented and disease-based health and social care systems (de Bruin et al. 2012). However, there is still lack of consensus how the effectiveness of integrated care should and could be defined, assessed and measured (Nolte & Pitchforth 2014, Stokes et al. 2015; Hopman et al. 2016). The aim of the study presented here is to add understanding about the ways how the concept of effectiveness is used in scientific literature. The research question concerned was: How the effectiveness of integrated care for patients with multi-morbidity is discursively constructed in scientific articles.

Methods

The empirical data was gathered through a systematic review of Scopus and Web of Science databases. The data consists of ten scientific articles from the years 2011–2016. In-depth discourse analysis (Potter 2009; Jokinen 2016) was used as an analysis method to reveal the ways what and how scholars talk about the effectiveness in the context of integrated care.

Results

Five overlapping discourses on the effectiveness of integrated care were identified, all of which having distinct features and functions. The broadest discourse, *Costs as Threats*, rendered effectiveness as a reduction of costs caused by patients with multimorbidity. The function of this discourse was to demonstrate the necessity of integration to control costs in social and health care. The discourse named *Integration as an Ideal* presented integration as a taken-for-granted and only possible way to organise social and health care services effectively. In this discourse, it was unnecessary to call into question or justify the effectiveness of integrated care. The *Benefit-based Discourse* claimed that effectiveness is gained only through evidence-based scientific information about patients' benefits. However, this information was owned and used only by care professionals, who thus had the ultimate power to define what is effective and what is not. The *Discourse of Sharing* addressed the importance to involve patients in the decision-making. Effectiveness was connected to how the individual goals of patients were achieved. The message of the *Discourse of Incentives* was that effectiveness is dependent on the care professionals' engagement in integrated care. Professionals can be motivated to strive towards effective integration either through economic incentives or by punishments.

Discussion

This study yielded new understanding of the effectiveness of integrated care by highlighting the multi-voiceless of scientific rhetoric and discourses related to it. Mainstream evidence-based discourses were partly challenged through more client-cantered, 'soft' talk. Nevertheless, the findings also showed the reified nature of integrated care: the benefits of integrated care are considered so self-evident that there is even no reason to call into question or verify its effectiveness. Discursive construction of effectiveness at diverse levels in society may reveal unnoticed and unconscious goals and values beyond the 'rational' discussion on integrated care. Alongside evidence-based knowledge about the effectiveness it is crucial to pay attention also to the power of dominating and emerging discourses defining our understanding of integrated care. Further multi-method research on effectiveness, in particular focusing on the experiences of patients is needed.

Identification of customer profiles in social and health services

Author: Kirsti Ylitalo-Katajisto¹

¹City of Oulu, Oulu, Finland.

In social and health services, the concept of market-oriented customer profiling has been introduced to describe customer groups with similar behaviour and service needs. The purpose of my research is to describe the preliminary customer profiles that might be established in the design phase of a social and health care centre, and among frequent attenders. A frequent attender is defined as a person who has used the primary health care services of a physician more than six times a year or who, based on a professional assessment, requires multi-professional and integrated social and health care services.

The research data consisted of service diaries in which municipal residents (n=15) of various ages described their service use during a two-week period. Qualitative content analysis was used to analyse the data. The data for customer profiling of frequent attenders came from public social and health service centre customers (n=56) of various ages for whom a service plan had been prepared. Personal service plans were used to obtain multidisciplinary information on the frequent attenders' service needs and the rendered services in order to cross the borders of data processes, to prevent silos from being formed and to achieve improved understanding of the customer. The qualitative method used for analysing the material was the systematic analysis.

The research produced different customer profile types that described both municipal residents and frequent attenders as users of social and health services. The preliminary customer profiles for municipal residents (Self-Service User, Carer, Coper) all had different life situations, service needs, social networks and service use behaviour. For the customer profiles of frequent attenders (Children and adolescents who are burdened by everyday concerns, Mothers requiring support, Customers with multiple problems and Customers with an impaired capacity caused by substance abuse), physical and psychological problems as well as problems related to the customer's life situation were intertwined. Customer profiles shared certain characteristics, but also clearly differed in others, indicating a need for tailored and integrated services at home and at the various units providing social and health care services. The factors distinguishing the different customer profiles are based on the customers' life situation and the reason for which they have sought help.

The research yielded new information for establishing customer group segments when renewing service systems. Systematic identification of customer profiles can be used with high probability to produce more effective customer guidance, and also produce more cost-effective services over the long term. There is also a clear need for an improved understanding of the different customer profiles of frequent attenders and knowledge about the social and health care services they use, as well as for mediating this knowledge across professional barriers. Defining customer profiles may help identify frequent customers who require multi-professional social and healthcare services in order to develop effective care and services. Frequent attenders will benefit from integrated social and healthcare services.

Factors promoting and hindering the integration of Family centre action in Finland - a case study

Authors: Minna Hoffrén¹, Helena Taskinen¹, Sanna Laulainen¹, Riitta Vornanen², Johanna Lammintakanen¹

¹University of Eastern Finland, Department of Health and Social Management, Kuopio, Finland.

²University of Eastern Finland, Department of Social Sciences, Kuopio, Finland.

Context

This paper focuses on integration of child and family services in one Finnish county. The aim was to identify the factors promoting and hindering integration. One of the Finnish Government's key projects was to reform services for children and families from 2017–2018, which was implemented via county-level pilot projects. The purpose of the pilot projects was to establish the Family centre model throughout the country. The Family centre integrates the services of the public health, social and educational services, intended for children and families, into a network. This network also includes the services offered by NGOs and parishes, and by voluntary stakeholders.

Method

The material was gathered from the participants of the pilot project in one county by applying a method of empathy-based stories. The participants worked in health care and social welfare services, educational services, associations, culture sector or parishes. The participants wrote stories on the basis of two opposite frame stories in autumn 2017 and 2018. In the first phase, the frame stories varied whether the Family centre model was implemented successfully or not in 2020. The first data consists of 67 stories. In the second phase, these frame stories focused especially on integration of family services, implementing client orientation, and different service providers' commitment to the Family centre model in 2025. The second data consists of 15 stories. The stories (N = 82) were analysed using content analysis.

Result

Successful integration and implementation of child and family services requires structures that function well. It requires shared willingness and shared goals for integration among all service providers. Child and family services are provided on the basis of a low threshold principle and they need to be available to all citizens in the region. In addition, common contracting procedures are agreed with the service providers.

The main hindrance factors were related to maintaining the current organisation structures with separate budgets, sectoral 'silo' thinking and overlapping functions. The participants were especially worried about the invisible role of the education sector. Furthermore, the participants pointed out that coordination of services is needed, and it cannot be left as the clients' responsibility. One of the concerns related to prejudice between the service providers.

Discussion

Government steers the reform in children's and family services through policy programmes, resources and information. However, the main question relating to child and family services is how the family centre services are reformed in counties. The focus of this research was to find out how the various service providers considered the factors that either promote or hinder integration of child and family services in multi-professional and cross-boundary settings. The implications for implementation and management of the family centres will be open to discussion at the conference.

How university hospital succeeded in the implementation of a population-wide health promotion program 2017-2018

Authors: Linda Dalbom¹, Harry Köhler², Päivi Rautava¹

¹Clinical Research Centre, Turku University Hospital, Turku, Finland.

²University of Helsinki, Helsinki, Finland.

Context

Type 2 diabetes, a Finnish population disease, develops through the combination of lifestyle and genotype. Health promotion program was launched by Ministry of Social Affairs and Health to support the Health and Social Services reform in Finland. The University Hospital of Southwest Finland and nine other university/central hospitals were involved in the program 2017-2018. The program was implemented in 27 municipalities in Southwest Finland and its aim was that all municipalities in the region should have effective and congruent policies in lifestyle guidance.

Methods

The aim of the present study aim is to analysing and measuring the implementation of the program. The targets are:

- To evaluate the implementation of regional balance of care in diabetes management with an emphasis on service chains and lifestyle guidance;
- Analysed regional electronic patient records and interviewed of healthcare professionals and management.

Targets in detail are:

- The process of change in population health behaviour;
- Barriers and promoters of the implementation;
- Achievements of the implementation;
- Changes in knowledge, skills or attitudes;
- Changes in operating methods or processes;
- Changes in patients' health and performance;
- Changes in population health.

(Sipilä, R, Mäntyranta, T, Mäkelä, M, Komulainen, J & Kaila, M. Implementation in Finnish. Duodecim 2016: 132: 850–857. Adapted).

Expected Results

Information on the success of the implementation of a population-based health promote program is:

- to create a process of successful implementation;
- to get information on the effectiveness of the program.

Lifestyle counselling is an everyday co-operative protocol in social and health care. Lifestyle habits are part of the patient registers. Short-term results like participation and commitment of municipalities can be reported: overall 300 participants professionals were trained, varying from one participant to over 20 by in a municipality.

Discussion

The result will be a description of the launch of a comprehensive intervention of 500,000 people: describing the challenges and successes of the interventions to benefit the future health promotion programs.

Lifestyle counselling based on health promotion is needed more because the population gets older and needs more care.

A full-service system with management support is needed. Also active process management, the follow-up and exploitation of the results are required to develop the health promotion work.

Barriers to interprofessional collaboration and integration in emergency care

Authors: Rachel Gifford¹, Eric Molleman¹, Taco van der Vaart¹, Christien van der Linden²

¹University of Groningen, Groningen, Netherlands.

²Haaglanden Medical Center, Den Hague, Netherlands.

Introduction/context

Emergency care is an emergent process which focuses on a 'here and now' time frame (Lillrank 2012), requiring input from various healthcare professionals within the hospital. Unlike other wards, the emergency department (ED) is a shared space in which patients for all specialties enter the hospital, and for which all specialties bear [partial] responsibility. To deliver good care and efficiently flow patients through the ED, collaboration between all departments and professionals is crucial. However, the multidisciplinary nature of emergency care presents a challenge, as differentiation and professional boundaries may restrict collaboration (Thijssen et al 2013).

Methods

Taking an inductive approach, we investigated barriers to inter-professional collaboration in emergency care. We conducted a case study from November 2017-March 2018 in one of the busiest emergency departments in the Netherlands. During the research period, the hospital was implementing various changes to improve and promote a focus on acute care throughout the organisation. Twenty-two in-depth interviews were conducted on-site, and were recorded, transcribed, and coded by two researchers. Interviews were conducted with emergency physicians (EPs) and specialists from the five key specialties that interact most frequently with the ED (i.e. cardiology, neurology, internal medicine, radiology, surgery) and one nurse practitioner and two managers were interviewed for context. Interview data was analysed with Atlas.ti using thematic coding. In addition to interviews a week of observation was conducted on the ED and archival data was analysed. Archival data includes aggregate data from an internal survey (N=285) regarding ED collaboration and performance.

Results

While emergency physicians (EPs) were recently introduced in order to fill the quality gap in acute care (see IGZ 2004) their role remains limited and jurisdiction over the ED remains shared across groups. It was clear that professional boundaries were established and defended by Medical Specialists, whom attribute lower status to EPs. EPs are not considered 'real specialists' and their shorter and broader educational training was highlighted by medical specialists in order to differentiate them. A lack of trust in EPs' ability to handle decisions regarding patient care combined with a lack of respect for the role more generally, resulted in jurisdictional claims over expert knowledge. Such claims restricted collaboration, as specialists were unwilling to delegate tasks and allow EPs more discretion over patient care. Combined with the dual roles and lack of availability of specialists, this leads to inefficiencies, as the EP role and their decision-making autonomy remains restricted.

Discussion

Due to clinical and technological advances, healthcare delivery has become increasingly differentiated. Differentiation enables efficiency and productivity by dividing labor and allowing for specialisation, however it also leads to fragmentation (Lillrank 2010; 2012) making it more difficult to effectively organise and manage healthcare services (Bohmer 2009). In emergency care, integration between all departments is crucial to deliver safe, effective care. However, differentiation poses a threat to the effectiveness of the ED as 'silo mentalities' restrict collaboration, delaying patient flow. Specialists historically did not have the resources to dedicate fully to the ED, and instead inexperienced residents run the ED. EPs were introduced to provide better quality in the front line of acute care, however intergroup relations and professional boundaries continue to limit the effectiveness of this role. By exploring intergroup relations in healthcare, we offer further, important insights into the barriers that face integration efforts and implementation of new roles.

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Municipalities as purchasers of mental health services for children and adolescents: A mixed-methods study following a Dutch policy reform

Authors: [Daan Westra](#)¹, [Jannah Gerritsma](#)¹, [Niels Hameleers](#)¹, [Maria Jansen](#)^{1,2}, [Dirk Ruwaard](#)¹

¹Department of Health Services Research, Care and Public Health Research Institute (CAPHRI), Faculty of Health, Medicine, and Life Sciences, Maastricht University, Maastricht, Netherlands.

²Public Health Service Zuid Limburg, Maastricht, Netherlands.

Context

Dutch municipalities are responsible for universal (e.g. childcare and schools) and preventive (e.g. social work and parenting support) health services. In 2015, they also became responsible for curative mental healthcare services for children and adolescents (CAMHS). The main aim of this reform was to lower expenditures by enabling municipalities to offer integrated and well-coordinated universal, preventive, and curative services. However, municipalities struggle to fulfil this responsibility, and many exceed their allocated budget. Therefore, this study seeks to understand i.) which universal and preventive services municipalities use to reduce utilisation of CAMHS and ii.) which characteristics predict CAMHS utilisation in municipalities.

Methods

The study followed a concurrent mixed-methods design. We studied municipalities' approach towards integrating universal and preventive services with CAMHS using qualitative methods. Specifically, we conducted semi-structured interviews with the responsible council member and civil servant of 18 Dutch municipalities and analysed policy documents related to CAMHS. Furthermore, we quantitatively tested which municipal characteristics explain the utilisation rates of CAMHS. That is, we linked several publicly available datasets containing socio-economic and demographic characteristics (e.g. (un)employment, education, income, youth crime, divorces, etc.) of all Dutch municipalities, to data regarding the utilisation rates of CAMHS in the four years prior to the policy reform (i.e. 2011, 2012, 2013 and 2014). We subsequently used longitudinal multi-level regression models to test which characteristics are associated with the utilisation rates of CAMHS (i.e. primary mental health services, specialised mental health services, and total mental health services) in municipalities.

Results

The respondents in our qualitative approach identified divorces, safety, parenting support, resilience of children, early detection of mental health problems, and exercise programs as the most common areas of universal and preventive health services that could influence the mental health of children and adolescents. They described various efforts to integrate these with CAMHS. However, the specific interventions used vary considerably across municipalities. Furthermore, many lack an evidence base. Lastly, most respondents perceived integrating the services to be an arduous task because they considered curative mental healthcare providers resistant to change. The quantitative results indicate that the utilisation rate of CAMHS in municipalities are significantly associated with family composition within the municipality, employment rates and average income within the municipality, the average education level in the municipality, and ethnicity distribution within municipalities. However, the results differ across types of CAMHS (i.e. primary, specialised, and overall mental health services).

Discussion

Our results indicate considerable variation in municipalities' approach towards integrating universal, preventive, and mental health services for children and adolescents. Some of the areas prioritised by municipalities to reduce CAMHS utilisation are indeed significantly associated with CAMHS utilisation in the quantitative analysis (e.g. divorces). Others were not quantifiable using our data (e.g. resilience of children) or showed no statistical association (e.g. safety and levels of physical exercise). Furthermore, several factors associated with utilisation rates of CAMHS are outside the control of municipalities (e.g. ethnicity distribution). Lastly, clashing cultures between municipalities and professional mental healthcare providers appear to hamper the integration of services. Overall, municipalities do attempt to seize their responsibility for the mental health of children and adolescents. However, our findings suggest that the extent to which they can indeed effectively integrate universal, preventive, and curative services and reduce overall expenditure, as intended by the policy reform, is questionable.

Development of a new instrument for the measurement of patient safety culture in Bosnia and Herzegovina

Authors: Šehad Draganović^{1,2}, Guido Offermanns^{1,2}

¹University of Klagenfurt, Klagenfurt, Austria.

²Karl Landsteiner Society, Vienna, Austria.

Context

Patient safety culture in hospitals (PSC), as well as its measurement and development, have received plenty of attention in Europe (and elsewhere) in recent years. Several instruments for its measurement in European countries (Gehring et al. 2015, Brborovic et al. 2014, Robida 2013) have been developed, and have also found their application in Europe. As Bosnia and Herzegovina (B&H) does not have empirically reviewed questionnaires yet to measure PSC, the research question of this study was: Is the globally admitted American questionnaire “Hospital Survey on Patient Safety Culture (HSOPSC)” suitable for the healthcare system in B&H and its language?

Methods

The aim of the study was the adaptation of HSOPSC to the healthcare system and language in B&H and the development of a validated instrument for measuring PSC there. The HSOPSC was first translated into Bosnian and then back to English. The HSOPSC contains 42 questions, which constituted twelve factors altogether. After the translation, the pre-test was done with 99 health professionals. Subsequently, some questions were changed slightly. The survey was conducted in paper form in public hospitals in 2017. Overall 2617 health professionals participated, which corresponded to a vast response rate of 54%. The development of a new instrument was made using the Exploratory Factor Analysis (EFA). The Confirmatory Analysis (CFA) was performed on the original HSOPSC and the newly developed “Hospital Survey on Patient Safety Culture in Bosnia and Herzegovina” (HSPSC-B&H). In a model comparison, both instruments (HSOPSC and HSPSC-B&H) are compared.

Results

The factor structure of HSOPSC was not identical to the factor structure of HSPSC-B&H, developed in B&H. The study showcased a new tool, HSPSC-B&H, with 29 items altogether, consisting of four departmental factors (Supervisor expectations and actions promoting safety, teamwork within units, communication openness and feedback about error, nonpunitive response to error), three hospital factors (Hospital management support for patient safety, teamwork across hospital units, hospital handoffs and transitions) and two outcome factors (overall perceptions of safety and continuous improvement, frequency of event reporting). This new tool was developed using empirical data and showed grand results at the model, indicator, and construct level. The results of CFA for HSPSC-B&H ($\chi^2 [341] = 948.809$, $p = 0.0001$) showed a better model compared to HSOPSC. The absolute and relative fit-indices showed excellent model adjustment (RMSEA = 0.035, SRMR = 0.033, GFI = 0.956, CFI = 0.959, TLI = 0.951).

Discussion

The study presents a new instrument, HSPSC-B&H, for the measurement of PSC. According to the results, it can be seen that HSPSC-B&H (9-factor structure) has a better model fit than the original one from the USA. This confirms the chi-square test, absolute and relative fit-indices, informational criteria, reliability, and construct validity. For this reason, HSPSC-B&H is recommended as an instrument to measure the PSC in B&H. The study is subject to some limitations as the study was conducted in nine out of 28 public hospitals in B&H. Therefore, the PSC should be performed again with the HSPSC-B&H. EFA and CFA to ensure the validity of these questionnaires for all hospitals in B&H. In conclusion, one can say that with the development of a validated questionnaire a first move towards a targeted development of PSC in B&H has been made.

Speaking up and listening to: Towards a better understanding of the micro-level behavioural processes underlying integrative decision-making in care

Authors: Karin Kee¹, Marieke van Wieringen¹, Bianca Beersma¹, Henk Nies^{1,2}

¹VU University, Amsterdam, Netherlands.

²Vilans, Utrecht, Netherlands.

The integration of health care has been promoted as a means to improve access, and enhance the quality, continuity, and coordination of health care services in more efficient and effective ways (Minkman, 2012). Although considerable attention has been paid towards the intra- and interorganisational integration of health care services, Western health systems are still fragmented. Research examining why this is the case has mainly focused on the structural and institutional factors underlying integration (see also Evans et al., 2013). However, the structuralist approach seems to fall short, because it cannot explain how sometimes the extent to which integration of care is realised varies considerably even within the same systems and structures. This within system variation can in our view be explained by variety in context and variety in behaviour of key actors in decision-making processes.

In the current paper, we address the micro-level decision-making behaviours of parties involved in care integration. Although there is a rich scientific literature of these micro-level behavioural processes (i.e. De Dreu, Nijstad & Van Knippenberg, 2008), they have received scant attention in the literature on integrated care. The goal of the paper is therefore to review the literature on micro-level decision-making processes and discuss how knowledge regarding these processes may be applied to resolve barriers to integrative decision-making in the domain of service integration in health and social care. Our search method involved a combination of electronic database searches and hand searches of reference lists. We draw from the literature on integrated care, collaboration, joint decision-making, and voice behaviour, and included journal articles, books and book chapters written in English that report on these concepts.

Our literature review suggests that making integrative decisions about care (i.e. decisions that optimise joint decision utility) from the clinical level, to team, organisation and the system level, requires collaboration in relatively small groups of stakeholders with different backgrounds, knowledge, interests, and opinions (De Dreu et al., 2008). By drawing on the Motivated Information Processing in Groups Model (MIP-G), we demonstrate that parties can achieve optimal integrative behaviours, by engaging in joint problem solving, which is characterised by the co-existence of two categories of behaviour: social and epistemic motivation. Social motivation refers to how individuals weigh their own and others' interests in decision-making. Epistemic motivation refers to the willingness to expend effort to achieve a thorough understanding of the decision problem. The MIP-G model predicts that social and epistemic motivation, alone and in combination, affect the quality of group decision-making processes.

In this paper, we discuss factors that can facilitate or inhibit both categories of behaviours, and as such, stimulate or frustrate the integration of care. Specifically, we will address the importance of speaking up for joint decision-making to occur. In order to optimise decision-making outcomes, each stakeholder involved in the decision needs to speak up and exchange the unique information he or she possesses with other stakeholders (Morrison, 2014). This includes information about their knowledge, values, interests, ideas, and opinions. Past research has demonstrated that this is particularly challenging in light of the current health care settings, as hierarchical structures, differentiation of care tasks, and a focus on individualism and professionalism are all factors that may instil silence, particularly with lower-level professionals and clients, while the proposed exchanges require voice behaviour.

Centre for Assistive Technology as a rehabilitative workplace in Päijät-Häme, Finland

Author: Tarja Tiitinen¹

¹Päijät-Häme Joint Authority of Health and Wellbeing, Lahti, Finland.

Context

Centre for Assistive Technology (later Centre) provides technical aids such as mobility devices for outpatients in Päijät-Häme, Finland. Päijät-Häme Joint Authority of Health and Wellbeing (later PHHYKY) provides social and healthcare services for 215 000 inhabitants. The strategy of PHHYKY for 2022 emphasises vitality of the area and advantages for the inhabitants with co-operation with partners.

The personnel of the Centre consists of therapists and mechanics as well as logistical staff. 25 people work in five different locations, including Päijät-Häme Central Hospital and four health centres. This Centre decided to offer assistive logistical duties as workplace rehabilitation. Alternative duties and rehabilitative work became the options.

Methods

Centre offered in 2017-2018 alternative duties for PHHYKY personnel with short-term reduced working capacity. All kinds of alternative duties were listed in different units by the Human Resources, in case of a member of the personnel needed these duties as a part of recovery from sickness or accident.

Also, in Autumn 2018 Centre started a functional development project with Social Services for rehabilitative work. The aim was to support functional capacity of long-term unemployed people and create conditions for employment.

Results

Alternative duties were offered through occupational health care and informed to other managers and other units inside PHHYKY, but there was no demand for these duties. It seemed logistical duties were too heavy for people with short-term reduced functional capacity.

For rehabilitative work seven long-term unemployed, middle-aged men came to assist in logistical duties in three storages. They had their own Social councillor from the Social Services and decided their priorities before starting. They wanted to achieve a regular daily life and learn new skills. They worked a minimum of one and maximum of four days a week, four to six hours per day. They were not responsible of the storage on their own but worked side by side with the personnel. They also had a counsellor inside the Centre and a follow-up plan. Contracts were made from starting two months. No salary was paid due to rehabilitative work being part of Social Services, but they received some extra to unemployment benefit.

Discussion

Although no-one came to alternative duties, the co-operation with the Social Services started successfully. Centre for Assistive Technology came to an understanding what kind of assistive duties could be offered as rehabilitative work. The participants became quickly a part of the work community, learned new skills and valued their duties as important for the outpatients. It will take a longer time to see the effects on their employment.

2019

Value-based Healthcare

EHMA

European Health Management Association

Evaluation of a Finnish VBHC benchmarking pilot

Authors: Tuuli Pajunen¹, Kari Lappalainen^{1,2}, Seppo Ranta³, Lasse Lehtonen⁴

¹Prodacapo, Helsinki, Finland.

²University of Vaasa, Vaasa, Finland.

³Kanta-Häme hospital district, Hämeenlinna, Finland.

⁴Helsinki University Hospital, Helsinki, Finland.

Context

Current health care steering models are often focused on waiting times, productivity and cost of individual visits, rather than on patient relevant health outcomes and cost of entire treatments. To work in practice value-based health care organisation and steering models need to be developed which requires new tools and methods. Three Finnish hospital districts have formed a consortium for a VBHC pilot project that aims to measure health outcomes and further develop and evaluate tools for value-based steering. The project aims to shed light to national and international benchmarking of health outcomes and related processes and assess use of routinely collected data in VBHC initiatives.

Methods

Data for health outcome indicators and benchmarking is collected from Electronic Health Records (EHR) and supplementary data sources for each organisation for years 2015-2018. Data is processed and presented in a SaaS-based platform containing validated health outcome and resource use indicators as well as case-mix adjustment specific to each patient group. The pilot focuses on three patient groups: stroke, breast cancer and spine surgery. The platform enables 'intelligent' benchmarking as results are adjusted based on treated patients' characteristics (case-mix) and includes standardised information model complying with international standards. The quantitative results give insight into performance differences between providers. Qualitative methods will be used to assess the quality of source information, coverage and integration, the utilisation of produced outcome information in target organisations, benchmarking services of outcome measurement. The study complies with design-based research method, which aims to facilitate the gap between research and practice.

Results

Health outcomes are benchmarked between the three participating Finnish regions and with one Swedish Region. The definitions and KPIs previously developed, tested and implemented in Sweden and during the project these were configured and extended to the Finnish health care setting. Initial results show differences both in health outcomes and resource use. Gaps in source data and clinical coding have been identified and clinical coding practices partly revised based on the results. For different regions there is varied availability of required data, and especially Patient-reported data was identified as lacking and systems that enable closer integration of data collected from patients will require additional efforts in the future. In order to enable steering and management the pilot has created infrastructure where data can be continuously updated with online feedback to providers and regions to support continuous improvement and identification of deviations.

Discussion

One key objective was to use existing data sources and routine data collection processes to measure and benchmark health outcomes continuously. The evaluated approach proved to be flexible and enables future inclusion of more hospital districts and extension to other European countries, as well as a process for adding new patient groups. Modules supporting value-based payment models, such as bundled payment, including components based on outcomes of care can be implemented based on the data used for benchmarking. Results can be made available to patients so they can choose treatments with the best outcomes that best suit them, and to physicians to evaluate their performance compared to their peers worldwide and provide an opportunity to learn from each other. However, significant gaps and future improvement potential for data collection and measurement have been identified and will need to be addressed in order to reap the full potential of value-based steering.

Supporting value-based health research by enhancing impact of meaningful patient engagement

Authors: Tjerk Jan Schuitmaker¹, Carina Pittens¹

¹Vrije Universiteit, Amsterdam, Netherlands.

Context

The PARADIGM project is a European public-private partnership that is developing ways to ensure that patients are meaningfully involved in medicines development. Patient engagement (PE) is seen as an effective means of making health research more Value-Based. To contribute to this system innovation, we developed a coherent monitoring and evaluation framework in order to enrich good quality engagement practices with process indicators that can be used to monitor and evaluate whether the ongoing process of developing a new medicine in which patients are included leads to valuable outcomes for all stakeholders involved.

Methods

We applied the Reflexive Monitoring in Action (RMA) approach, an integrated methodology to encourage learning within multi-actor groups or networks as well as institutional change, in order to not only build a framework but work on successful implementation by co-developing it with the future end-users. Based on a literature review, listing existing tools, indicators and the like, we developed a preliminary framework that conceptualises the (observable) outcomes and impact for medicines development across the lifecycle. This framework has been expanded and validated through analysis of examples of patient engagement practices from within and outside the PARADIGM consortium.

Results

The main involved stakeholders were patient representatives or patient partners, Health Technology Assessment (HTA) organisations and industry. The framework distinguishes in input, activities, outcomes, impact and value for the several stakeholders involved. The framework should not only be seen as an assessment tool for measuring the value and outcomes of patient engagement. It can primarily be used as a toolbox stimulating meaningful realisation of patient engagement. This implies that the framework can be used by participants in a wide variety of engagement practices, like patient engagement in protocol development, in agenda setting or in approval or reimbursement procedures of new medicines, to design and monitor the ongoing engagement process. As a result, the tool stimulates reflection during the engagement practices leading to most valuable outcomes.

Discussion

This undertaking has not been done before and addresses the need for a consensus-based monitoring and evaluation framework to engage patients in medicines development. Current scientific and non-scientific literature suggests several indicators to measure the value of patient engagement, but these are scattered over decision points and do not always link up to clear outcomes. Furthermore, less is published on methods to actually measure the value of patient engagement, and validated tools for evaluating impact are not available. Additionally, the framework also explicitly focuses on the relation between the processes of engagement practices and its outcomes and impact. As a result, the framework is not only an assessment tool, but also provides tools to monitor the process and thereby improving the ongoing engagement practices.

Public health crisis survey: how does the Changchun Changsheng Biotech vaccine incident affect vaccination credibility of the parents in China?

Authors: [Shangcheng Zhou](#)¹, Jiehua Cheng¹, Xiaoxia Yuan¹

¹Guangzhou University of Chinese Medicine, Guangzhou, China.

Background

Anti-rabies vaccines produced by Changchun Changsheng Biotech were found to be substandard. Its remarks came amid public concerns about vaccine safety in China on July last year, after it was also revealed that Changsheng Biotech was linked to a substandard adsorbed diphtheria-pertussis-tetanus, or ADPT, vaccine for infants.

Objective

To estimate changes in parents' confidence in vaccination after the media report of the Changchun Changsheng vaccine incident, and to provide guidance for the evaluation of the impact of the Changchun Changsheng vaccine incident and the targeted vaccination promotion work.

Methods

Online questionnaire survey and intercept survey method were conducted from July 29th to August 4th, 2018 in four crowded places in Guangzhou, China. The data of the questionnaire were analysed by chi-square test.

Results

The awareness rate of this incident was 94% among the 215 parents surveyed. 87.1% of these parents got the information via Internet. Among the parents who were aware of the incident, attitudes towards the safety of vaccination before and after the incident were different ($\chi^2 = 47.752, P = 0.004$), differences between parents' attitudes towards the safety of vaccination and whether they would take their children to be vaccinated later were statistically significant ($\chi^2 = 47.303, P = 0.000$), only 53.7% of parents said they would be on time for their child's next vaccination. Difference between parents' education background and their attitudes toward the safety of vaccination before knowing the incident was statistically significant ($\chi^2 = 39.591, P = 0.006$), while difference between parents' education background and their attitudes toward the safety of vaccination after knowing the incident was not ($\chi^2 = 26.655, P = 0.145$). Parents' monthly income and whether they read the informed consent carefully had little influence on their attitudes towards vaccine safety after hearing about the incident. parents wanted to know more about transparent publicity of supply and marketing (26.4%), approach for monitoring the effect of vaccination (25.6%) and formal publicity of information on vaccination clinics (21.4%).

Conclusions

After the Changchun Changsheng Biotech vaccine incident, parents' vaccination credibility decreased, and subsequent vaccination was affected. To improve the vaccination credibility, education on vaccine safety and the importance of vaccination need to be implemented timely.

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Dutch value based cardiac care: bundled payments

Authors: [Dennis van Veghel](#)¹, Marijke Timmermans¹, Saskia Houterman¹

¹NHR, Utrecht, Netherlands.

Introduction

After successfully collecting high quality outcome data, demonstrable improvement & sharing of best practices, the implementation of Value Based Health Care in Dutch heart care has moved to the next stage by the introduction of the first Bundled Payment Model in 2018. In a 3-year shared project, 10 hospitals, health insurance company Menzis and the Netherlands Heart Registry (NHR) initiated a community for quality improvement and the further development of the Bundled Payment Model, rewarding hospitals for quality instead of volume.

Method

With the aim to stimulate quality improvement, involve hospital management in improving outcomes and create more sensible incentives in the payment system, the community was created with a focus on patients suffering from coronary artery disease treated with CABG or PCI. All hospitals were asked to initiate and share a quality improvement project, aiming to improve relevant outcomes. A Bundled Payment Model was designed and continuously improved, in which outcomes as selected in the NHR (Daeter et al., 2018) are central. With use of prediction models of the NHR, for each hospital outcomes are predicted based on patients' case-mix. These predicted outcomes are compared to the outcomes in practice. In case of significant better outcomes than predicted ($P < 0.05$) the hospital receives a financial reward from the insurance company; in case of significant worse outcomes, the hospital has to pay. Cost prices per outcome are based on the current payment system and Porter's outcome hierarchy. Adverse effects of the introduction of the model, such as risk selection, were monitored by questionnaires and data-analyses.

Results

All hospitals selected and shared a quality improvement project aiming to improve outcomes. The payment model was applied to historical data to provide insights in results for heart centers, leading to 2 out of 10 hospitals receiving an incentive. Prediction models were optimised by adding additional relevant baseline characteristics. The bundled payment model was extended with non-clinical but patient relevant outcomes, e.g. re-admissions. The results of the questionnaires show that physicians experience more attention in their hospital for outcome improvement (48%), tend to evaluate the model as a positive change (62%), tend to a more conservative strategy for high risk patients (56%) and do think all patients continue to receive all the care they need (59%). Data of patients being treated in 2018 will be analysed in June 2019 to observe trends regarding complexity of patients.

Conclusion

Although subject to further development, the first bundled payment model in Dutch heart care was successfully introduced. All hospitals introduced a quality improvement project and, when improving outcomes and applying the model, will be financially rewarded for quality improvement. So far, results in a survey show positive impacts of the model. However, the possible impact on risk avoidance for high risk patients' needs to be monitored carefully. Not only by questionnaires, but also by data-analysis.

Value-based health care logics and their implications in the Nordic health policies

Authors: [Petra Kokko](#)¹, [Anna Kork](#)¹

¹Tampere University, Tampere, Finland.

Value-based healthcare (VBHC) was introduced in 1990s stating that the objective of healthcare delivery should create value for patients. Today, VBHC is widely approved logic for financing services and evaluating the healthcare outcomes, at least in the US and in the UK. VBHC is consonant with the idea of the Triple Aim, pursuing simultaneously to improve population health, patient's experience and reduce the costs of care. Value-creation based on patient needs, has become a central health policy imperative in western societies and recently in Nordic countries too. Specifically, in tax-based financing systems VBHC can be seen as a part of the transformation from traditional public administration to new public governance emphasising value-creation for citizen.

The study aims to address the paradigm shift in public governance by describing the change in public health policies in Finland (1995-2018). We analyse whether the VBHC logics manifest in the Nordic welfare state context.

We use the qualitative documentary analysis to explore how the goals of VBHC emerge in the Finnish government programs (in 1995; 2005 and 2015) through the Triple Aim framework by asking:

1. How the VBHC logics have evolved in the Nordic public governance strategies; and
2. How the Triple Aim perspectives (cost containment, patient experience and population health) are emphasised in national health policy agenda?

This is the first article of the series on comparative public administrative studies to explore the mechanisms of VBHC in Nordic countries.

Our results show that in 1995, the emphasis was on austerity policies due to the economic recession. Ensuring employment and social security to maintain population health was prioritised, whereas the customer perspective was secondary to the development. In 2005, the Government program provided strategic aims more detailed. The integration of social and health care was described both at the policy and program level to improve public health. Instead of cost containment, emphasis was on the responsiveness to individual needs and customer experience. This was supported by the increase of resources, i.e. state subsidies, human resources and project funding. A special focus was on developing primary care.

In 2015 the importance of customer-oriented services across the administrative boundaries proceeded. The key mission was to implement health and social services reform together with regional reform to support the integration of services. Compared to previous programs, private providers were accepted equal contributors to public service provision. Cost-management, partnerships and competition between providers aimed to improve service delivery, freedom of choice and citizen participation, manifesting the goals of Triple Aim.

VBHC logics have become evident in the recent Finnish government policies. According VBHC, policies and practices should be tested against the objective of patient value (health outcome per dollars expended). Customer needs became central initiative for the development of social and health care in 2000s. Further, in 2015 the aim of service integration reflected the need for more holistic view for the use of services. Population health as a mean to secure welfare of citizens has been the essential goal in Governments policies reflecting the Nordic welfare state principle. All perspectives of the Triple Aim have presence in Government programs throughout the years 1995-2015, especially customer-orientation recently. Indeed, the shift towards public governance has accelerated strategies that promote customer responsiveness and value-creation for citizens. However, evaluating these outcomes in practice is complex.

Providing value in the prevention of sternal wound infections following coronary artery bypass graft

Authors: Maximilian Blüher¹, Peter Mallow², Julie Lankiewicz³, Dominique Brandt², Rhodri Saunders¹

¹Coreva Scientific, Königswinter, Germany.

²Xavier University, Cincinnati, USA. ³Cardinal Health, Mansfield, USA.

Context

Coronary artery bypass graft surgery (CABG) is an established procedure that can greatly improve patient quality of life (QoL). Despite antibiotic prophylaxis, post-CABG surgical site infections (SSIs), and sternal wound infections (SWIs) in particular, add substantially to care costs and resource use. Patients with SWI report long-term QoL equivalent to that before surgery, making the procedure to some degree futile. Further technologies to reduce SWI may greatly benefit patients and providers. Understanding the European-wide burden of SWIs following CABG could offer an opportunity for value-based procurement.

Methods

A Markov-model representing the care pathway for CABG was created and populated with data from peer-reviewed publications and national surveillance programmes. The focus was on the healthcare systems of Northern and Western European countries with data on CABG and SWIs rates. Key parameters were: CABG procedures per year, surgical site infection (SSI) rates, ratio SSIs to SWIs, length of stay, hospital time to treat SWIs, and the cost per day of intensive care unit (ICU) and general ward. Proxy values were used based on data from other European countries if country specific data was not reported.

The model estimated the per country and European region annual economic burden of CABG-related SSIs. Model results were used to calculate the theoretical incremental cost change that could be justified by an intervention that reduces the SSI rate by 1 event per 100 procedures.

Results

Austria, Denmark, France, Germany, Italy, Netherlands, Norway, Portugal, Spain, Sweden, and United Kingdom; representing over 72% of the population in our analysis, had nearly complete data. Other countries mostly missed data on the SWI rate and/or time taken to treat SSI/SWI.

The annual European burden of CABG-related SSIs was estimated at €122.5 million. This was €598 per procedure and included over 20,000 additional ICU days, 100,000 additional ward days, and an extra 4,599 hospital readmissions. Post-CABG SSIs accounted for an average additional cost per patient of €580 in Finland, €480 in Germany, €418 in France and €404 in the UK.

With a mean cost of €16,424 per SSI event in Europe, a technology that reduced the rate of SSIs by 1 per 100 procedures could justify an incremental cost to current care of circa €164.

Discussion

In addition to decreasing patient QoL, infections after CABG impose a considerable cost on European healthcare systems. This is supported by validation of the model using German data, which indicates that model results provide a realistic estimate of cost outcomes. The excess costs were found to be mostly driven by deep SWIs and the additional time in hospital they required. As such, hospital resources as well as costs can be freed up by reducing rates of infection post-CABG. Under value-based pricing, an intervention that reduced the SSI rate by 1 event per 100 procedures could leverage an incremental cost of €164 per procedure. This is an opening for discussion, as risk and value should be shared between hospitals and industry. Our model also provides the opportunity for specific hospital data to be entered, giving individual, tailored information on burden and potential pricing.

Sex bias in surgical re-operations?

Authors: Kati Koskinen^{1,2}, Irma Jousela^{1,2}

¹HUS Helsinki University Hospital, Helsinki, Finland.

²University of Eastern Finland, Kuopio, Finland.

Context

There is increasing evidence that persons sex is one of the most important biological factor of disease risk, and the responses to therapeutic interventions vary according to the sex. However, it is extremely rare to report sex-specific results. Few available recent studies have shown there is a sex bias in the field of surgery. The sex bias originates from the biomedical research where most of the research is conducted on male animals or cells. Aim of this descriptive study was to explore if patient's sex has an impact in unplanned re-operations of surgical procedures.

Methods

Routinely collected operative and administrative data on consecutive unselected elective and emergency operations performed in HUS Helsinki university hospital during 2014 were filtered from the centralised hospital database. Personal identification code for each patient is registered on the database, and we identified patients with more than one procedure performed between January 2014 - January 2015. Patients with unplanned re-operation within 30 days from the primary operation were included in the study. Incidence for unplanned re-operations was calculated for each surgical specialty. Specialties with high incidence and/or large number of primary operations leading to unplanned re-operation (> 100 patients/year) were further studied to explore if patient's sex has an impact on unplanned reoperation. Those reoperations were further explored more thoroughly by patient characteristics (i.e. age, ASA classification) and urgency of operation in each specialty to see if the differences in incidence is due to the differences in case-mix.

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. Specialties where more than 100 primary operations led to unplanned reoperation were plastic surgery, cardiac surgery, gastroenterology, orthopaedic and trauma surgery, vascular surgery and neurosurgery. In all those we found out different incidence between sexes. Results are presented in figure 1. Results were of similar kind regardless the urgency of surgery or the operation code. Patient's age or risk classification (ASA) seem not to explain the differences in the incidence.

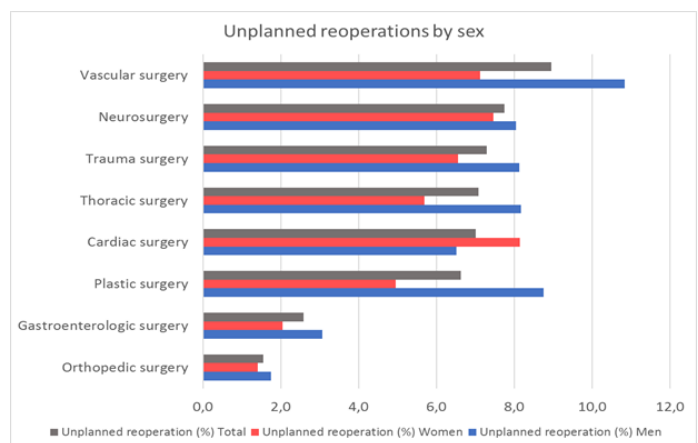


Figure 1. Unplanned reoperations by sex.

Discussion

Including sex-specific information into clinical practice will affect the quality of patient care and should therefore be considered while planning the surgical treatment for the patient. We found out differences in unplanned re-operations between sexes in several surgical specialties. Surprisingly in vascular surgery men seem to have more re-operations than women did, although our assumption was quite the opposite. However, in cardiac the difference was vice versa. Our findings have a novelty value in the field of surgery. Study was based on registry data and the difference between sexes seems to be obvious, and thus needs to be studied further.

Patient safety culture in Austrian hospitals: implementation processes and problem-oriented perspectives – A qualitative study

Authors: Guido Offermanns^{1,2}, Šehad Draganović^{1,2}, Julio Brandl¹

¹University of Klagenfurt, Klagenfurt, Austria.

²Karl Landsteiner Society, Vienna, Austria.

Context

Adverse events in the healthcare system often have severe consequences for the patient and healthcare institutions (Vincent/Amalberti, 2016). Thus, various risk management tools, such as critical incident reporting systems or (surgical) operation checklists, have been recently introduced to 11 Austrian healthcare institutions to increase patient safety. However, our study shows that these instruments were not everywhere equally effective. The effective implementation of these tools requires change management in the background to develop a lively patient safety culture. To facilitate this process, it is essential in this study to gain a deeper insight into the underlying implementation processes and problem-oriented perspectives.

Methods

A qualitative approach was used to examine the current status of patient safety culture in hospitals. To understand difficulties and complex dynamics of team behaviour as well as progress and failing of implementation processes of risk management tools, an exploratory research design proved to be necessary by reason of analysing research gaps and under-researched areas (Ghuri & Grønhaug 2010; Miles & Huberman, 1994). Semi-structured expert interviews (Gläser & Laudel, 2010) with health professionals of 11 health institutions in Austria were conducted (N = 32). The interview-guideline was pilot-tested (N = 3) in advance. Inductive *qualitative content analysis* (Mayring, 2010) was used to analyse and systemise extensive qualitative data material. In particular, the technique of content structuring was applied, which involves procedures including inductive category formation and deductive category assignment (Gioia, Corley & Hamilton, 2013). Intercoder reliability ($\kappa = .605$; Cohen, 1968) shows satisfactory results (Fleiss & Cohen, 1973).

Results

We analysed five aspects of patient safety culture (critical incident reporting system (CIRS), (operations) checklist, transfer/report from patients, hand hygiene, and education from risk manager). The results of the aspect CIRS show that Austrian healthcare institutions still have potential for improvement in terms of education of employees, coordination and communication, leadership as well as implementation strategies. Data on the facet checklist shows that the education was insufficient and that these checklists are not handled properly and used only incompletely. Concerning the aspect “transfer/report” it can be stated that the systematic transfer/reports are widely unknown. Many respondents did not have any knowledge of the existence of such communication tools for the transfer of patients between health professionals. However, the hand hygiene aspect lacks a systematic training concept and better control of compliance. The education has brought a number of general benefits (e.g. methodical knowledge) to risk managers and healthcare institutions.

Discussion

The present study shows the current status of patient safety culture in the Austrian healthcare institutions. The results provide valuable insights into strengths and weaknesses of the implementation of risk management tools for patient safety and thus highlight opportunities on how to influence patient safety through organisational development and management change. The investigation of only five aspects of patient safety culture clearly limits the explanatory power of this study. Another limitation is the selection and the composition of the sample. Nevertheless, this qualitative study has taken the first essential step towards the understanding of the effective and efficient development of patient safety culture by providing valuable insights into the underlying mechanisms of non-functioning patient safety culture. In the future it will become necessary to regularly assess the quality and quantity of patient safety culture in order to measure the impact of the implemented measures or instruments.

Empowerment in lean projects in healthcare

Authors: Oskar Roemeling¹, Ewoud Stapersma¹, Nienke Renting¹

¹University of Groningen, Groningen, Netherlands.

Context

The past two decades there has been a requirement for leaders in healthcare organisations to improve performance in terms of efficacy and safety. Often times, managerial principles are adopted from industry without a thorough consideration how these principles fit or should be implemented. A popular principle is Lean, an approach that focuses on: continuous improvement, and respect for people. Previous research had limited attention for the consequences for employees, limiting our understanding of how respect for people is formalised. This study adopts a change management perspective and unravels the important role of empowerment, a cornerstone of respect for people.

Methods

This exploratory case study is set out in a large clinical teaching hospital in The Netherlands. The specific hospital is well known for its Lean experience, and has a department dedicated to Lean projects. Data were collected at the operating theatre and related nursing departments through 12 on-site visits with observations, 12 semi-structured interviews, 15 surveys, and documentation. Respondents consisted of internal Lean consultants as change agents, managers as formal leaders, and care coordinators and nurses as change recipients. Data was systematically analysed through first-order and second-order coding to find repetitive actions and (in)consistencies across events. First-order codes were meant to summarise parts of the collected data, where we used both inductive and deductive codes. After writing down the first-order codes, the cyclical act of refining the codes and categories was repeated until patterns began to emerge, and a conceptual theory was visible from the analysed data.

Results

Change agents purposefully select individuals to join the change project to represent different formal and informal groups. Agents strive to include both proponents as well as critics towards the change project. Here, formal leaders have a crucial role as they are familiar with group dynamics and the larger change context. During the project, agents apply tools to empower recipients, and formal leaders act as role models to push the project forward. Stakeholders need to be continuously updated and involved to prevent cynicism towards the change project. In order to influence readiness and resistance, agents identify advantages and disadvantages of the change for the involved stakeholders, and form coalitions to push through with the change project. Agents continuously confer with formal leaders to establish if recipients require additional training or coaching, and to remove bureaucratic barriers to ensure change effort success.

Discussion

In our research we were interested in the respect for people component of the Lean improvement approach, and we focused on the role of empowerment. In our study, we adopted a change management perspective and framed the Lean improvement project as a change project which involved change agents and recipients. This theoretical perspective also implies that one should be sensitive towards readiness and resistance to change. Our results showed that empowerment is especially dependent on the actions of the change agents. Change agents apply practices of empowerment and seek collaboration with both formal leaders and stakeholder groups to ensure the success of the change project. Since empowerment is considered to be a positive aspect, most actions that facilitated empowerment could also be considered to enhance change readiness and reduce resistance. Based on our findings, we present an updated theoretical framework that shows the importance of empowerment in continuous improvement initiatives.

Grannysimulator — Innovative model for recruiting social- and healthcare staff

Authors: Pirkko Heinonen¹, Eili Ikonen¹, Laura Mellanen², Sirpa Kuosmanen¹

¹Joint Authority of Päijät-Häme Social and Health Care, Lahti, Finland.

²Independent Professional, Lahti, Finland.

Context

The attractiveness of the social- and health care organisations is mostly based on its image to enable the meaningful and sensible working environment. We have a shortage of skilled workers and the needed competence is hard to recognise in a traditional job interview. Recruiting gives a signal of what kind of a competence is needed in a future.

It is crucial to anticipate the needed competence, in order to fulfil the changing demands of patients and the whole society. Traditional ways of recruiting produce traditional competencies and therefore the need to renew the work communities and employees' competencies is essential.

Methods

We started the developing process by setting up a multidisciplinary group that consisted of managers, developers, HR-partners and an organisation artist. We utilised service designing and functional logic of art. An organisation artist is a constantly developing social innovation in joint authority of Päijät-Häme social- and health care. The job description includes the development of strategic, organisational and patient value. Organisation artist is a developer whose way of working is built on her personal art practice and metaskills, artful thinking and functional philosophy. Organisation artist's agency rises from the notion that any issue can be approached and commented through means of art.

The process was based on an experimental and practical innovations. In four workshops and during the work between the workshops we produced non-traditional knowledge, which was novel. The artistic methods and service designing was used.

Results

A worksheet was produced as a result. It is a practical tool for managers to give new ideas and innovative tools for recruiting. The booklet includes authentic and simulation methods for recruiting, guidance for choosing the best method, and ideas, how to facilitate an innovative recruiting process. A concrete example of a new way to recruit staff is called "Grannysimulator". When a job applicant comes to interview, the group of applicants plans two home care visits. They implement their visit to the old persons home by using the drama. One of the interviewers is acting the old person, and the applicants simulate the real nurse visit. With this method the interviewers get to know, how the applicants would work in the real situation.

In this development process we implemented an example of how a large organisation can implement creative developing methods, which help us to create more patient-centred services.

Discussion

New innovative competencies help us to respond to the future needs. In service innovations it is crucial to think in a new way and to redesign the services. Creative ideas must be implemented to solve the every-day working problems. Working together and letting the creativeness free is important to make the change happen in this formal and sometimes old-fashioned social- and health care environment. We must have a common goal, towards which we all work together regardless of profession. This is how we step up with our competencies. By recruiting an organisation artist to our organisation, we have succeeded to develop our recruiting, enhance our image and add value to our patients.

Healthcare logistics education – a novel way to support healthcare service provision

Authors: Miika Kuusisto¹, Ulla Kotonen¹, Ullamari Tuominen¹, Johanna Lammintakanen²

¹Lahti University of Applied Sciences, Lahti, Finland.

²University of Eastern Finland, Kuopio, Finland.

Context

Healthcare organisations have demanding material, patient and personnel flows and logistics may enhance these flows. However, there is a lack of shared understanding what kind of competencies are required from healthcare logisticians and how to meet these requirements at different educational levels. The HELP project, funded by Erasmus+, KA2 – Cooperation for Innovation and the Exchange of Good Practices, aims to develop Healthcare logistician education pathway from vocational education to doctoral studies and start the development of networks of healthcare logisticians as the long-term objective to create national and international networks of healthcare logisticians and healthcare logistics education institutions.

Methods

The HELP project partners (Lahti University of Applied Sciences (lead partner, Finland), University of Eastern Finland (Finland), Salpaus Further Education (Finland), Tallinn Health Care College (Estonia), Rotterdam University of Applied Sciences (the Netherlands), Zaragoza Logistics Center (Spain), and KU Leuven (Belgium)) have used multiple data collection methods to identify the competence requirements for healthcare logisticians. Methods include: 1) reviewing previous literature and research on healthcare logistics, 2) analysing curricula of current educational programs (vocational, bachelor, master and PhD whether focused on logistics or healthcare) in order to find out the relevant contents of and competencies for healthcare logistics, and 3) interviewing stakeholders in project partner countries. Furthermore, the competence requirements identified in different data sources have been analysed according to educational levels (vocational, bachelor, master and PhD). Based on the analysis, study modules for each educational level have been planned and they will be pilot-tested.

Results

The core competencies of healthcare logistics include healthcare logistics processes, economy, customer and stakeholder relationships, legislation and other regulations as well as sustainability. The healthcare logisticians should also have general working life skills and personal skills.

The vocational level study modules give a basic understanding of the special characteristics of healthcare organisations and logistics tasks in healthcare organisations. Bachelor level education increases knowledge, competencies and skills needed in expert logistics tasks in complex healthcare environments. The master level module creates knowledge, competencies and skills to manage logistics operations in healthcare organisations as well as to develop and implement healthcare logistician concepts in healthcare settings. The PhD study module gives knowledge of current healthcare logistics research, defines future research needs and topics in this field and increases competencies and skills to do high quality research and innovations in healthcare logistics.

Discussion

Competencies required from Healthcare logistician combine both healthcare related and logistics related competencies in addition to general working life skills and competencies. This quite novel combination of competencies may support smooth flows of healthcare processes and allow healthcare professionals to allocate their time to value-adding care. However, the education pathway is still at pilot stage and therefore, next step in this project is to pilot-test and evaluate the pathway carefully together with representatives of healthcare organisations.

Value-based healthcare as a complex innovation – A multiple case study of the adoption of value-creation strategies in Sweden and Brazil

Authors: Pedro Ramos¹, Pamela Mazzocato¹, Carl Savage¹

¹Karolinska Institutet, Stockholm, Sweden.

Context

Value-based healthcare (VBHC) is a framework that has been recommended for use in response to rising healthcare costs, and that has recently started to gain momentum in healthcare. In theory, VBHC may provide an agenda for healthcare organisations that aim to improve value for the patient. In practice, there is still very limited evidence on how it is being operationalised at different hospitals and health system settings worldwide and its impact in terms of improved value for patients. We study two organisations that are developing value creation strategies in two different countries with the aim of understanding how these strategies are being operationalised and determining the system and organisational-level circumstances that influence their adoption.

Methods

We developed a prospective multiple case study involving organisations designing value creation strategies in Sweden and Brazil. Karolinska University Hospital (KUH) is a Swedish Public tertiary hospital with 1600 beds and 15 800 employees. Hospital Israelita Albert Einstein (HIAE) is a Brazilian Private non-profit hospital with 650 beds and 12800 employees. Cases have been carefully selected to exploit the variation in these strategies between organisations and to enable comparisons at organisational (between areas) and national levels of content, process, and contextual factors that influence adoption at the system, organisational, and value care chain levels. Data collection included a document review and 40 semi-structured interviews with key stakeholders at both organisations. For selecting interviewees for each case, we used purposive sampling and contacted key stakeholders who had insights on VBHC adoption at each organisation; and snowball sampling thereafter, i.e. each participant identified additional organisational members who had insights on the transformation.

Results

To facilitate the transition towards a value-creating organisation, KUH is experimenting with new managerial roles and structures, such as Patient Flow Captains, interdisciplinary and interprofessional patient flow management teams that have the mandate to design, coordinate and evaluate care delivery across their care flow. Our interviews suggest that these new roles and activities create expectations that professionals should be engaged beyond direct patient care in the management and continual improvement of the organisation. However, individuals struggle to figure out how to effectively lead the transformation towards a more patient-centred approach. At HIAE, value creation strategies have been focusing on how to transform the financing system. The current fee-for-service model is perceived as a source of overtreatment, waste and inadequate clinical practices. Key stakeholders emphasise the most challenging aspect of the transformation is on maintaining open and transparent dialogue between different stakeholders (hospitals, payers, suppliers) who have long-standing relationships of distrust.

Discussion

Value creation strategies being developed are specific to the perceived problems in each organisational and health system context. The contextual differences between and within health systems, in addition to the wide range of strategies adopted by organisations adopting value creation strategies, generates an opportunity for developing empirical evidence on what about these strategies works, for whom and under what circumstances.

Towards a better management of peripheral venous access process: results from the field

Authors: Fabrizio Schettini¹, Emanuela Foglia¹, Elisabetta Garagiola¹, Emanuele Porazzi¹, Lucrezia Ferrario¹, Lionello Parodi², Irene Alfano², M. Enrica Auteri², Fulvia Ciarlo², Monica Cirone³, Arianna Mainetti², Monica Panucci², Anna Saccone², Barbara Zanella², Roberta Rapetti²

¹LIUC-Università Cattaneo, Castellanza, Italy.

²ASL n. 2 Savonese, Savona, Italy. ³ASL n. 2 Savonese, Castellanza, Italy.

Context

Peripheral Venous Catheter (PVC) is a largely used device in hospital setting, even though associated to adverse events (e.g. phlebitis, occlusion, etc.), leading to a consequently increase in patient morbidity and length of stay. Appropriate knowledge and skills are required to healthcare professionals, to manage appropriately the peripheral venous access. In this regard, an Italian Local Health Authority (ASL N.2 Savonese), has proposed an innovative standard procedure, that imposed also the use of three specific disposable devices for washing, infusion and cleaning of PVC. The proposed contribution aimed to study the process of management of peripheral venous access in clinical practice, also in relation with outcome measures achieved, and to define the related economic resources absorption.

Methods

Consecutive cases of patients were enrolled on an observational prospective study within five Hospital Medical and Surgical Departments, involving two Hospitals in Liguria Region (Italy), from September 2018 to January 2019. Inclusion criteria were: hospital stay from 4 to 15 days and the use of a PVC. Demographic (age, gender) and clinical (presence of comorbidities, A-DIVA Score, etc.) data were collected. Process mapping was conducted, gathering data related to the different phases of peripheral venous access management process (e.g. number of used devices, number of involved professionals, execution times, etc.). Activity based costing approach was implemented, assuming the Hospital's perspective. Data analysis was conducted, considering three different scenarios of standard procedure implementation, composed by three disposable devices use. *Scenario 1*) use of three disposable devices, with standard procedure; *Scenario 2*) use of two disposable devices, out of three, without standard procedure; *Scenario 3*) use of one disposable device out of three, without standard procedure.

Results

Patients (N=380) were predominantly female (54%), with an average age of 70 years and a low-risk of a difficult intravenous access (62% with A-DIVA score equal to 0 or 1, see Table 1). Professionals used the innovative standard procedure (Scenario 1), only for the 18% of patients: on average PVC remained in situ for 7.91 days. The process mapping analysis (Table 2) revealed that, on average, the process is carried by one healthcare professional, regardless of the considered scenario, and the Scenario 1 presented the lower time of execution (on average 4.39 minutes). The achieved outcome measures (Table 3) revealed that, in the Scenario 1, the 70.5% of the PVC removal was due to the end of the therapy, and not associated to adverse events, as in the other Scenarios (53%). Scenario 1 revealed a lower average number of attempts in PVC cannulation (1.92).

Discussion

The value-based approach implemented in the study, demonstrated the importance, in the management of peripheral venous access process, to consider efficacy, safety and organisational measures instead of only economic ones. The value-based approach implemented in the study, demonstrated the importance, in the management of peripheral venous access process, to consider efficacy, safety and organisational measures instead of only economic ones. The Scenario 1 demonstrated a lower incidence of adverse events, a reduced number of attempts in PVC cannulation, and a lower resource absorption (20.17 € per procedure). From an organisational perspective, the higher PVC stay in situ, and the low execution time of Scenario 1, implied an increased in operational efficiency related to the procedure.

A public-private collaboration to objectively measure the value of capnography monitoring

Authors: [Rhodri Saunders](#)¹, [Federica Janeke](#)²

¹Coreva Scientific, Königswinter, Germany.

²Medtronic Italia, Milan, Italy.

Context

Respiratory compromise is a known problem and patient safety concern during sedation. Methods for its early detection, such as waveform capnography, are available and included in guidelines but are not always made available during procedural sedation. Reasons for this include cost concerns and a belief that sedation is already safe. The growth of value-based healthcare provides an opportunity for capnography devices to be introduced to current care with limited risk or expenditure to the hospital. Through objective measurement of outcomes data, the true impact and value of capnography to the hospital can be quantified.

Methods

Working with hospitals undertaking quality improvement initiatives in procedural sedation, capnography monitoring was introduced in addition to the hospitals' current standards of care. A de-novo digital solution was developed for each hospital to collect outcomes data. These included SIVA-defined, sedation-related adverse events and interventions, as well as patient and/or procedure parameters considered by the hospital team to be risk factors for adverse events during sedation. Data were limited in scope and enforced to be categorical to prevent patients from being identifiable. All participating hospitals provided ethics approval, or a waiver was granted by the relevant hospital body.

At each hospital, a baseline reading for current care was undertaken first. After this, capnography was introduced to the sedation suite and comprehensive training on the use of capnography and safe sedation was provided. The programme targeted a 20% reduction in the incidence of oxygen desaturation, severe oxygen desaturation, tachycardia, and bradycardia.

Results

This private-public collaboration into the value of capnography is currently complete or underway in 8 hospitals in Europe and North America. Of three completed sites, two surpassed the targeted 20% reduction. In sites with comparative data available, use of capnography was associated with a reduction in the requirement for escalations of care, including admission to the ICU. In line with clinical studies and meta-analysis, the largest reduction in adverse events was generally seen in oxygen desaturations. The adverse event rate with capnography tended to decrease over time as staff became familiar with and trusted capnography.

We found that tracking outcomes data added burden to staff. As such, successful implementation of the program required that the decision to undertake the quality improvement initiative came from senior management and had buy-in from the department staff. Training was imperative to the program and often more than one training session was required.

Discussion

Initial results of this value-based healthcare program are positive. In most cases the perceived value of capnography is high. As yet, no full cost-benefit analysis has been completed; though by avoiding rare but expensive inpatient admissions, initial estimates indicate that capnography will be cost effective for hospital departments.

The program has demonstrated the importance of partnership in understanding individual hospital needs and designing solutions that provide value. As this program focuses on outcomes not captured in electronic medical records, there was a need for objective data collection and analysis. Insights from these data drove program improvements. Clearly technology is only a part of any solution, and here a commitment to guidelines, education, and process optimisation combined to benefit patient safety. We hope that program can be a template applied in more hospitals and for more devices. Results could drive pay-for-value contracting if hospitals are ready to consider new purchasing models.

Closed-system devices in the chemotherapeutic infusions preparation and administration: a value-based HTA

Authors: Lucrezia Ferrario¹, Emanuela Foglia¹, Fabrizio Schettini¹, Adriana Cecchi², Lucia Lugoboni³, Paolo Serra⁴, Elisabetta Garagiola¹, Emanuele Porazzi¹

¹LIUC Business School, LIUC-Università Cattaneo, Castellanza, Italy.

²ARCS – Azienda Regionale di Coordinamento per la Salute, Udine, Italy.

³Bee Care, Breganzona, Switzerland. ⁴Brotzu Hospital, Cagliari, Italy.

Context

In the clinical care, the cytostatic compounding has become a major challenge for hospital pharmacy services. The closed-system devices have acquired a significant importance, both in the preparation (CSTD) and in the administration phase. Literature evidence and recommendations declared their safety profiles, with regard to antineoplastic drugs exposure, in a hospital working environment, thus also reducing wastes, concerning drugs and medications errors. Furthermore, CSTD systems could be integrated in the specific preparation phase, by a traceable workflow, using the gravimetric control, and reducing the potential errors associated with healthcare professionals' visual inspection.

Methods

The aim of the study was a multi-dimensional evaluation of the benefits concerning the introduction of innovative medical devices, for the preparation and administration of chemotherapy agents (integrated or not with a traceable workflow). Outcome and economic measures, safety (for patients, healthcare professionals and environment), and the accessibility to care, have been evaluated, in order to guarantee a positive value-based impact of different technological approaches for patients.

The above aspects were deployed, considering: *i*) a systematic literature review; *ii*) the administration of qualitative questionnaires, filled by 34 professionals (considering a 7-item Likert scale, ranging from -3 to +3); and *iii*) health-economics tools, useful for the pathway economic evaluation and budget impact analysis. Four different scenarios, implying four level of technologies introduction, were analysed (Table 1), on the basis of presence and/or absence of closed systems and traceable workflow, in the preparation and in the administration phase.

Results

Literature evidence stated that CSTD and traceable workflow introduction could: *i*) decrease both surface (12.24% vs 26.39%, $p < 0.0001$ - Simon *et al.*, 2016) and healthcare professionals contamination (6.3% vs 77.9%, $p < 0.05$ - Miyake *et al.*, 2013), and *ii*) improve the capability to identify dosage errors (7% vs 0.096%, $p < 0.05$ - Reece *et al.*, 2016).

Table 1 reported differential economic and efficacy measures. The most innovative scenario (4) presented the best trade-off between cost and efficacy (i.e. "dominant solution").

Results from budget impact analysis (Table 3) showed hospitals would require marginal investments ranging from +0.51% to +7.01%, in case of adoption of the traceable workflow.

Focusing on patients' perspective (Table 4), perceptions suggested that, in a condition of complete availability of such medical devices, the innovative technologies could be accessible to all the patients requiring an infusion, with an improvement, in the patients' perceived satisfaction and quality of life, as well as in achievement of high-quality standard of care, for the management of oncologic patients.

Discussion

The introduction of innovative technologies devoted to the preparation and administration of chemotherapeutic drugs, may be considered as valid technological alternatives, within the investigated setting.

Besides significant advantages from a safety and an efficacy profile, the marginal incremental costs required for the introduction of advanced technologies, could be absorbed already in the first year, after their introduction, especially with reference to the possibility of freeing-up a human resource in the specific preparation phase, according to a gravimetric control approach. In particular, hospitals would benefit from an organisational saving equal to 1,760 working hours of a healthcare professional.

Value-based healthcare approaches supported the demonstration of the strategic relevance in the advanced technologies introduction, their economic sustainability and feasibility, as well as the potentialities in process improvement, with important benefits for patients.

The use of real-world effectiveness measurements in clinical settings at Helsinki University Hospital

Authors: Kati Koskinen¹, Maija Hytönen^{2,3}, Pirjo Räsänen¹

¹Helsinki University Hospital, External Evaluation Unit, Helsinki, Finland.

²Helsinki University Hospital, Department of Otorhinolaryngology – Head & Neck Surgery, Helsinki, Finland.

³University of Helsinki, Helsinki, Finland.

Context

It is important to measure the effectiveness of the treatment. Patient reported outcomes are nowadays collected routinely alongside clinical trials, but those results do not reflect the real-world effectiveness (RWE), since the patients are carefully selected for the trials. Little is known about the use of routinely collected effectiveness measurements in clinical work. The objectives of this study were to assess 1) the use of RWE measurements in routine clinical treatment in Helsinki University Hospital (HUS) and 2) the instruments which were applied to collect that data.

Methods

A systematic literature search was made using several databases. The first screening of articles was based on abstracts read independently by two of the authors. Abstracts fulfilling the inclusion criteria were selected for further inspection. Full-text articles were evaluated by two authors independently. If there was any discrepancy the third author read the article and decision was done by the whole study group.

The inclusion criteria were 1) the article reported the RWE of the patient treatment, 2) generic or disease specific quality of life (QoL) measurement or direct valuation method had been applied, 3) the assessment had been done by a patient or a close relative, 4) effectiveness was measured before and/or after the treatment, 5) the patients reported were consecutive patients, 6) the number of patients was at least 20, and 7) the article was published between 2000 and August 2017.

Results

A total of 3107 abstracts were identified and of them 170 articles fulfilled the inclusion criteria. The mean number of yearly published articles was 9.7. However, the number of articles published had increased during the last years.

Generic QoL instrument (for example 15D, EQ-5D) was used in 87/170 articles (51.2 %) as the primary measurement. Most of those studies also reported the use of disease-specific or direct valuation instruments. Disease-specific QoL instruments were used in 58/170 articles as a primary measurement.

QoL was measured both before and after the treatment in 56.0 % and due to the nature of the disease (for example accidents) only after the treatment in 44.0 % of the articles included. Most articles were within Surgery (n=56), Gynecology (n=21) and Pediatric surgery (n=20).

Discussion

As far as we know this is the first systematic review where the number of RWE studies published from a large special health care hospital district has been compared to the total number of the studies published from the same area.

The articles revealed that the RWE studies published have often been a project, but the RWE measurement has not become a stable routine practice in every day clinical work after the project has been finished.

Our study showed that the number of articles published from HUS assessing RWE is still very limited compared to all articles published from HUS.

Current economic evaluations in health care industry: can they address all the uncertainty?

Author: José Vale¹

¹ARSLVT, Lisbon, Portugal.

Context

Increasingly, health economic evaluations are being considered supportive for decision making on healthcare interventions. Health industry shareholders expect to optimise profit and improvements in health outcomes. Real world healthcare management and investment decisions are characterised by uncertainty, irreversibility and adaptation. Most measures are not adjusted for all health and economic variables. It is important that interventions are effective not only in terms of health gains but also outweigh the costs of the intervention and service. The main objective is to present different methods of value-based evaluations in health care, and to derive discussion topics based on this conceptual analysis.

Methods

Databases and search terms were selected based on recommendations for retrieving relevant economic evaluation studies (PubMed, Embase, CINAHL and PsychINFO) and were searched using the search term combination “costs” AND “analysis” AND “health” AND “economic” AND “evaluation” OR “net present value”. Of the studies found, all duplicates, design articles, and animal studies which passed the search filter were excluded. All titles and abstracts were then checked for describing health economic evaluations. Finally, full texts were examined for describing full health economic evaluations.

Results

A commonly used tool is the Net Present Value (NPV) calculation, which couches decisions in terms of financial future impact. The application of a discount rate to future cash flows is critical to this analysis but has been met with scepticism in the health care literature. NPV provides a static view and assumes passive commitment to an investment strategy. There are several modifications of the classical NPV concept to combine into a single figure the various operating characteristics of a healthcare investment program. Other metrics for decision making are cost-effectiveness and cost-benefit analysis. In the therapeutic intervention’s framework, the incremental cost-effectiveness ratio and the net monetary benefit have been used. On a different scope, real options analysis is applicable when investment decisions are irreversible and where there is opportunity to delay them until more information is gained.

Discussion

Decisions in healthcare management and investment are characterised by multiple uncertainties and involve sunk costs. A broader understanding of the several calculations methods by clinicians, the public, and policy makers could have positive effects. Although simpler heuristic methods exist, and provide insight, their application is limited to problems with fewer sources of uncertainty and where risk is addressed sequentially in phases. For addressing more complex investment problems, new simulation approaches have emerged that are flexible, can consider multiple uncertainties, and are much simpler than earlier methods. A real practical model which incorporates multiple factors, sustain effective interventions, drive down health care costs and improve population health is required.

Swiss Federal Health Care Costs Statistics – A modularised-dynamic step forward to comprehensive steering

Authors: Ulrich Wagner^{1,2,3}, Michael Lindner¹

¹Swiss Federal Statistical Office, Neuchatel, Switzerland.

²University of Bucharest, UNESCO Chair, Bucharest, Romania.

³National Institute for Cancer Epidemiology and Registration, University of Zurich, Zurich, Switzerland.

Background

Increasing health care cost burden

- Health care costs as an important political challenge (growth 3.7% / year);
- Health care costs grew stronger from 1995 to 2016 (+113%) than the economy (+63%);
- Expenditure per capita and month: 444 CHF in 1995, 801 CHF in 2016;
- Renouncing of healthcare services out of financial motivation: 3.6% of population.

Influencing conditions

Difficult data situation – many estimations – focus on MHI-Data

- Claim of this synthesis-statistic: information about the totality of health care costs (80 bn);
- Exclusive grounding on complete surveys not possible, since those cover only at max. 58% of health care costs (see figure);
- Even secondary data (e. g. billing data) only available with limits;
- Filling of gaps via estimations;
- Mandatory health insurance (MHI)-premium with 300 CHF per capita (29 bn. In total) in focus of public scrutiny and in the center of political steering;
- Total costs nevertheless at 800 CHF per capita and month (80 bn in total) → core question of synthesis-statistic: which information can be given about the Non-MHli-sector of 500 CHF per capita (51 bn.)?

Mechanism

Reciprocal cementation of difficult data situation, on-sided steering information and subsystem-optimisation

- Is the focus on MHI-data cemented, only out of timely availability?
- Steering competence of the confederation only for a part of the financing (MHI + other social insurances), of the cantons for the whole system of provision;
- Confederation and cantons are only capable to a incomprehensive steering/subsystem-optimisation, if they only use MHI-Data:
 - CH has in international comparison a low MHI-proportion (35.7%), but a high proportion of out-of-pocket-financing (28.9%);
 - Data about total financing available in national dataset;
 - Standardised, for comparisons usable, data to total costs missing on the cantonal level (one exception);
- Necessity for unified, intercantonal and publicly usable steering data as a correlate of cantonal polity competence for the health care system;
- Intercantonal benchmarking necessary and possible to promote and secure the innovation potential, which stems from decentralised policy competence.

Measure 1: Separation of classification and data availability

- Change of paradigm: classification should mirror permanent data needs and not present data availability;
- Transparency about data gaps, in order to set incentives, to improve data quality;
- Result: classification theoretically allows 77'140 cells, currently occupied are 2'267 cells.

Measure 2: needs-oriented-complexity – data register on 1 A4-page

- Data needs in the Swiss health care system are necessarily complex;
- Complexity only tractable on the grounds of theoretically demanding innovations in the analytical model → «needs-oriented-complexity» as solution path;
- Complexity is not eluded, but can – according to needs – be faded in or faded out;
- Results: a comprehensive data register with description of methods is fitted on one A4-page.

Measure 3: Adaption of data sources and methods in a two-year-cycle

- Insight: Data register cannot be fixed on a single point in time, since data availability is permanently changing;
- Creation of the necessary prerequisites in order to make possible that changed data can be incorporated in the model, without destabilising it;
- Actualisation of used data in a two-year-cycle, retropolation of data since 1995, on the base of past growth rates;
- Only in dialog with current or potential stakeholder (owners and users of data) can medium-term improvements of the quality of data and methods realised.

2019

PhD Students' Session

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Frequent attendance of occupational health primary care is linked to sickness absences and disability pensions – better integration is needed for a comprehensive response

Authors: Tiia Reho^{1,2}, Salla Atkins^{1,3}, Nina Talola¹, Markku Sumanen¹, Mervi Viljamaa², Jukka Uitti^{1,4,5}

¹Tampere University, Tampere, Finland.

²Pihlajalinna, Tampere, Finland.

³Karolinska Institutet, Stockholm, Sweden.

⁴Finnish Institute of Occupational Health, Tampere, Finland. ⁵Tampere University Hospital, Tampere, Finland.

Context

High consultation frequency in healthcare units is associated with ill-health and chronic illnesses. Frequent attenders (FAs) also create a substantial portion of primary care workload. We conducted a study to characterise FAs within occupational health primary care, using electronic medical records and national pensions registers. In this presentation, we discuss these results highlighting their implications for integration and digitalisation of healthcare.

Methods

The study was longitudinal using medical record data (2014–2016) from a nationwide OH care provider in Finland (Pihlajalinna). In total, 59 676 patients were included and categorised into occasional (FAs in 2014 only, n=2468) and persistent FAs (FAs in all study years, n=592, 0.9% of the study population) or non-FAs. Sick-leave episodes and their lengths were collected along with associated diagnostic codes. Logistic regression was used to analyse associations between FA status and sick leaves of different lengths (1–3, 4–14 and ≥15 days). Odds ratios for disability pension (DP) were analysed for these groups taking into account preceding sickness absence days. The awarded DP and associated diagnostic codes were obtained from the Finnish Centre for Pensions and data on primary care visits and sickness absences from Pihlajalinna electronic medical records.

Results

Persistent FAs made altogether 23,797 (6%) of all visits in the study years and one out of five occasional FA became persistent FA. Both occasional and persistent FA had more and longer duration of sick leave than non-FA through the study years. Persistent FAs had consistently high absence rates while occasional FAs had elevated absence rates even 2 years after their frequent attendance period. Persistent FAs (OR=11 95% CI 7.54 to 16.06 in 2016) and occasional FAs (OR=2.95 95% CI 2.50 to 3.49 in 2016) were associated with long (≥15 days) sickness absence when compared with non-FAs. Occasional and persistent FA also have more DPs than non-FA. During follow-up 14.9% of pFA, 9.6% of 1yFA and 1.6% of non-FA had any of these incidents. Musculoskeletal disorders are the most common reason for illness-based retirement in all groups, but occasional and persistent FA have proportionally more mental disorders leading to disability pension.

Discussion

FAs spent considerable healthcare resources and frequent attendance was shown a risk for future sickness absence and disability pensions. Consultation frequency is a marker that could be used to identify patients in need of care coordination and rehabilitation. Though our data was comprehensive in occupational health, there was no information available about the extent that these clients used other healthcare services. In the public sector, studies on FA in Finland have shown them spending considerable resources. We will discuss how integration of healthcare, and the information systems they use, can identify and support high need clients.

The healthcare purchaser as a care chain orchestrator: enabling and limiting effects of healthcare systems and policy

Author: [Bart Noort](#)¹

¹University of Groningen, Groningen, Netherlands.

Context

Healthcare purchasing organisations like insurers or governmental bodies are expected to drive better chronic care delivery in terms of quality, access and costs. We know purchasers can do so through a mix of relational, contractual, regulatory or financial tools. Still, purchasers in different healthcare systems struggle to actually contribute to better care delivery. This dissertation addresses this issue and aims to answer the following questions: How do healthcare system characteristics drive different purchasing strategies? How and why does a healthcare purchaser adopt different institutional logics? How do different institutional logics affect purchasing strategies and consequently improvement of chronic care delivery?

Methods

First, we present a multiple case study conducted in England, Sweden and the Netherlands, which investigates how healthcare system characteristics shape a purchaser's strategies and actions. We conducted interviews with managers and professionals of purchasing bodies and care providers to establish key healthcare system characteristics. Subsequently, we explained how these characteristics lead to different purchasing strategies and actions. In our second case study, we collected interview and observational data and longitudinally followed a case of a purchaser-provider collaboration aimed at improving Chronic Obstructive Pulmonary Disease (COPD) care. We have taken a theoretical lens of institutional logics to clarify what logics drive the purchaser's behaviour and why different logics emerge or disappear. Third and last, based on the latter case, we present a quantitative evaluation of the costs and health impact of joint efforts of a purchaser (health insurer) and multiple providers to improve chainwide COPD care delivery.

Results

Comparing healthcare system characteristics between countries shows that purchaser competition, purchaser governance and patient choice highly affect how purchasers pursue chronic care improvement. These healthcare system characteristics influence whether purchasers take a cost versus health focus, a short- versus long-term perspective, and a collaborative, regulatory or coercive approach in managing care chains. Furthermore, with the theoretical lens of institutional logics we distinguish a bookkeeper's and orchestrator's logic within the purchaser. Our longitudinal case study shows how building-up trustworthy relationships with providers encourages an orchestrator's logic where purchaser managers take a more chain-wide, long-term and collaborative approach. Yet, poor relationships with and between primary and secondary care providers, external pressures and lacking transparency pushes the purchaser back into the bookkeeper's logic. Finally, we show that the orchestrator's logic enables improvement initiatives and thereby improves COPD care outcomes. The relapse into the bookkeeper's logic, however, hampers translation of improvement into usual care.

Discussion

Our research shows that both private and tax-based healthcare systems possess characteristics that facilitate or limit purchasers' chronic care chain management. It is thus not just a matter of market versus government that shape a healthcare purchaser's strategies and actions: policy makers should consider a multitude of enabling and limiting factors. Professional governance, for example, leads to collaboration and mutual understanding, while competition creates incentives that estranges purchasers and providers. When considering ways to improve healthcare purchasing, policy makers may encounter dilemmas. It is currently a trend to organise 'patient-centred' care and give citizens as much as possible choice for providers. Our research however shows that such policies hamper the influence of purchasers and creates distance between providers, thereby complicating improvement of chronic care delivery. In order for healthcare purchasers to become orchestrators, health policy needs to further align purchaser's and provider's goals and interests to benefit population health.

The effect of preoperative protein intake on patient-relevant outcome measures – Experiences of a value-based health care project

Authors: Nina Zipfel^{1,2}, Stef Groenewoud², Benno Rensing¹, Edgar Daeter¹, Paul van der Nat¹

¹St. Antonius Hospital, Nieuwegein, Netherlands.

²Radboud university medical center, Radboud Institute for Health Sciences, Scientific Center for Quality of Healthcare (IQ healthcare), Nijmegen, Netherlands.

Context

The Value-based health care (VBHC) study at the St. Antonius Hospital was initiated to investigate whether steering on outcome measures leads to improved patient value by identifying and implementing improvement. In the Netherlands and specifically the St. Antonius Hospital, the concept of VBHC is supported and most advanced in heart care. Due to its high prevalence and the application of VBHC, Aortic Valve Disease (AVD) was chosen as a focus. During the first phase a method was developed on how to identify and select improvement initiatives based on outcomes. In the second phase an improvement initiative was implemented and was evaluated during the last phase. The improvement initiative, where doctors expected highest impact on outcomes, is protein-enriched diet for older patients with AVD.

Methods

The improvement initiative was designed for all elective patients older than 65 years undergoing Surgical Aortic Valve Replacement (SAVR) or Transcatheter Aortic Valve Replacement (TAVR). Two weeks prior to the scheduled operation, the participants received two boxes with protein-enriched food and drinks which were sent to the patients' homes. Effect on patient-relevant outcome measures was evaluated with a before and after study design with a combined endpoint consisting of 30-day mortality, vascular complications and length-of-stay longer than eight days. Outcome data from the Netherlands Heart Registry from 2013-2016 formed the before measurement which was compared to outcome data from 2017-2019. The outcomes will be evaluated with chi-square test.

Results

Preliminary results show that offering protein-enriched foods and drinks to older patients before cardiac surgery significantly increased protein intake. The effect on patient-relevant outcome measures is currently evaluated and will be available at the time of the conference.

Discussion

VBHC helps shaping quality improvement projects, but it needs support of systematic methods for practical application. When implementing improvement based on VBHC, it is important to properly monitor outcomes but also process measures in order to gain quicker insights for a decision on the added-value of an improvement initiative. The role of clinical relevance vs. statistical significance plays a significant role.

Healthcare's competition conundrum; cooperative inter-organisational strategies in competitive healthcare markets

Author: Daan Westra¹

¹Department of Health Services Research, Care and Public Health Research Institute (CAPHRI), Faculty of Health, Medicine, and Life Sciences, Maastricht University, Maastricht, Netherlands.

Over the past two decades, several countries have introduced pro-competitive reforms in an attempt to curb increasing healthcare expenditures. However, the advantages and disadvantages of competition in health care have been widely debated. The majority of the academic work on the matter utilises traditional (micro)economic approaches. These largely fail to capture the effect of competitive pressures on various forms of cooperative inter-organisational arrangements between providers. Nevertheless, such arrangements are essential in modern-day healthcare delivery and are important determinants of care integration and patient outcomes. This dissertation aimed to fill this knowledge gap by unravelling to which extent the introduction of competition influenced the cooperative inter-organisational strategies of healthcare providers.

The dissertation includes six inter-related conceptual as well as empirical studies. The majority of these have been published in top-tier, international peer-reviewed outlets within the healthcare management field. The empirical work was conducted in the Netherlands, following the pro-competitive reform of the country's healthcare sector in 2006. Methodological advancements include the use of cutting-edge quantitative methods, such as multilevel regression models and longitudinal social network analysis, and the integration of quantitative and qualitative evidence in mixed-methods studies. The empirical work utilises a unique combination of primary (e.g. interviews) and secondary data sources (e.g. insurance data, annual reports, and quality registers) at various units of analysis (i.e. individuals, organisations, and networks), which allowed for data triangulation and rigorous analyses.

The dissertation conceptualises horizontal inter-organisational networks between competing healthcare providers as an important precursor of patient level outcomes. As such, its theoretical contribution lies in emphasising the meso level (i.e. organisational and inter-organisational) in the evaluation of healthcare policy reform. These inter-organisational relations are operationalised in three ways; as interlocking directorates, shared medical professionals, and patient referrals. The dissertation empirically explores all three types of inter-organisational relations between competing healthcare providers. The various studies indicate that strategic as well as patient-oriented rationales drive the formation of these relations. However, networks of inter-organisational relations do not automatically emerge in optimal structures. Following the proliferation of competition in the Dutch healthcare sector, the various forms of inter-organisational have become increasingly common. Competitive forces play a significant role in this process. Competitive pressures increase providers' tendency to form horizontal inter-organisational relations with similar providers. However, providers do seem to form these relations with organisations in distinct geographical markets.

Overall, the studies included in the dissertation reveal that healthcare providers respond to increased price-competitive pressures by strategically forming various inter-organisational relations. Policy makers should be weary of such effects following policy reforms. While inter-organisational networks have the potential to improve patient outcomes, they need to be carefully structured and managed to fulfil their potential. In competitive markets, they are furthermore subject to antitrust scrutiny.

Contact Info:

**European Health Management Association: Rue Belliard 15-171040
Bruxelles, Belgium**

+32 (0)2 502 6525 info@ehma.org