Evidence-Informed Decision-Making in Healthcare Management

European Hospital & Healthcare Federation

Evidence-Informed Decision-Making in Healthcare Management

REPORT ON HOPE AGORA

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Content

Dear colleagues,

I am pleased to have you with us to participate in this year conference Hope Agora 2019. Thank you for coming. That many of you have travelled long distances to be here serves as a reminder to us all just how important our work is.

I am very glad that in the course of the next two days you will discuss evidence-informed decision-making in healthcare. Managers, just as doctors, nurses and ministers, have a lot of autonomy in taking decisions. At the same time, what I see in my role as minister is mostly the responsibility that comes with this autonomy. It is the responsibility to weigh in all the facts, as well as the needs of patients, healthcare workers, other stakeholders and our goals and values. We may not always know what the right decision is at any given moment. However, if we look at the scientific knowledge, the available data and if we consider what stakeholders have to say, we may avoid taking decisions with unwanted consequences that could have been predicted.

As a minister I represent a high level of decision-making in the country. This is the level where policies are formally approved. I use the term "formally approved" on purpose. I don't make policies; we as a society make the policies. The government I am a member of, or sometimes the Parliament, formally approves policies. But the formal approval should only be the last step in a long process of dialogue with stakeholders. As a minister one is often faced with expectations from some people, to take the action they think is necessary. But taking decisions with broad and far reaching implications is a complex process. Evidence-informed decision-making is not about avoiding responsibility for our own decisions. On the contrary, it reminds us how big this responsibility is. Decision-making that is indeed informed by all kinds of evidence is a humbling exercise.

In an era when some people do not believe in the effectiveness of vaccines and some even think the earth is flat, it is essential to look at the facts before we take decisions. Once we looked at the facts, we need to have a dialogue about what we need, what we want and about our values. Only then we can understand the decision we take, as well as those taken by others. In such an environment the success of the healthcare system will not depend anymore on a single minister or a single manager but will be the success of a society.

Ladies and gentlemen, I am confident that we can all make a crucial contribution to the changes in the process of decision-making with best interest regarding patients.

You have enriching sessions ahead and an opportunity to share experience and good practices.

Thank you and welcome to Ljubljana.

Aleš Šabeder

Minister of Health of the Republic of Slovenia

INTRODUCTION

From 2 to 4 June 2019, the Association of Health Institutions of Slovenia hosted in Ljubljana the HOPE Agora 2019 "Evidence-Informed Decision-Making in Healthcare Management".

This HOPE Agora 2019 concluded the 38th edition of the HOPE Exchange Programme that involved 123 participants from 23 out of the 30 countries represented in HOPE. As usual, during the event, the HOPE Exchange Programme participants reported on their 4-week stay abroad with numerous initiatives in different health care settings. The HOPE Exchange Programme is pivotal in achieving the HOPE objective of promoting knowledge and expertise sharing within the European Union and beyond. It offers a chance for participants to receive invaluable training and experience from hospital and healthcare professionals across Europe. It equips participants with a better understanding of how Europe's healthcare and hospital systems work. It also facilitates shared learning and the exchange of best practice.

In order to study the use of performance data for institutional management and governance, this year HOPE established a collaboration with the University of Amsterdam and researchers in the Marie Sklodowska-Curie Innovative Training Network (ITN) for Healthcare Performance Intelligence Professionals – HealthPros.

Prior to the beginning of the Exchange Programme, 2019 participants (as well as previous years' participants) were asked to complete an online questionnaire about the use of performance data in their own professional environments. During the HOPE Exchange Programme, participants were also asked to be observant of the practices in this area in the countries and institutions they will visit and provide brief feedback prior to the Agora. The feedback was provided by sharing notes on the experience, guided by a template with prompting questions and by integrating observations in the country presentations. During the Ljubljana Agora, participants also had an opportunity to learn about preliminary results of the questionnaire and discuss them in detail.

The HOPE Agora on Evidence-Informed Decision-Making in healthcare management then discussed the challenges and opportunities for strengthening the use of evidence in decision-making in healthcare management. The aim was to understand different approaches on decision-making in healthcare employed by managers, researchers, decision-makers, patients and other stakeholders. The end results were exchanges of experience in evidence-informed decision-making implemented by healthcare organisations in European countries.

During the two-day event, the point of view of researchers, policy makers, managers and many other stakeholders was considered and confronted with the experience of the HOPE Exchange Programme participants.

CONFERENCE

HOPE President Eva Weinreich-Jensen opened the HOPE Agora 2019 welcoming participants by highlighting the contribution of the HOPE Exchange Programme to European health systems challenges and the importance of exchanging good practices that ultimately benefits the patients.

The audience was then addressed by three Slovenian speakers: Aleš Šabeder, Minister of Health of the Republic of Slovenia; Marjan Pintar, Director of the Association of Health Institutions of Slovenia and Marjan Sušelj, General Director of the Health Insurance Institute of Slovenia.

The conference was divided in three modules with representatives of key-healthcare organisations, policy makers, researchers and managers. The first one was setting the scene and asking if evidence is useful for management and governance of health institutions. The second focused on describing approaches to improve evidence-informed decision-making. The third module clarified what is the state of art, providing concrete examples on evidence-based practices implemented in Europe and beyond.

Module 1 – Setting the scene: Is evidence helpful for management and governance of health institutions?

Evidence – informed healthcare management

Dorjan Marušič, Minister of Health of the Republic of Slovenia 2010–2011

"Quality and safety should prevail on productivity. Productivity is dangerous for healthcare systems."

Dorjan Marušič started by defining Evidence-Informed Healthcare Management (EIHM) and Evidence Based Medicine (EBM). EIHM is the systematic application of the best available evidence to management and decision-making. It aims at improving the performance of health service organisations. EBM refers to the use of scientific data to confirm that proposed diagnostic or therapeutic procedures are appropriate for producing the best and most favourable outcome.

Evidence can be scientific – if based on researcher's view – or colloquial – if it refers to broader views outside the scientific community.

The implementation of evidence-based knowledge will lead to standardisation and cost-effective approach to manage most of the diseases. Data on outcomes should increasingly be used to develop standard protocols for treating many diseases. This results in a movement towards quality and safety.

Data available shows that 8% - 12% of all patients admitted to hospitals are exposed to adverse events. 20% - 25% of care is not needed or potentially harmful. Yet, the 20% of health spending is wasteful.

The share of potentially avoidable hospital admissions due to five chronic conditions varies significantly across OECD countries. There are 4.9 percentage points between the highest and the lowest value.

Amenable mortality is defined as premature deaths that could have been avoided through timely and effective healthcare (*Eurostat*, 2014). More than half a million deaths would be avoided in the EU with more timely and effective healthcare. But there are differences across the EU member states.

Never as much as today healthcare systems have been (should be) interested and involved with the potential benefits deriving from evidence, collaboration, participation, innovation, knowledge, integration and data management to increase quality and safety.

The main goal of healthcare is to improve value for patients. Value is calculated dividing the health outcomes that matter for the patients with the costs of delivering these outcomes. Health outcomes are condition-specific and multidimensional. For any medical condition, no single outcome captures the results of outcomes of care. What matters? We are trying to deviate from standards, and we are convinced that this would bring to good outcomes. The question is whether we are driven by outcomes.

Dorjan Marušič gave the example of a patient that decided not to have groin hernia operation, once the doctor showed some PROMs data. The patient decided to wait and evaluated positively the surgeon's choice to present these data. The opinion on the success of surgery varies between surgeons and patients.

Today we are in a period of transition and lots of work needs to be done. Changes occur in information and communication technologies, citizen expectations, payment systems and provider configuration.

Dorjan Marušič wondered whether we are ready or not for new technologies and personalised medicine. In the 21st century healthcare challenges are met by transformation.

Conversely to the general opinion the main reason for fast expenditures growth in healthcare is not ageing. He says that 23% is due to new healthcare technologies and methods; 5% to demographic changes and 30% to other changes. Epidemiologic changes decrease the costs (-8%) and half of the growth was not explained. (Dormont et al, 2006).

The potential approach to adopt is to rely on Evidence-Informed Decision-Making (EIDM). However, there are barriers on several levels to face such as:

* Insufficient policy support and political will. Inadequate financial resources to support the practice. Lack of accessibility and presentation of management research evidence;
* Lack of senior management encouragement of the practice. Resistance to change among staff and management. Insufficient time available for managers to adopt evidence-based approach;
* Lack of the perceived relevance of management research. Inadequate skills in searching for and appraising evidence.

Conversely, organisational factors that encourage the uptake of EIDM are:

* Role of health service boards;
* Promotion of success of previous EIDM;
* Strong leadership;
* Promotion of new skills and capabilities;
* Provision of incentives;
* Focus on quality;
* Up-to-date information and information systems;
* Clinical governance as a promoter of standards of clinical practice.

The starting point shall be the organisation. The focus should be far away from productivity. The new medical director profile shall merge managerial and professional skills. EIDM is important in improving the quality of management decisions, and hence, improving effectiveness, efficiency, quality and safety of service delivery.

Incentives for evidence-informed management in public healthcare organisations

Petra Došenović Bonča, Faculty of Economics - University of Ljubljana

"Should we maximise outputs with given resources or minimise resources for a given output?"

According to Petra Došenović Bonča health outcomes could be what is not expected. It is necessary to look at three concepts: efficiency, effectiveness and utility. The management of health providers is focused on the concept of technical efficiency. It could be achieved maximising outputs with given resources or minimising resources for a given output. Which approach should public providers follow? Profit is not always a positively perceived word.

Non-profit goods and services features are subject to imperfect competition (monopoly), externalities, imperfect and asymmetric information. Moreover, non-profit provision means that benefit is not redistributed. This implies that no one has a legal claim on the non-profit residual. With these features the market does not work thus it is necessary to adjust it. Do not distribute the benefit leads the regulator to create either a tax incentive or legislative provision to encourage reinvestment in healthcare.

In public health systems there are weak incentives for cost minimisation if no one has a legal claim on the non-profit residual. This brings to financial payment models and non-financial supply side incentives.

The payment models presented were:

* Fee-for-service payment: providers with limited possibility to induce demand and output goals;
* Case-based payment (e.g. DRGs): incentive to minimise costs for treatment of cases within a given case category;
* Capitation: incentive to minimise costs and to engage in prevention.

Evidence based management on payment models shall be carefully set in order to take advantage of data in the best way possible. Meaningful information on performance and peer-to-peer comparison have been proven to lead to an intrinsic response much larger than profit incentives. These are non-financial supply side incentives.

Resolving the principal agent problems means working on governance; recognising and understanding of the role of supply-side incentives; reorganising healthcare providers so that real decision-makers are incentivised, and financial and non-financial incentives can work together; managing under hard budget constraints.

For implementing successful payment models, it is necessary to take into consideration that providers are not producing the same outcomes as well as to transfer surpluses from one part to the other of the system.

Module 2 – What can we do to improve evidence-informed decision-making

Slovenian experience in evidence-informed management: Smart System of Integrated Healthcare and Home Care – Evidence-based chronic disease management

Dominika Oroszy, University Medical Centre Ljubljana and Peter Pustatičnik, Telekom Slovenije

"What can we do to improve Evidence-Informed Decision-Making?"

As we are facing a digital transformation process, the main question for Dominika Oroszy concerns the readiness of health systems for the future. The digital transformation has rapidly changed our society. Integrated information, social networks, Internet and smartphones have a major impact on our private life. Moreover, most countries are dealing with an epidemic of chronic diseases and long-term conditions. Patients are also changing. They are fully connected, use wireless sensors and devices; and the 70+ generation is still fully enjoying life.

Integrated healthcare is the answer for sustainable, effective and safe healthcare. Data management and General Data Protection Regulation will be big challenges as well as opportunities in the future. Health systems are under pressure and more resources are not the answer. The solution stays in changing the way we work, to cope with all these challenges.

All domains shall be connected. The healthcare transformation of the future will be the result of full integration of preventive medicine, personalised medicine and home care with information and communication technologies. To achieve this, we must change the way we work today and learning new skills. Change management for clinical staff consists in the implementation of digital technology in clinical care pathways; remote patient management; interpretation of patient-generated data; data management, privacy and regulations. Change management for organisations means clear responsibilities; job descriptions; change in interprofessional relationship; integrated care; education for front line staff; information flow and clinical teamwork. Patients shall accept the new way of receiving care and the transformation of the traditional patient-clinician relationship (engagement, empowerment, active self-care, responsibility for health and e-literacy).

Dominika Oroszy channelled the discussion on new way of providing healthcare and on the meaning of Evidence – Based Clinical Decision-Making. Clinical teams are dealing with real time data, remote patient monitoring and data reporting. They react in real time to changes in patient condition adapting the care plan. They deal with integrated information for better clinical decisions.

She presented the *eHealth Enhanced Chronic Care Model* showing that information and communication technologies can effectively support different processes in the model. Self-management support is aimed for the patient and is based on communication, reminders and alerts. Delivery system design enhances care coordination, and interoperability. Clinical decision support relies on real time data, trends, protocols and algorithms. Clinical Information System is based on information gathered by integrated healthcare data, clinical portals, apps, and wearable devices. eHealth education helps patient and enhances prevention, training, patient networks, patient portals-med TV. The eHealth Enhanced Chronic Care Model contributes to make the patients informed and activated and the practice teams prepared and proactive. This brings better outcomes.

Three years ago, the *Integrated Clinical Pathway* was implemented in Slovenia. It consists of five modules for chronic disease management. Each module covers specific topics: prevention and self-care; lifestyle; integrated care plan for stable chronic disease; prevention of hospitalisation for the patient at risk; remote diagnostics with electrocardiogram and resonance imaging In the clinical setting, the telemedicine care plan is personalised with different modules according to patients' needs.

The pilot started in September 2018 with two groups of patients. Patients with stable chronic disease (diabetes and Arterial Hypertension) used telemedicine services at the primary care in rural area. Patients with progression of the chronic disease who are at risk for hospitalisation (Congestive Heart Failure and Chronic obstructive pulmonary disease) used telemedicine at the specialised outpatient settings in the hospital. For each chronic disease several indicators (KPIs) have been defined according to the MAST methodology, covering all the important aspects for the decision makers. Key performance indicators drive the action of decision makers and evaluate different dimensions such as efficacy, efficiency, safety and transferability.

The *Dynamic Care Plan* management is based on clinical portal and tele-consultation. The clinical portal allows the nurse to monitor the patient remotely. It also allows checking the results of vital signs and alerts, to read patient's comments and contact the doctor or patient and changing the care plan if needed.

The application on the tablet or smartphone allows the patient to send the measurements results to the clinical team and to get structured information as well as reminders for consultations.

Preliminary results are positive for both clinical teams. Real time data use as support for decision-making; personalised chronic diseases management plan; effective information flow; acceptable workflow and 20% hospitalisation reduction for Congestive Heart Failure. Patients feel safe and engaged; have better access to clinical team; are more independent at home.

At the beginning, the main goal was to develop and then integrate information and communication technologies solutions and health and home care services into the mandatory health insurance system.

For what concerns telemedicine and tele-care, the main result so far is that these are included into two other national pilots aimed at testing national long-term care law.

The ICT infrastructure for telemedicine in tele-care is in production phase. This solution is interoperable with national eHealth system. Sensors at patients' home measure vital functions and patient's movement.

E-care service enables SOS calls when needed. Sensors detect falls or unusual behaviours and send alert to the caregivers or the assistance centre, available 24/7. Caregivers have an application for remotely monitoring the patient in real-time.

The doctors decide about the medical sensors for the patients depending on the chronic disease. Apps and sensors are very easy to use. Data are collected in a platform and are available to relevant stakeholders (online medical personnel in telemedicine centres; specialists; family doctors; patients; caregivers). To enhance patient empowerment, a personalised medical TV channel with educational video has been developed. The telemedicine platform is registered as medical device complying with international safety and technical standards.

It was necessary to get the Information Officer agreement and the Ethical Medical Committee approval to comply with the law. Legal amendments and proposition for national use of these services have been proposed.

Finally, reimbursement models for telemedicine and tele-care services are being prepared.

In Slovenia, social and health sectors are not integrated. Moreover, there is not integration neither in primary, secondary and tertiary care. There is poor access to information and data, and scarce communication between patients and doctors.

According to Dominika Oroszy the Smart System of Integrated Health and Home Care project could support Slovenia in facing the challenges of its health system. It could improve the outcomes and quality of life of citizens; reduce unnecessary adverse events and deaths; achieve efficiency and effectiveness.

The challenges for the implementation are: interoperability; patient selection; integration of the workflow in clinical teams; change management; sustainability of telemedicine and tele-care; implementing a national telemedicine strategy.

Evidence-informed health policy network (EVIPNet) Europe and evidence-informed health policy making

Tanja Kuchenmüller, Knowledge Management, Evidence and Research for Policy-Making Unit - Division of Information, Evidence, Research and Innovation - World Health Organization Regional Office for Europe

"How to integrate research into policy? How to promote improved health systems through a networked structure and knowledge translation?"

It is often assumed that evidence automatically influences policy making stated Tanja Kuchenmüller. There is a linear process by which research findings feed into policies have some impact. We know that this process is complex, multi-factorial, multilevel and cross-cutting with multiple actors being involved. Bi-directional relationships on one hand and policy making on the other hand are requiring strengthening the evidence in policy.

The link between research and policy is often more complicated due to the fact that frequently only a thin evidence-based information is available. This leads to the gap between research and policy. For instance, we know that 30%-40% of patients fail to receive cost-effective interventions, justified by the best available scientific evidence. In the same way we also know that 20%-25% of patients get care that is not needed or potentially even harmful. And when we have a look more precisely at the evidence on the harmful effect on smoking, we know since 1950 that smoking is harmful. But it took about 5 years until the first legislator actions were taken and another 40 years until ministries of health gave the World Health Organisation the mandate to establish the Tobacco Free Initiative. So there clearly is a research to policy gap, which can be explained by three key factors. Firstly, research is not valued as an information input such as other factors into the policy process. Secondly, research is not relevant. Any clinical research might be available, otherwise research studies are not targeting policy priorities. And then research is not that easy to use in many instances. For example, it is not well communicated. It is not available when policy makers need it (research needs time while policy makers need information to be ready quickly). Policy makers lack mechanisms to prompt them to use research in policy making. Finally, policy makers lack fora where policy challenges can be discussed with stakeholders.

Indeed, we often speak about the two communities that researchers and policy making live in with frequently opposed timelines, agenda, languages or building barriers of communication exchange and collaboration. If one has a look at the different definitions and perceptions and needs of the two communities with regards to research, the difference becomes barely obvious. Efforts by researchers and by decision makers seem to proceed largely independently. Both have their own (often misplaced) ideas about the other's environment. Opportunities for on-going exchange and communication are few.

There are different definitions and needs as regards what evidence constitutes and what kind of evidences, we consider relevant in the area of evidence-informed policy making. The WHO (but this is not a formal definition) considers research evidence as "*the results of a systematic study of materials and sources in order to establish facts and reach new conclusions*". In other words, research evidence is structured, reliable and replicable. By breaking it down research can be divided into four major categories. The first is context-free scientific evidence. The second is context-sensitive scientific evidence. The third is tacit evidence, meaning expertise, views, and realities of stakeholders. The fourth is knowledge derived from data analysis.

When we use the four categories of evidence in policy making, we need to acknowledge that research evidence comes with many other factors. There are many other factors that come into play and the policy process can be the political context or ideologies; the voters that prefer one policy intervention over another. The resources availability or the influence of the lobby groups as external actors. As we talk at the WHO not about evidence-based policy, but *evidence based informed policy* to indicate that evidence is only one of the factors influencing policies.

Becoming increasingly aware of the research to policy gap and the need to address it, members states delegate to the WHO already in 2005 to establish or strengthen mechanisms to transfer knowledge in support of evidence-based public health and healthcare delivery systems, and evidence-based health-related policies. As a response the WHO launched the EVIPNet, an innovative mechanism designed to strengthen health systems in fostering evidence-informed policy making. EVIPNet promotes partnerships between policy makers, researchers and civil society at country level. Since 2005, the WHO has been operating at the lower level with regional networks that established itself soon in most of the regions. Based on the experience and success of other regions, the WHO Regional Office for Europe then launched in 2010 EVIPNet Europe.

EVIPNet Europe is established in 21 countries in the European Region and has the following mandate:

* Promoting the systematic use of research evidence in policy making to improve health systems through a networked structure;
* Increasing country capacity in knowledge translation;
* Institutionalising knowledge translation through the establishment of knowledge translation platforms.

EVIPNet Europe is one of the pillars of the European Health Information Initiative. It is a multi-partnered network initiated by the WHO Regional Office for Europe aiming at harmonising the health information in the European Region. EVIPNet supports two of the policy areas of the European Health Information Initiative, that is capacity building and networks. EVIPNet Europe gained greater momentum with the adoption of the European Evidence Informed Policy Action Plan in 2016. We are so far the only WHO region with such a resolution, but the WHO has been asked by member states to develop for other Regions a similar plan. Member states have committed to step up the investment and inducing multi-disciplinary information and evidence in policy, just as Member States have requested great activities to put them from WHO in our Region.

Finally, the WHO and EVIPNet Europe is also catalysing the implementation of Health 2020 and the achievement of sustainable development goals. Knowing what works and how and the knowledge that has been used, it allows countries to further apply Health 2020 Government principles.

The speaker asked about the necessity of evidence informed capacity in Europe. A study published in 2013 clearly indicates that this is very much the case because health system information evidence is not consistently and systematically used as found by the study. There is lack of incentives for the use of health system information.

EVIPNet Europe was really needed. It is mostly established in Eastern European countries with an expansion to west as well. Countries that are part of EVIPNet are supported by two key support mechanisms. The Secretariat brings members together; empowers KTPs (Knowledge Translation Platforms) in promoting evidence use; supports capacity building; identifies best practices and identifies new approaches to knowledge into action.

The Network facilitates peer-support; exchange of experiences; sharing of similar problems and lessons learned.

The work of EVIPNet Europe is demand driven. As first step, countries are being requested to set priorities. Then the best available evidence, global and local, has been upraised of the magnitude of the problem and what options exist, including the benefits and costs to address the problem and how to implement at the country level. This is written in a friendly manner, meaning one page with key-messages for policy makers; three pages for executives and then the entire report. As for the Estonian example of tackling obesity with tax on sugar-sweetened beverages, we were very pleased to be able to report back that all four options of the evidence brief for policy suggested in view of addressing obesity in the country had some policy influence. So, on one hand the Parliament proposed legislation in 2017 to introduce the tax on non-alcoholic sugar sweetened beverages – which is currently still under discussion – while the President took the tax back for further clarifications regarding implementation. The discussion around the topic had impact on policy making. The other two options on regulation and advertising, these were included in the Government policy paper on nutrition and physical activity. The intervention is expected to be integrated into the country Public Health Act. The evidence for policy action cycle is being complemented by a structured policy dialogue, convening all the stakeholders that have experience in implementing the Evidence Brief for Policy.

Another approach being tested to accelerate the production of evidence brief for policy, instead of countries working individually on high priorities country issues, two cohorts of members have been created to simultaneously develop national evidence for brief for policy on anti-microbial resistance (AMR). To scale up evidence informed brief for policy for AMR, EVIPNet Europe has established an interdivisional partnership with the AMR programme at WHO Europe. The two programmes have now joined forces with the WHO country offices. After Hungary a first cohort of 6 member states has been launched followed by a cohort of 4 member states.

Slovenia was part of the first cohort and remains one of the countries where we got evidence on informed policy. Slovenia published Evidence Brief for Policy last year on AMR and presented it to high-level policy dialogue in November. The Evidence Brief for Policy suggests three policy options on AMR. The Slovenian State Secretary of Health in November last year after the policy dialogue declared that the policy options needed to be included in the National Action plan on AMR.

To summarise, EVIPNet Europe supports its network member countries within knowledge and skills to do knowledge themselves. It is about creating sustainable partnership at country level between researchers and policy makers to strengthen the use of the best available evidence policy in a continuous systematic and transparent way. The work starts with the high policy issues, meaning with the issues that need to be addressed in the country. It is not about pushing research into the policy sphere that may not be needed. EVIPNet Europe is about supporting policy makers with their needs and being at their service.

Learning from elsewhere: what we know, what we don't know and what we should know

Ellen Nolte, Department of Health Services Research and Policy - London School of Hygiene & Tropical Medicine

"Definitions are crucial for comparability of national contexts."

Health systems differ widely but face common challenges. According to Helen Nolte, differences stand in finance, organisation and outcomes. Differences depend on wider political, cultural and economic environment. Challenges depend on several reasons. Advances in healthcare keep people alive while controlling their conditions and increasing the numbers of people surviving with chronic illness. The rising number of older people increases the number of those with chronic health problems because of accumulated exposure to chronic disease risk factors over lifetime. Accelerated advances in medical technology provide potential for new methods of delivering and organising healthcare. There are growing expectations and financial pressures on economies and health systems.

The common goal consists in ensuring accessible healthcare of high quality that is responsive, affordable and financially sustainable.

The international learning can provide an experimental laboratory for others. It allows alternative options to be considered as well as mutual learning. It enables cross-fertilisation, while providing opportunity to transfer models and ideas.

The policy transfer continuum involves voluntary and coercive elements. Being members of the European Union requires transposing directives – that is a coercive element – and implementing initiatives on a voluntary basis. These are opportunities but several challenges to international policy learning.

Definitions vary and contexts differ. Issues rise as regards the objects of comparison and the definitions (e.g. what is a *nurse*? Does *integrated care* mean the same in different countries?) as well as availability, comparability and appropriateness of data. The question focuses on the measurement of what is important or what is available (e.g. *hospital beds*). An indicator is not telling something in itself, but it needs to be related to other information.

It is quite difficult to attribute impacts to a certain policy. It is important to consider the context and the different rationales for policies in different settings; feasibility and acceptability of policy change and potential for improvement. It is necessary to consider situational (e.g. economic downturn), structural (e.g. institutional setting), and cultural factors (e.g. societal values).

Policy transfer could fail for several reasons. In the case of uninformed transfer, policies are transferred without enough knowledge about why and how they work in the country or system of origin. Incomplete transfer refers to the process of transferring only some features of the policy, but not others. But it may be the other features that are important for the policy to work in the receiving country or system. Inappropriate transfer happens when contextual factors (cultural, political, economic) are very different between the "donating" and the "receiving" country or system. This brings to differences in outcomes in the two countries. There is also the successful transfer of unsuccessful polices, such as pay-for-performance from the private to the public sector or attaching pre-existing solutions to a new problem or issue.

The global diffusion of DRGs was led by different motivations, so as their impact. Introduced under Medicare in the USA in 1983, it was described as "*the single most influential post-war innovation in medical financing*" (Mayes 2007). Since its adoption by Medicare, "*DRG-based hospital payment systems have become the basis of paying hospitals and measuring their activity in most high-income countries, albeit to different extents*" (Geissler et al. 2011). The enabling factors influencing the global diffusion of DRGs are related to their flexibility and ease to modify, making them acceptable by users. Moreover, they are adaptable to the local context due to their continuous adaption and change to meet the requirements of a changing context. International meetings and collaborations happened in France (1984), Ireland (1986) and Portugal (1987) involving increasing number of European countries. In 1987, a meeting in Portugal led to formation of the Patient Classification Systems International (PCSI) network.

The importance of context is showed by *Evercare* approach to case management. It was developed by UnitedHealth in the late 1980s for the Minnesota Government. It is associated with reduced costs of care for older people living in nursing care homes through reduced use of health services (hospitalisations, use of emergency services). It was adopted in England initially as pilots in 9 primary care trusts in 2003 and rolled out nationally from 2004. The expectation behind its implementation was to free up hospital resources through targeted case management of high-intensity users or people at high risk of hospitalisation. The evaluation of *Evercare* pilot failed to find the gains in lower emergency admissions and bed-days that would be expected based on the potential cost savings suggested for the *Evercare* model in the United States.

A good initiative fostering the mutual learning across countries is the *TO-REACH* project. It aims to address the European health systems challenges through a joint European research programme. The project objective is to identify more effective and sustainable ways to organise, manage, finance, and deliver high quality care to European citizens.

One of the priorities of the project is to develop a Strategic Research Agenda, contributing to research agenda setting at European and Member States level. It provides a European strategy to advance knowledge and understanding of the adoption, implementation and potential scale-up of service and policy innovations while also addressing their translation to other settings within and across countries. This living document was informed by systematic analysis of priority challenges for service and policy innovations to strengthen health systems as identified from policy documents. Also, the document was informed through consultation roundtables within Member States and a Europe-wide stakeholder survey, along with a review of the relevant academic literature.

There are still gaps about the transfer of promising service and policy innovations. These refer to the identification of key aspects for the successful transfer of service or policy innovations and the role of institutions facilitating this transfer. Further aspects to consider are the specific features of health systems that are conducive for the successful transfer of innovations; the type of evidence needed to inform the successful transfer; the factors facilitating or hindering the implementation of innovations; the impact of service and policy innovation on health system performance.

Module 3 – Where are we now?

From measurement to change

Niek Klazinga, Amsterdam UMC - University of Amsterdam

Today, we have to deal with data and information being in a knowledge-based industry, stated Niek Klazinga.

Evidence-Informed Decision-Making (EIDM) in healthcare management concerns decisions on business and clinical leadership; decisions related to population health as well as individual patient care. According to the results of a survey disseminated in the European Union (EU) and the USA, the effectiveness of healthcare organisations in using data to support the decisions listed above, is overall similar. However, differences have been recorded especially as regards the use of data for clinical leadership and individual care. In the EU, feedbacks were more positive than in the USA.

Ernest Codman was an advocate of hospital reform and is the acknowledged founder of what today is known as outcomes management in patient care. Codman was the first American doctor to follow the progress of patients through their recoveries in a systematic manner. He kept track of his patients via "End Result Cards" which contained basic demographic data on every patient treated, along with the diagnosis, the treatment he rendered, and the outcome of each case. Each patient was followed up on for at least one year to observe long-term outcomes. It was his lifelong pursuit to establish an end results system to track the outcomes of patient treatments as an opportunity to identify clinical misadventures that serve as the foundation for improving the care of future patients. He also believed that this information should be made public so that patients could be guided in their choices of physicians and hospitals.

In 1918, Codman said - and was called eccentric - that to be sure of their improvement hospitals must find out what their results are. Hospitals must analyse their results to find their strengths and weaknesses and compare their results with other hospitals. He was also suggesting to hospitals to care for what cases they could care well and avoiding the case for which they are not qualified for caring well. Hospitals must not pretend that work which they do as a competitive business is charity. Cases must be assigned to members of the staff for better reasons than seniority, calendar or temporary convenience. Medical students must be taught about ethics by example instead of by precept. Hospitals must then welcome in publicity not only for their successes but for their errors. They must promote members of the staff on a basis which gives due consideration to what they can and do accomplish for their patients. After 100 years, Ernest Codman's opinion is still actual.

Patients' outcomes improve when they are routinely measured and provided back to physicians and hospitals. Standardised measurement could support in this.

Florence Nightingale is described as "*a true pioneer in the graphical representation of statistics*" and is credited with developing a form of the pie chart now known as the polar area diagram, or occasionally the Nightingale rose diagram. It is equivalent to a modern circular histogram, to illustrate seasonal sources of patient mortality in the military field hospital she managed. Nightingale called a compilation of such diagrams a "coxcomb", but later that term would frequently be used for the individual diagrams. She made extensive use of coxcombs to present reports on the nature and magnitude of the conditions of medical care in the Crimean War to Members of Parliament and civil servants who would have been unlikely to read or understand traditional statistical reports.

In 1859, Nightingale was elected the first female member of the Royal Statistical Society. In 1874 she became an honorary member of the American Statistical Association.

The Plan-Do-Check-Act (PDCA) concept could be applied in healthcare but not only. The same happened for quality concepts, applied to healthcare from other industry.

If we want to understand the Acute Myocardial Infarction (AMI) pathway of care, we start from patients having symptoms at home. The understanding of AMI pathway of care is supported by an indicator, describing thirty-day mortality after admission to hospital for AMI. This indicator could be based on unlinked or linked data.

When the indicator is based on unlinked data, the mortality rates within 30 days of admission for AMI is calculated on deaths occurring in the same hospital as the initial AMI admission. If linked data are taken into consideration, the indicator includes deaths regardless of where they occur. The indicator calculated with linked data is more robust. It records deaths more widely than the same-hospital indicator, but it requires a unique patient identifier and linked data, which is not available in all countries.

The points to keep in mind when it comes of measurement are:

* Comparing own performance over time and with peers;
* Comparing with pre-set standards;
* Visualising the measures;
* Considering the focus (what is really necessary) and scope of measures as well as the context (information has to be close to people to whom it is addressed).

EU funded studies on quality of care in hospitals have been conducted and DUQuE is one of these. The topics investigated were:

* The relation between external accountability and internal improvement in hospitals;
* The relation between professionals and management;
* The relation between hospital wide and department/pathway specific activities;
* The balance between effectiveness, safety and patient centeredness.

The ways of improving quality and safety in a hospital are:

* To align organisational processes with external pressure;
* To put quality high on the agenda;
* To implement supportive organisation-wide systems for quality improvement;
* To assure responsibilities and team expertise at departmental level;
* To organise care pathways based on evidence of quality and safety interventions;
* To implement pathway-oriented information systems;
* To conduct regular assessment and provide feedback.

The The Evidence-informed Decision-Making in healthcare management face challenges in 2019. These consist in increasing the focus on outcomes in performance based payment and accountability systems; basing clinical leadership on competences; broadening the use of specialised knowledge and technologies to pathways in integrated healthcare delivery system; including patient values, PROMs and PREMs into personalised care plan; assuring the information structure (electronic health records) and use of tools to synthesise and visualise real time performance information.

Evidence – informed healthcare management: a side view

Dušan Keber, International consultant

Evidence-Informed Decision-Making is the process of distilling and using the best available evidence from research, practice and experience to improve health policy and practice. Due to different conditions in different surroundings, evidence does not produce identical solutions in each single setting. Dušan Keber was wondering whether different solutions will merge over time to one best solution.

With evidence-based medicine, principles of healthcare become more and more similar all over the world. Medical procedures (e.g. in acute myocardial infarction, early detection of cancer, prevention of hospital infections, rational use of antibiotics) run almost identical course. An increasing number of countries use the same consensus statements, programmes, protocols, care pathways and algorithms for individual health conditions. When health professionals speak about health and diseases, they use the same language. However, the best evidence does not always result in similar decisions in health management.

The first example of evidence-based managerial decision reported by the speaker was about Nostrum Pharmaceuticals. Nostrum Pharmaceuticals has recently raised the price of a 65 years old drug nitrofurantoin from about $500 per bottle to more than $2,300. When interviewed by the Financial Times, its founder and CEO Nirmal Mulye stated “I think it is a moral requirement to sell the product for the highest price”. The question to pose is if this decision was evidence-based. The response is yes if it is considered that the mission of a private enterprise is maximising its profits. Moreover, the high demand for the drug as well as the monopolistic position of the producer enable the company to set any price that a patient in need can afford. Finally, neoliberal economy found a theoretical apology for such behaviour by contemplating that, in the long-term, everybody would benefit from profits raised by stakeholders. Discussion is still open on ethical aspects of this decision.

The second example of evidence-based managerial decision was the reform of healthcare in Croatia. According to the speaker, the main evidences available in literature show bad consequences of healthcare total privatisation whereas only a minor part of the literature supports it. Moreover, healthcare privatisation provides experts the opportunity to raising profits out of it. The speaker criticised the ethics of the reform that was promoted, according to his opinion, to bring benefit to physicians rather than to patients.

There are different sources of evidence in private and public healthcare. There is a conflict in understanding health services as goods for sale and as value-driven services that should be universally accessible. The goal of private healthcare is to increase efficiency, competition and economic profit. The goal of public healthcare is providing equal care for the whole population. In health management not all evidences are neutral, therefor it is necessary to define a mission. Mission and values should guide the research of appropriate evidences, literature and results.

The speaker reported the example of Sweden as a social based country. The goal of Swedish healthcare is good health and equal care for the whole population. Mission and ethical values in healthcare are:

* equity in health for the whole population;
* respect for the patient's integrity, autonomy and right to participation in decision-making;
* governance driven by democracy and financing driven by solidarity;
* health services provision based on patients' need rather than on ability to pay.

The speaker talked about formal status of ethics in healthcare management in the USA. A study[2] found similar highly ethical mission statement in both for-profit and not-for-profit hospitals. According to the author the mission statement should capture the organisation unique purpose and niche in the competitive healthcare environment. According to the speaker, mission statements of for-profit hospitals avoid showing a profit-making orientation. Making profit from somebody suffering is not politically correct. In search for evidence, it will be sometimes difficult to recognise experts' orientation.

The speaker also talked about the actual status of ethics in healthcare management, taking Sweden as an example. According to his opinion, although ethics has a high status in theory, evidence indicates that it has a lower status in practice in healthcare management. The interviewed politicians, civil servants and CEOs prioritise financial requirements above ethics. This development had been enforced by the marketisation of the healthcare system[2].

There is a difference between the mission in healthcare and in health management. Healthcare shall be driven by benefits to citizens and patients. Health management focuses on citizens and patients but also owners and providers.

The conflict between missions explains why evidence is less uniform in health management than in healthcare. Evidence can be selectively used to justify a decision that has already been made for other reasons. Without mission every evidence is good evidence. Evidence from institutions and experts with similar mission and values should be given priority. Similar solutions are based on similar values and mission. Health manager in public healthcare should judge what is right and what is wrong, and only in the second place what is cost-efficient and what is not.

Douglas S. Bolon (2005) Comparing Mission Statement Content in For-Profit and Not-For-Profit Hospitals: Does Mission Really Matter? Hospital Topics, 83:4,2-9.
Anna T Hogelund, Erica Falkenstrom (2018) The status of ethics in Swedish healthcare management: a qualitative study. BMC Health Serv Res 18: 608.

WORKSHOP ON THE USE OF PERFORMANCE DATA FOR MANAGEMENT IN HEALTHCARE ORGANISATIONS

During the second day of HOPE Agora 2019, *Niek Klazinga* and *Damir Ivanković* from Amsterdam UMC, University of Amsterdam, organised a workshop on the use of management tools in healthcare organisations. The workshop was moderated by Niek Klazinga. The audience was asked to take part in a real-time survey. The results of the survey were discussed with panellists, representing a selection of health care key stakeholder organisations experienced with using performance data:

Joke Dujardin, Ziekenhuis Netwerk (ZNA), Antwerpen (Belgium)

Krasimir Grudev, National Union of Private Hospitals; Trimontium Hospital, Plovdiv/Sofia (Bulgaria)

Sine Mainz, Danish Regions, Copenhagen (Denmark).

Dominika Oroszy, Ljubljana UKC (University Medical Centre), Ljubljana (Slovenia)

Ton Roelofs, Isala Hospital, Zwolle (The Netherlands)

The first set of statements used for the survey and reported in the table below, was aimed at exploring "Why" performance data are used.

Statement	Yes	No	Total	Yes (%)	No (%)
I use performance data more to justify than to inform my managerial decisions.	71	54	125	57	43
I am learning more from monitoring my own performance over time, than from comparing with other.	55	71	126	44	56
If I were more confident in the data that I have, I would use it more for decision-making.	109	18	127	86	14
For-profit organisations are more motivated to use performance data.	101	24	125	81	19

Following the first polling question results, Niek Klazinga asked panellists whether, in their organisations, performance data is used more for justification of decisions already taken or to make decision more evidence informed.

Dominika Oroszy said that in Ljubljana, performance data is used for both, depending on the type of data. Care-process managers, including physicians use it more to inform their decision while on strategic level it is used more for justifying decisions.

Ton Roelofs replied that data is firstly used for justification, to monitor results over time. Then you can use the results to see how this performance data can be integrated into improvement-oriented decision making.

Joke Dujardin explained that all operational managers receive monthly performance reports, that are then used to manage staff levels. Performance data inform decision making. Comparisons are performed as well, ZNA being a network of hospitals. The top management has this information but to avoid competition, it is not disclosed to the operational level managers.

Niek Klazinga asked whether encouraging competition would support improvement by learning from wards that are more efficient.

Dominika Oroszy explained that performance data is being used for external accountability purposes but also for comparing different units and to find best practices and learn from other wards when they perform better. Performance data are aimed at finding learning opportunities and motivation for others to reach the goals.

Sine Mainz reported that Danish Regions role consists in comparing results of different hospitals in the country. A hospital that stands out with their results gets examined as a best practice example to see whether what it is doing is transferable and scalable to other hospitals or at national level.

Using the third polling statement results, Niek Klazinga asked Sine Mainz about confidence in performance data in Denmark and other countries.

Sine Mainz said that hospital data in Denmark is of high quality but that this is not the case with primary care data for instance.

Krasimir Grudev explained that in Bulgaria, hospital managers are not really confident in the quality of performance data, especially the one on public hospitals. As a reason he mentioned the data collection process which goes through clerks and not through medical staff. All the hospitals in Bulgaria are officially for-profit, including state, municipal and private. He, however, agrees that private for-profit organisations are more motivated to use performance data. The reason is that they are self-financed and not depending on (or helped by) state financing.

Dominika Oroszy added that the private sector is under more economic pressure to show results. In the public sector all hospital losses get compensated anyhow – which is less motivating for the management to focus on the results. Public sector also does not have enough motivation tools for the management to award better performance.

The second set of statements used for the survey and reported in the table below, was aimed at exploring "What is measured".

Statement	Yes	No	Total	Yes (%)	No (%)
We collect sufficient amount of data.	55	43	**98**	56	44
We should use existing data better.	100	2	**102**	98	2
We need to collect more patient-reported data.	98	4	**102**	96	4
Ideally, all data for a patient should be recorded in a single EHR/EMR.	91	10	**101**	90	10

Niek Klazinga started by summarising the results of audience polling. He then asked Dominika Oroszy to reflect on the availability of performance data, including patient-reported data, and integration into the information infrastructure. Additionally, he asked to reflect on the steps needed to improve.

Dominika Oroszy reported that a lot of data is collected at her hospital, but a lot on paper. This is a burden for the staff that has to analyse them. Furthermore, there could be issues due to the quality and accessibility of these data. She suggested turning around the question on collecting enough data into "Do we collect the right data for the struggles that we have in our hospital?" She feels that data itself rarely answers the questions on the clinical and on the organisational level. Patient data is collected through satisfaction questionnaires. She finds patient-provided comments in these questionnaires very valuable in focusing on improvement areas and including patients' vision of what is a good outcome. 50% of data is being collected manually which presents a huge burden and a risk for accuracy, quality and reliability of the data. She sees the role for improved information systems in tackling this issue.

Niek Klazinga asked Joke Dujardin about the status of data collection in Antwerp.

According to Joke Dujardin, her HOPE Exchange programme experience in Finland showed that Belgium still has a lot of areas for improvement in collecting data. She pointed to the difference between collecting and using data. Her hospital network in Belgium collects less data but uses a lot of it for Evidence-Informed Decision-Making. Her experience is that in Finland a lot of good quality data, from various sources, is collected but not a lot is used for decision-making.

Niek Klazinga continued by asking whether data could be used in more innovative ways, e.g. by using predictive modelling and whether there are healthcare organisations already doing this.

Joke Dujardin clarified that it is not used yet in Belgium, but she saw examples of this sort of prediction modelling in Finland on the case of patient malnutrition in rehabilitation units.

Ton Roelofs stated that collecting data took more time than using it. He thinks that the next years will bring more discussions on more focused use of data because he believes that healthcare is more fore-castable that we think it is right now.

Niek Klazinga asked Ton Roelofs whether the introduction of the new electronic health record at Isala Hospital last year is helping. According to his opinion, it should be. He argued that with this new system they are still going through a learning period and that it takes time to use all the benefits of the new EHR system.

Niek Klazinga asked Krasimir Grudev to reflect on the use of performance data in Bulgaria. He recognised that there are lots of similarities with the situation in Slovenia with most of data being collected manually. His opinion is that we need to collect a substantial amount of data in order to choose what to use. He also feels that patient-report data is then an additional data source. He pointed to the fact that "individual" EHR only make sense when we have "a cloud of EHRs" which can then be compared.

Niek Klazinga asked Sine Mainz about the situation in Denmark, the status of patient-reported data collection and use as well as the Danish national strategy of integrating PROMs and PREMs into information health systems. She replied that she feels that in Denmark healthcare organisations collect the right amount of data but could also collect more. Besides including patient-reported data into the medical records, the discussion in Denmark now also revolves around integrating wearable and mobile phone data into health records, which is not possible yet.

Healthcare professionals are also being asked how this data could be used and presented.

The third set of statements used for the survey and reported in the table below, was aimed at exploring the "How" performance data are used.

Statement	Yes	No	Total	Yes (%)	No (%)
Improving my competencies in working with performance	89	7	**96**	93	7
Performance data is used more for process (operational)	61	37	**98**	62	38
HOPE should facilitate capacity building for the use of performance data among managers in Europe.	80	21	**101**	79	21

Niek Klazinga asked the panel if they also see that performance data is used more for process rather than strategy-based management.

Dominika Oroszy said that her hospital uses Balanced Scorecard to monitor the progress in achieving strategic goals. The current indicator mix for process monitoring is quite good but the indicator toolbox for strategic management needs to be built up. This should be a mix of economic, care process and patient satisfaction indicators.

Niek Klazinga explained that both Balanced Scorecard and different dashboard tools were originally designed for monitoring progress towards strategic goals by using different sources of data.

Dominika Oroszy mentioned that they have very good experience with using dashboards, but again – on the process level – in clinical wards. She thinks more should be invested in learning how to use data visualisations - process control charts, for instance. Using these tools brings about a completely different discussion within the organisation. Using timelines and showing outliers brings a much more productive discussion with clinicians. Going beyond using only charts and numbers, and including trend data, makes improvement more visible; both when discussing with strategic and clinical managers.

Joke Dujardin agreed that still most strategic-level decisions are made on the basis of financial and political reasons and not using performance data. On the other hand, clinical wards use a lot of performance data, providing the example of hand hygiene – also using benchmarking.

Ton Roelofs provided examples of using performance data on a ward level in his organisation. There are quality walls at the ward level that helps comparison. He expressed his hope that process performance data and quality indicators are used on the strategic level for decision-making. There must be a connection between operational and strategic management based on using performance data.

Concerning the situation in Bulgaria, Niek Klazinga asked Krasimir Grudev who confirmed that performance data is used for operational management. He feels that the same data should also be used for strategic decision-making, which is hard because strategic management is not very much apt to daily changes.

Niek Klazinga asked Sine Mainz whether Denmark solved the problem of balancing processes with score-cards and strategy development with dashboards.

Sine Mainz mentioned that Denmark has national goals on a strategic level, which create a framework for all the processes.

Niek Klazinga additionally asked whether having these strategic goals in Denmark is helpful for driving performance management and using this kind of data.

Sine Mainz confirmed that she thinks that the most important thing about these national goals is that they are agreed upon on the level of the entire healthcare system, which ensures that everyone is going in the same direction. She also referred to the polling question on competencies by thinking about how new technologies like AI and machine learning can help us understand what data tells us.

Niek Klazinga invited panellists to provide a final statement on the role of an organisation like HOPE in facilitating acquiring these competencies, how to visualise data and make it actionable.

Dominika Oroszy thinks that HOPE would be an excellent learning platform – especially for learning from best practices in different countries, also besides the Agora, and applying benchmarking across European countries.

Evidence and Stakeholders: How well do they get along?

The round table discussion that took place on 4 June was aimed at stimulating the debate around evidence-based management with stakeholders representing diverse institutions. The discussion covered the main outcomes emerged in the previous day during the conference and country presentations. The audience was involved, and questions were posed to the panellists through sli.do, an online tool.

The round table was moderated by *Mircha Poldrugovac* (Amsterdam University Medical Centre - University of Amsterdam) with the following panellists:

- *Tanja Španić, Europa Donna Slovenia (Slovenia) ;*

- *Niek Klazinga, Amsterdam UMC, University of Amsterdam (The Netherlands);*

- *Saša Kadivec, University Clinic of Respiratory and Allergic Diseases Golnik (Slovenia);*

Teodor Žepič, University Medical Centre Ljubljana (Slovenia);

- *Marjan Sušelj, General Director of the Health Insurance Institute (Slovenia).*

Mircha Poldrugovac asked the panellists about the search of evidence and how they recognise the need of evidence.

Teodor Žepič clarified that he is dealing and managing one of the biggest medical institution in Slovenia. The challenge now is on how to get proper data for appropriate decision making. The system is very big, not unified and spread in different levels. The clinical systems are connected to the business system. He talked about initiatives in Slovenia following the Ministry of Health, according to which they are estimating whether one system will be appropriate to manage the whole health system. The evaluation process is on-going. He said that when he arrived at the University Medical Centre, his first decision was to settle an analyst group. Managing without proper data is not possible. Establishing this was not easy so it took several months for this decision to become operative.

Mircha Poldrugovac said that the problem of ICT infrastructures had been pointed out by many participants of the conference. He asked Teodor Žepič how he sees the dynamic and how in his hospital he gets information or envision getting information. Teodor Žepič replied that the group will gather the information and getting information for business decision. Slovenian hospitals and medical centres are in recovery management. This is supervised by the Ministry of Health.

Mircha Poldrugovac broadened the debate on research-related issues asking how the research needed is prioritised. Yet, he asked the panellists if in their opinion the research is commissioned because of political needs or because there is the need of convincing a certain community. He wonders if the risk of instrumentalisation is real.

Niek Klazinga replied saying that in his opinion there is a difference between medical research and healthcare management research. He increasingly sees that for medical and health services you need to set research infrastructures. Shifting towards a continuing record of information, used for clinical purposes. There is an interest for medical centres having good databases, since the research will be based on those data.

One of the big differences is that for clinical research the focus is on human beings, who are more or less the same. Healthcare managers differ instead, and generalisations are less broad. The prioritisation for clinical research is quite organised. For health services research it depends whether you have a research council or not. In the Netherlands there are two organisations. For doing research there could be a risk. If your problem is that you have to take a managerial decision and funding that decision, research is helping to synthetize the available evidence. It is important to differentiate the kinds of research.

Mircha Poldrugovac asked Marjan Sušelj about the way the Institute he manages get the needed data. Marjan Sušelj answered that the infrastructural component is crucial. For health services data they are following reporting systems for drugs or admissions to hospitals, or info on primary care. They do reports nationwide, and they have this data since 2013. It is important to forecast the cost. Another important question regards the way forecasting is made and how to improve during the years. There are problems in bringing reliable data that could complement other data connected to health services. The research provided by different institution is focusing on some data, but since they do not have the entire picture, some problems could appear. In the last year, effort has been made to reduce admissions to hospitals. It is important observing the whole system. Sub-systems are depending on each-others. There are some problems with specialisations. The comprehensive approach is important.

Mircha Poldrugovac asked the panellists to reflect about the differences in perceived outcomes by professionals and patients.

Tanja Španić said that for patients it is important gaining quality of life after treatment. It is also important to consider the side effects of a treatment and the reaction of patients and professionals in this regard. For a patient suffering from cancer, the side effect of losing hair could have a deeper effect than for a professional. Maybe sometimes overtreatment or harder treatment is not the right way. Questionnaire on quality of life could become central in the treatment.

Mircha Poldrugovac highlighted that several considerations are going on from the point of view of the healthcare workers. He asked the panellists if they see a difference in the extent to which professionals accept the evidence and if there is a difficulty in accepting the evidences.

Saša Kadivec reported that employees are satisfied with the checklists introduced in Slovenian hospitals. Checklists are used also for other specialties. It is not so difficult to bring changes in nurse care as long as they are supported by evidence.

Mircha Poldrugovac then reflected that there is something contracting need or priority for professionals and patients.

Teodor Žepič said that in Slovenia there are a lot of factors. People and board are connected in such decisions. For new procedure, everything comes step by step. The proposal comes for chief medical doctor, passing then to medical and nursing board and management board. According to the results, it goes to the Slovenian Medical Committee on the procedure to implement. This is the stairway in use; and then the statutory insurance is involved to finance the treatment.

Mircha Poldrugovac asked if there is a risk of bias on evidence based on data.

Marjan Sušelj admitted that the technology made many developments and there is the need of taking care of patients in a different way. A balance between the quality and effectiveness and efficiency has to be found.

Decision shall be based on what benefit the patients. Political driven process could be crucial on decision-making process, but balance is necessary. The attempt is done through cooperation with experts in the field. Organisation and agencies should be set up. This would help to set up and to make more trustable decisions.

Mircha Poldrugovac summarised saying that the outcome for patient is the driving force. He asked about the boundaries of moral obligations.

Tanja Španić answered that the role of a patient organisation is to be filling the gap between healthcare professionals' evidence-based results and the healthcare providers. Explaining to a person if she is going to take the treatment is very complicated. Evidence based information is very important and it is important to advocate for that but at the same time it is important to provide best care to patients.

Marjan Sušelj disagreed on the fact that healthcare professionals are passive actors. Pharmaceuticals have to be administered to the appropriate person in the appropriate situation. This new technology can be applied in the best way through cooperation on the patient side.

Tanja Španić reported that as a patient you really do not care. However, it is very important explaining to the patient what it is important and why.

Mircha Poldrugovac asks Saša Kadivec what is her experience in applying new ideas at University Clinic of Respiratory and Allergic Diseases in Golnik. She said that they use some tools and they get the results. How to improve the results and set-up the changes is discussed in a broader meeting. Health professionals, clinical pharmacists and nurses are involved. Every professional has his/her view and this helps to implement a broader decision. Internal audits are performed as well with other professionals and depending on the results, changes are implemented.

PRESENTATIONS BY HOPE EXCHANGE PROGRAMME PARTICIPANTS

Every year after their four weeks abroad, the HOPE Exchange Programme participants are invited to shortly present a maximum of three examples of good practices concerning the topic of the year, identified in the country of destination.

AUSTRIA

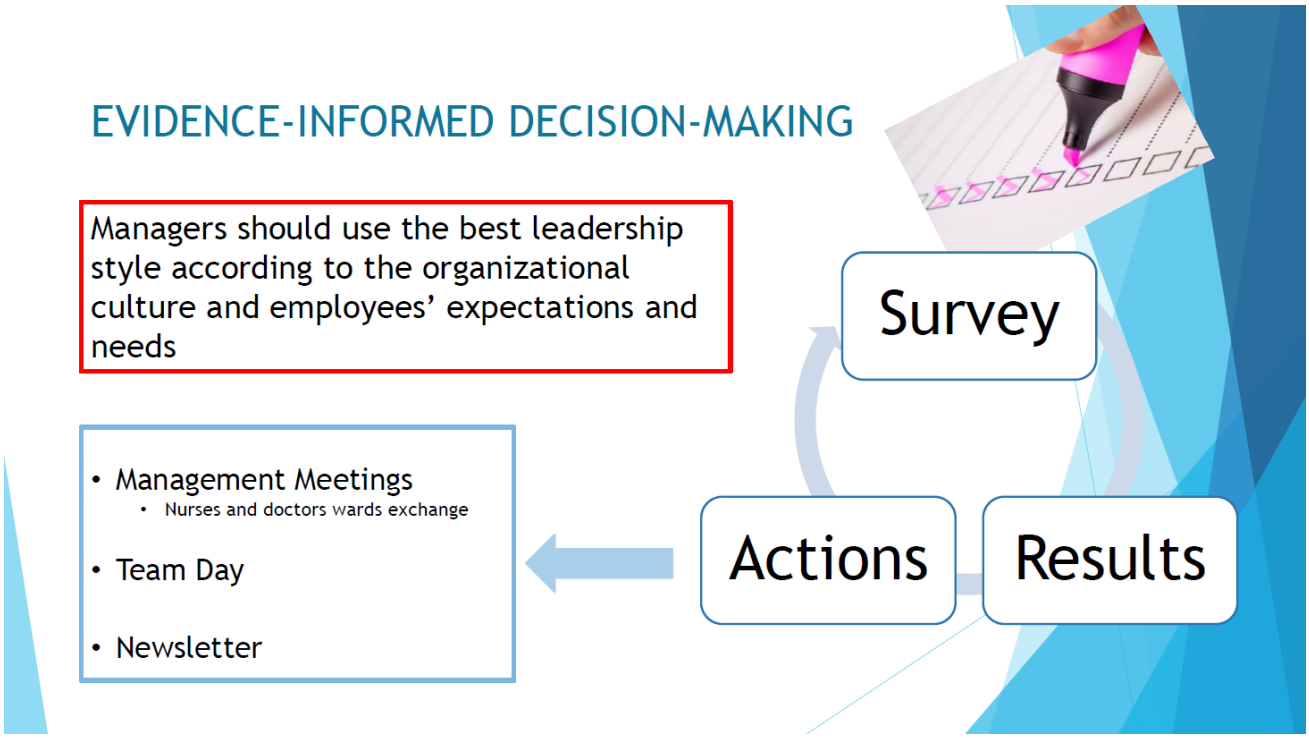
HOPE National Coordinator: Gertrud FRITZ
Exchange Participants 2019: Antonia CASTELLANO (Spain)
Haik DIJKHUIS (The Netherlands)
Milagros ESTRADA (Spain)
Claire MARANDIN (France)
Annika STEMANN (Germany)
Katarina VOJVODIC (Serbia)

The three good practices reported for Austria refer to *HTA*, *shared decision-making* and *employees' experience survey*.

HTA is a multidisciplinary process that summarises information about the medical, social, economic and ethical issues related to the use of a health technology in a scientific, systematic, transparent, unbiased, robust manner. Its aim is to inform decision-makers on formulation of safe, effective, health policies that are patient focused and seek to achieve best value. The Exchange Programme participants in Austria reported the example of Ludwig Boltzmann Institut – Health Technology Assessment, a private not-for-profit institution, providing support to health decision makers to enhance efficient and appropriate use of resources. According to the participants, the Institute performed from 2008 to 2019, 104 systematic reviews on single medical products targeting interventions. Of these, 75 were new assessments while 29 were updates. Looking at the results, there was a difference between what was recommended on the basis of HTA and what has been decided. An example of impact produced by HTA application refer to the change of indication at Univ. Klinikum Graz (University Hospital of Graz), that in 2000 had a positive effect on cost reduction. The Exchange Programme participants discovered some risks related to HTA because it could bring to conflicts. However, it must be part of the medical and political culture of a country.

Shared decision making happens when health professionals and patients work together in order to take a healthcare decision that is the best solution to care the patient. It is based on the use of the best evidence-based information, the provider's knowledge and experience and patient's values and preferences. In Austria the share decision making model is based on the SHARE approach, consisting of five steps: 1. Seek your patient's participation; 2. Help your patient explore and compare treatment options; 3. Assess your patient's values and preferences; 4. Reach a decision with your patient; 5. Evaluate your patient's decision. Through this approach, patients more luckily feel secure and may feel a strong sense of commitment to recover. Moreover, self-management increases empowerment, compliance to treatment and better outcomes. There could be barriers to shared decision making if the patient feels a lack of confidence and do not want to follow the treatment as well as if there is uncertain or unknown evidence about the risk and benefit of a decision. Shared decision making is not an option but an ethical imperative and a patient right.

The *employees' experience* survey is a tool to explore employees' satisfaction. Healthcare workforce is the most important resource in healthcare. Job satisfaction is an employee's attitude toward work. Job satisfied employees have more motivation for work, better performance and lower absenteeism. Employee's job satisfaction is often correlated with several aspects. Among these, the HOPE Exchange Programme participants listed: received salary and benefits; recognition, promotion and support from colleagues' and management; working conditions and security; and demographic characteristics such as gender, marital status, educational level, and age. The survey explored the relationship between management, colleagues and job itself. It is focused on five dimensions, such as fairness, credibility and respect (trust to managers); proudness about the work and team spirit. The survey is usually submitted every three years. It is anonymous and voluntary. Information about the survey and questionnaire were distributed to all staff members and hospitals can add some questions to adapt it. Thanks to the survey and its results, some initiatives have been taken such as: management meetings and newsletter to share with other staff of the hospital.



BELGIUM

Exchange Participant 2019: Paul PERRIN (France)

During the Exchange Programme in Belgium, one question was tackled at CHR La Citadelle in Liege: "Is lunch time available to nurses in operatory rooms?"

The decision to work on this topic came from nurses' claims that sometimes they cannot have lunch break. Lunch break is not traced in the information system and nurses' time out of the operatory room is not recorded. Lunch break is legal and part of the wellbeing at work. According to the HOPE Exchange participant, Liege and Lyon have the same problems.

The aim of the work performed stood in getting evidence on the claim. The definitions were Full Time Equivalent (FTE) and Operatory Room Utilisation for surgery (ORU). Each indicator was measured in a dedicated database. A third database calculated the ratio FTE/ORU, which was used to assessing and calculating the optimal number of nurses per operatory room for every hour, and to ensure the lunch break to all of them.

The Exchange Programme participant explained the audience the calculation method implemented in the host hospital in order to define a good average nurses daily ratio FTE /ORU compatible with lunch break.

For the calculation, 3 time slots were considered (11.00-12.00; 12.00-13.00 and 13.00-14.00). From 11.00-12.00 and 12.00-13.00, the average nurse daily ratio FTE/ORU is 2.75 (1 nurse circulating; 1 nurse scrubbing and 0.75 nurse having lunch break). From 13.00-14.00, no nurse is forecasted to have lunch break thus the ratio decreases to 2 (1 nurse circulating and 1 nurse scrubbing). The average has to be calculated on three time slots thus the ideal number of FTE/ORU nurse per day in those time slots is 2.5.

According to calculation on 253 days, with a ratio lower than 2.5 FTE/ORU, lunch break was not possible for 23 times (9% of total lunch breaks). In conclusion, if two rooms do not need nursing staff to cover lunch break, the average optimal ratio could be reduced to 2.4 FTE/ORU corresponding only to 6% of missed lunch breaks on total.

The ratio calculation depends on the quality of data for FTE and ORU. The ratio is a tool for staff positioning along the timeline as well as during the working days. It is crucial because incorrect staff allocation could bring to failure of the system. Therefore, it is easier to manipulate compared to more sophisticated statistical model .

DENMARK

HOPE National Coordinator:	Thomas ENGSIG-KARUP
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	José Luis GARCÍA GARMENDIA (Spain)
	Gabriele KOCH (Austria)
	Marieke KRAL (The Netherlands)
	Anna-Kaisa PARKKILA (Finland)
	Dangyra RUSECKIENE (Lithuania)
	Rahel Gabriele VONO (Germany)

Danish people work a lot on innovation and trust, and it happens through the stakeholders' engagement. The sense of trust feeds the innovation, that responds to challenges putting in place new ideas. An example of focus on trust and innovation is the app "*dit forløb*", supporting patients who faced major operations at the hospital. The app provides patients, relatives and caregivers all the information related to what happens before, during and after the admission. Among the examples reported there is a music player for Alzheimer's patients, developed by an employee at the municipality. For cancer patients there is an app aiming at reducing anxiety for the patients and having face-to-face consultations with doctors before the surgery. For Chronic Obstructive Pulmonary Disease patients, an app has been developed to support patients at home and to make it possible the monitoring of their conditions.

The HOPE Exchange Programme participants reported also the example of *nurses' empowerment*. They have many responsibilities in terms of coordination, development and research. A case of empowerment regards patients and citizens through *Borgerdesign*, consisting of shaping the health systems according to the citizen's needs. *Patients' empowerment* occurs also when patients are asked about their feelings before a consultation/treatment and these are discussed and taken into consideration in the decision-making process by the clinicians. A further example of patients' empowerment is making the patient decide in which time of the day having the consultations. Lastly, municipalities get in touch with citizens and ask them about their quality of life.

Data play a crucial role, and nothing would be possible without data. In Denmark data are collected and used at all levels (national, regional and hospital level) and available for all citizens. The regions collect data from hospitals and guide the hospitals in their work. In turn, hospitals use national indicators for daily management as well as for process development. Data are used real-time. An example of this kind reported by the Exchange Programme participants is the bed occupancy rate at the hospital wards. Data are recorded also about the path of the patient.

To conclude, trust is the basis that empowers staff and patients to better manage healthcare.

ESTONIA

HOPE National Coordinator: Hedy EERIKSOO
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Gino GOVAERT (The Netherlands)
Sine MAINZ (Denmark)
Dirk ZIMMERMANN (Germany)

In Estonia, 99% of public service is digitalised. Digitalisation supports Evidence-Based Decision Making.

The first good practice encountered by the HOPE Exchange Programme participants is the *Estonian Genome Programme* aimed at promoting mammography screenings for women in an earlier stage. When the results of the screening show that the risk of having cancer is high, the person joins the programme. Women are encouraged to go to the GPs and having healthy lifestyle to prevent the disease. Thanks to the results of the programme it was possible for public authorities to make decision about personalised medicine and prevention.

A step further into eHealth is the introduction of a *national eBooking system* that as from 1 July 2019 will allow patients to book an appointment with a specialist, upon GPs referral. The system is already available in certain hospitals. A positive result is that patients are more aware about the treatment administration. The goal is to obtain full evidence on the use of resources and improving it.

The decision making could be influenced by external factors, but the value of information shall never be excluded by health professionals.

FINLAND

HOPE National Coordinator: Hannele HÄKKINEN

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Theo BLOTE (The Netherlands)
Maria Mercedes BUENO CAMPAÑA (Spain)
Ana Mª CINTORA SANZ (Spain)
Margaret Alison CLARKE (United Kingdom)
Judith DAHL (Switzerland)
Alan DODGE (United Kingdom)
Joke DUJARDIN (Belgium)
Marina GROSU (Republic of Moldova)
Timo HAYEN (Switzerland)
Kety HOEVENAARS (The Netherlands)
Gabriele KÖNIG (Austria)
María Jesús MANTILLA GORDOVIL (Spain)
André NUNES MONTEIRO (Portugal)
Anna PASTOORS (Germany)
Mª Pilar SANCHEZ RUBIO (Spain)

Virtual reality is the first example reported by the Exchange Programme participants in Finland. It involves end-users to decide about the development of a hospital. Old ICU rooms did not meet the patients' requirements at Seinäjoki Hospital. First, a literature research was performed and then a survey was submitted to patients and their families and staff. Then a new design was made, based on the survey outcomes and virtual reality created accordingly. The end-users reviewed then the new design. In this way, privacy and environmental problems were solved.

The second good practice is *simulation training* at Tampere University Hospital. Mimicking real-life, simulation training is the development method used by healthcare students and professionals alike to acquire technical and non-technical skills in a safe and controlled environment removing patient risk. The simulation training regarded the use of cadavers to provide the surgeons the closest possible experience to reality. The simulation training increased patient safety; reduced procedure time; improved outcomes and quality of life of patients.

The third example relates to *eHealth*. In Finland many innovations support patients discharged so that they feel supported at home. eHealth solutions foster a better use of resources, health promotion and patient engagement. An example of eHealth solution reported is *Noona*, a smart cloud-based app designed to capture patient-reported outcomes in oncology. *Noona* connects cancer clinics with their patients online to improve survival and save clinical resources. The app collects patients' feedbacks more simply than before and support also clinicians.

Finland healthcare management is using Evidence-Informed Decision-Making to address the challenge created by the size of the territory and provide the patient with optimum care. The HOPE Exchange Programme participants stated that the evidence collected, and decisions made as the results of virtual reality, simulation training and eHealth will further improve the healthcare within Finland and Europe.

FRANCE

HOPE National Coordinator: Antoine MALONE
Exchange Participants 2019: Bruno DESCOURS (Denmark)
Xavier FRANCÀS BIS (Spain)
Claire GAZZOTTI (Belgium)
Daniela IVANOV (Republic of Moldova)
Carla Sílvia NEVES DA NOVA FERNANDES (Portugal)
Malin REX (Sweden)
Carolien SWART (The Netherlands)
Kristina TISCHLER (Germany)
Giulia ZUMERLE (Italy)

During their stay, the HOPE Exchange Programme participants in France submitted a survey to professionals of different backgrounds to explore the collection and use of data. 43 people responded and the 83% of them declared to benchmark data with other hospitals and/or with national data.

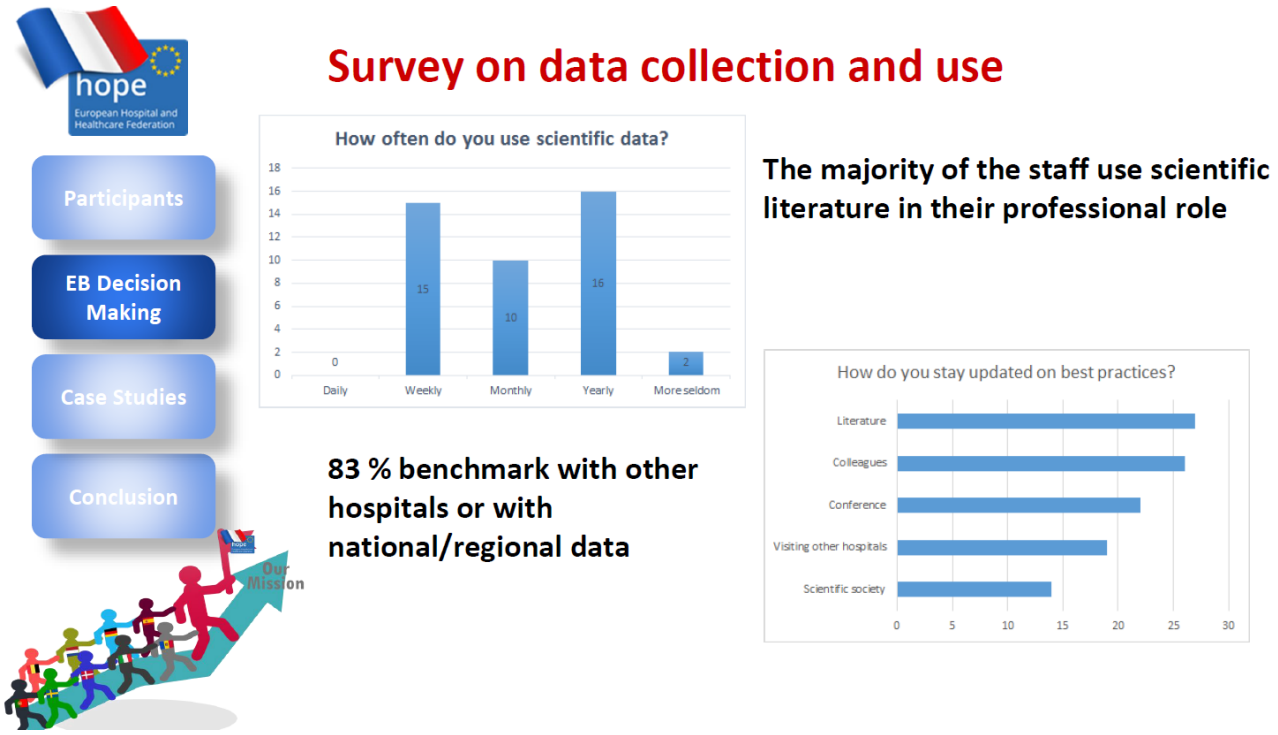
To comply with the 2022 objective of providing 70% of care in day-care setting, *Centre Hospitalier Saint Brieuc* (Saint Brieuc Hospital Centre) decided to dedicate one block of the hospital to outpatient activity. This was the opportunity to optimise working spaces and processes and to recover from infrastructural inefficiencies. In order to assess their potential increase in outpatient activity, they used a very handy tool provided for free by the Technical Agency for Information on Healthcare. Its website shows the percentage of day-care on overall activity, compared with regional or national average. What is even more interesting according to the HOPE Exchange Programme participants, is that the tool also estimates the inpatients that could be shifted to day surgery. And finally, it gives an overall evaluation on the present performance and the potential to improve.

Once the opportunity for this new building was established, the hospital had to decide its size, shape and internal layout. A further evidence-based tool that they used, is provided by the National Agency for Performance Support. By entering the amount of present hospital activity, the tool forecasts the amount of activity for the next years. Then the tool suggests the optimal surface for the new building, and the most efficient amount of each type of room. Therefore, helped by the architects, they conducted many working groups to decide how the space should be organised. So, the hospital ended up with an innovative block, whose building was approved by COPERMO, the national body entitled to these evaluations.

The success of a hospital is not only based on the infrastructure. Good implemented processes are an organisational necessity. But few years ago, Saint Brieuc Hospital had to deal with staff shortages, long waiting times and ineffective tours. Especially in peak times the transportation process needed an optimisation since many tours had been made without any patient and the staff always returned to the base. The vision was to enhance the service by centralising all the people working in transportation. At the same time, they decided to digitise the system introducing a new software. Every new software implementation needs a proper elaboration of required parameters. For instance, they collected data for two weeks in order to assess the transportation process. They also audited other hospitals which had such systems already in use. For the specification of the requirements several working teams were built to create the final requirement dossier.

The centralisation and informatisation of the transports led to impressive results. With the same number of workers, they now cover more hours and even the weekends. The new software tool offers daily activity results. So, efficiency is often assessed, and the shifts of personnel can be changed in order to suit activity peaks. This very objective manner of planning led to an easier way to transport patients safely and on time. Moreover, the personnel is very dedicated to its work. The transport service became an acknowledged profession.

At the *Centre Hospitalier Universitaire Nancy* (University Hospital Centre of Nancy), the issue observed was about planning and managing bed capacity, in real time and also forecasting the required staff to manage the patient flow (and avoiding overcrowded wards). To do so, a web-based computer application was used, which provided information on real-time occupancy rate and scheduled admissions. Statistical data were provided on patient flow through previous acute hospitalisations and emergency access. It was also calculated from previous records, the average length of stay by pathology.



GERMANY

HOPE National Coordinator: Peer KÖPF
Exchange Participants 2019: Sophia EBERHARD (Sweden)
Regina LEPPÄNEN (Finland)
Miriam MERCHANTE ANDREU (Spain)
Krisztina KASZA (Hungary)
Elisabeth KIMESWENGER (Austria)

The first good practices presented by the HOPE Exchange Programme participants, were *quality indicators* used in the Psychiatric LVR-Clinic of Langenfeld. Recently, the 10 psychiatric hospitals included in the regional collaboration introduced a 17 quality-indicator benchmarking model. The indicators cover results, processes and structure of the clinics and are reported in numbers and visualised in bar-charts. The results are monthly benchmarked with the other hospitals within the Region (*Landesverand Rheinland*). It is planned to expand the benchmarking to other German regions. To making it happen, an enabler is the direct access to data electronically from the medical records. A potential barrier instead seems to be a certain unfamiliarity with benchmarking itself, where professionals might feel criticised. This barrier seemed to be successfully addressed by the medical director, highlighting the overall benefits of the use of performance data to highlight areas in need of improvement for decision-making. A further example on quality indicators is the *Initiative Qualitätsmedizin - IQM* (Initiative Quality Medicine) in Göppingen. Several hospitals in Germany, Austria and Switzerland are connected through IQM. The system uses routine data from the patient records, and results are accessed through a web page. The aim of IQM is increasing the welfare of the patient and to recognise the potential for quality improvement.

The second good practice reported refers to the implementation of *new strategies for recruiting* at Psychiatric LVR-Clinic of Langenfeld. About two years ago, the clinic experienced a lack of workforce, together with difficulties in attracting new employees. Therefore, the management of the Clinic therefore decided to provide advantages to employees such as career development as well as other benefits. As a result, the recruitment process went through a complete makeover.

The third good practice regards the *Central Admission Department* (ZAD) at Katholische St. Lukas Gesellschaft. Admission to inpatient care is a complex process that, unless carefully managed, can result in a poor patient experience. Waiting for admission paperwork, long waiting times, lack of knowledge of medical exams required, lack of coordination and other handoff problems can impact patient safety and quality. Initially, the outpatient departments were decentralised and separated according to specialistic discipline. The costs of maintenance for premises, medical equipment and staff were increasing, as well as structural limits and poor patient satisfaction. The solution was to centralise the admission department in a single area. The results were positive in terms of patients' experience, pathways, outcomes and costs. This practice was transferred to other hospitals of Katholische St. Lukas Gesellschaft.

GREECE

HOPE National Coordinator: George TSIMOPOULOS
Exchange Participants 2019: James COSTELLO (Ireland)
Rhona HAYDEN (United Kingdom)

The HOPE Exchange Programme participants hosted in Greece reported as first good practice the *eHealth interoperability*. Often eHealth systems are built in silos and interaction is limited. This undermines the continuity of care. *Panacea* software is a query database developed to foster continuity of care. It connects patients with healthcare services providers, including Primary Healthcare Centres (PHCs). Panacea improved the effectiveness of IT systems in hospitals, being integrated in wards. At the hospital level, a barcode system was introduced in A&E departments for waiting times and diagnostic results.

The HOPE Exchange Programme participants reported also the example of *Forth*, a research Institute in computer science, which contributed in strengthening the hospital network of Crete while developing the IT system. Patients have access to results and can book consultation. *Forth* is involved in the development of EHR.

They mentioned the WHO recommendation to develop primary care, which is underdeveloped in rural areas. WHO has been working with Greece on a EU funded project to ensure that the reform plan follows WHO policy recommendations.

The second good practice referred to a system called *CritIS*, a system implemented as a tool to boost ICU workflow and help clinicians respond more quickly to patient's medical events at any time and from any physical location. *CritIS* stores, groups, and presents large amounts of data generated per patient inside the ICU. When combined with further informatic solutions, it automatically captures data from medical devices, eliminating data entry errors and offer to caregivers the opportunity to spend more time with their patients. It creates an integrated electronic record covering the entire stay of a patient in the ICU and beyond[3].

The HOPE Exchange Programme participants mentioned also the importance of nursing staff. They are highly qualified and available in the job market. However, they are employed with limited permanent contracts. Their recruitment is centralised and there is a plan for standardised training and qualifications.

[3]http://www.critis.gr/critis.html

HUNGARY

HOPE National Coordinator: Zsuzsanna BOROS
Exchange Participants 2019: Pablo LEGIDO (Spain)
Chatarina WEIDER (Sweden)

The HOPE Exchange Programme participants reported as first example the *Health Services Management Training Centre* at the Semmelweis University. Founded 25 years ago by Dr Miklós Szócska, it is internationally recognised for providing a wide spectrum of courses related to health management. The courses are addressed to graduates, post-graduates and PhD students. Health management is seen as a profession itself. The vision of the Training Centre is oriented to data, as a way to reach evidence. Big data are a tool for better outcomes.

The second good example is the *HTA Centre*. Limited resources are available for healthcare. Moreover, healthcare expenditure grows fast. HTA may be the way of understanding what is valuable, cost-effective, useful for the patient as well as which practice is worth to develop. A parallel approach is to use data as a way to produce evidence and fostering a more efficient healthcare.

The third example is related to electronic health record use, as a tool to bring advantages not only to patients but also to health services. It should be extended to all country, as stated by the HOPE Exchange Programme participants. It is a further way to produce evidences but for its implementation interoperability is crucial.

IRELAND

HOPE National Coordinator: Siobhán REGAN
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Gery LAARMAN (The Netherlands)
Rosa LLOPIS PENADÉS (Spain)
Klavdija PETERNELJ (Slovenia)
Waltraud SEITL (Austria)
Anne STORGAARD (Denmark)

According to the HOPE Exchange Programme participants, the Irish Health System is a complex combination of public and private services. Homeless people represent the 2% of population and lifestyle represent a challenge for public health. They experienced three levels of Evidence-Informed Decision-Making: strategical, tactical and operational.

At the *strategic* level, they mentioned *Sláintecare*, which presents a ten-year vision to transform Ireland health and social care services. The focus is on establishing the building blocks for a significant shift in the way in which health and social care services are delivered in Ireland. It is the first time that Ireland had wide agreement between all political parties and unions. This will allow to provide equal access to health and social care services all population.

At the *tactical* level, they mentioned the "Framework for Safe Nurse Staffing and Skill Mix in General and Specialist Medical and Surgical Care Settings in Ireland 2018" released by the Taskforce on Staffing and Skill Mix for Nursing. The core objective of the Taskforce is to develop frameworks to support the determination of safe nurse staffing and skill mix in a range of major specialities. The stimulus to establish the Taskforce included the recommendations from an increasing number of high-profile health inquiry reports and the increasing body of research evidence linking components of the nursing resource to patient outcomes.

At the *operational* level, HOPE Exchange Programme participants mentioned *Midoc*, the GP out of hours service for some locations. *Midoc* provides medical attention for patients with urgent medical needs that cannot wait until their GP surgery reopens. Having patients in their day clothes while in hospital, rather than in pyjamas or gowns, enhances dignity, autonomy and, in many instances, shortens their length of stay. For patients over the age of 80, a week in bed can lead to 10 years of muscle ageing, 1.5 kg of muscle loss, and may lead to increased dependency and demotivation. Getting patients up and moving has been shown to reduce falls, improve patient experience and reduce length of stay by up to 1.5 days.

The HOPE Exchange Programme participants believed that IT is fundamental for evidence-informed practice. Electronic Patient Records (EPR) is still only in the early stages of development in Ireland. Workflow is planned in detail before implementation.

The main conclusion from Ireland was that Evidence-Informed Decision-Making in healthcare management is increasing. Furthermore, chief nurses are holding high level positions representing a bridge from the ground to decision making level.

ITALY

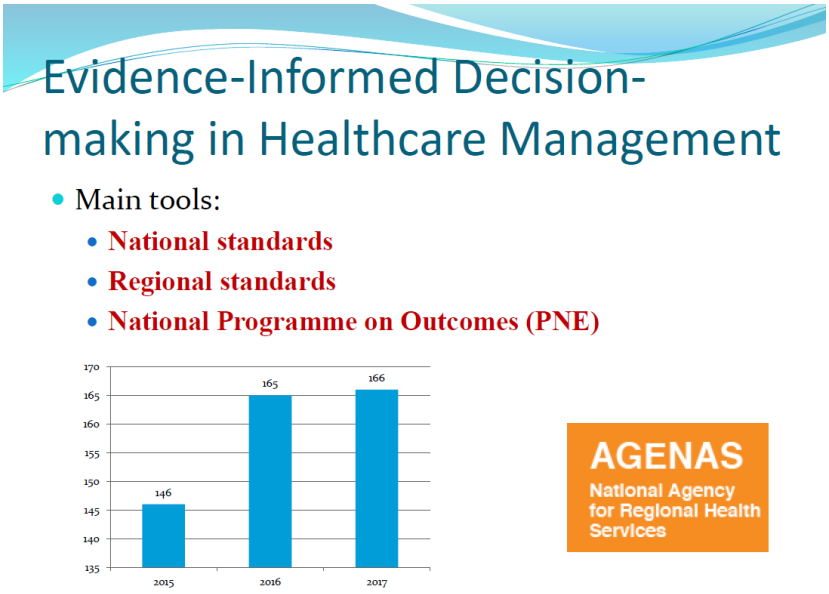
HOPE National Coordinator: Amleto CATTARIN
Exchange Participants 2019: Zanda PUČUKA (Latvia)
Ramón ROMERO SERRANO (Spain)

The first Italian good practice referred to the *National Programme of Outcomes* (PNE), measuring outcomes (clinical and organisational), hospitalisation rates and activity. Results are published to be used for decision making as indicators. Then these are integrated into the Regional Law, and annual objectives are set for hospitals according to these values. The clinical networks and their guidelines are used for PNE. One of the PNE measurements is the hospitals adherence to national programme quality standard. For patients over 65 years admitted to hospital for hip fracture, the aim is to perform a surgery within two days to at least the 80% of them. This is to decrease complications and deaths. If the threshold of patients who had a surgery within two days is at least 60%, then the hospital gets a partial score for this indicator. A further guideline provided by PNE is that there would be 834 less deaths for AMI if patients are treated in hospitals treating at least 100 cases yearly.

The HOPE Exchange Programme participants presented *regional standards regarding time in minutes* that a nurse shall dedicate for a single patient for speciality (TEMA) as well as its formula. They also showed the workforce and the equipment to ensure equal access to care to patients.

In the oncology field, they identified the *Multidisciplinary Oncology Groups* (GOM), organising the medical pathway of a patient with oncological disease, in order to apply the best standards of treatment and make sure that the clinical guidelines are being followed.

Lastly, they presented the example of *Zero Trust*, a unit in charge of performing only administrative tasks. The aim is to increase efficiency and productivity through a more effective use of processes. It serves other Health and Social Local Trusts (and also Research and Teaching Hospital Trusts) by absorbing and centralising the functions previously made by the different Trusts.



LATVIA

HOPE National Coordinator: Ieva LEJNIECE
Exchange Participants 2019: Elisabetta ALLEGRINI (Italy)
Jude O'NEILL (Ireland)
Britta SEFCIK (Austria)

The challenges faced by the Latvian Health System are workforce burnout syndrome, workforce shortage, underdeveloped infrastructures, strategical planning and ministerial collaboration, healthcare underfunding, low salaries and cultural diversity. Despite all those challenges, there is great commitment and attempt to provide the best care to patients according to the HOPE Exchange Participants. There are many examples of Evidence-Informed Decision-Making in health management.

The first example reported referred to *green corridor*, an efficient and fast healthcare programme for early detection of oncological diseases. It has been introduced in 2016 by the Latvian Government to face the problem of long waiting lists that bring a delay in diagnosis of oncologic patients. It involves GPs and doctors working in hospitals. At Pauls Stradins Hospital, the first consultation, examination or scan happens within 10 days the consultation is requested by the patient. The treatment plan is provided by 30 days after the visit and the treatment starts after 60 days since the first visit. In 2018, 85% of suspected oncologic patients have been treated following the green corridor and 10 out of 40 patients' consultations diagnosed with oncologic related illness.

The second example was a pilot project developed between Riga Children's Hospital and Florence Meyer Hospital on *patient experience measurement*. PREMs in both hospitals have been measured and international comparison performed. The actions implemented after the survey were improvement of communication, outcomes sharing, families' involvement, chief change and ongoing work on ventilation.

The HOPE Exchange Programme participants identified also the issue of *how defining the right number of nurses for each department/ward*. Everyday nurses report the time dedicated to each patient to perform a manipulation. Starting from this information a ratio is defined. According to the results obtained, the chief nurse can take decision on the necessary number of nurses. However, shortages have been encountered.

LITHUANIA

HOPE National Coordinator: Daiva ZAGURSKIENE
Exchange Participants 2019: Tatiana CUCU (Republic of Moldova)
David MURIANA (Spain)

Lithuania went through a process of healthcare reform, after the Berlin wall fell, based on Evidence-Informed Decision-Making tools. The system has been decentralised and private actors have been integrated in the network of healthcare services providers. Moreover, primary care has been developed and the number of hospitals reduced. As regard financing, after the reform process the Bismarck model has been introduced. Retraining programmes and new post-graduate studies and specialities introduced as well.

The good practices identified by the HOPE Exchange Programme participants were *nursing empowerment* and the *national eHealth system database*.

Nursing has been empowered through the update of nursing studies to Bologna standards (4-year study and introduction of masters and PhDs). Moreover, nursing specialisations have been introduced as well as guidelines on National Nursing Policy. Efforts have been made to improve competences and salaries and to overcome resistance to change. According to data provided by OECD, the ratio of nurses for physician in 2015 is 1.8 (OECD 35 average is 2.8). The added value of empowering nurses is to improve access to health; providing a higher quality and patient-oriented service; use health resources more efficiently and reaching patient satisfaction.

The HOPE Exchange Programme participants mentioned a project aimed at improving the efficiency and capacity of health sector public administration institutions by introducing evidence-based management tools. The milestones of the project are adapting *EVIPNet* methodology at the national context, creating knowledge translation processes, and establishing a knowledge translation platform.

The introduction of a national eHealth system database allows the real sharing of data between different health professionals and across several levels of care. The database allows a more complete collection of medical records, leading to easier patient stratification and healthcare services planning. It also allows to save money, reducing waiting-times and improving medical outcomes.

The future challenges for Lithuanian health system are strengthening primary care; patient empowerment; emphasis on health prevention and promotion and reducing inpatients admissions.

REPUBLIC OF MOLDOVA

HOPE National Coordinator: Olga SCHIOPU
Exchange Participant 2019: Lilija ANTOŅĒVIČA (Latvia)

The HOPE Exchange Programme in the Republic of Moldova was aimed at addressing the following questions:

* *How can communication skills be improved?*
* *How can infections be reduced?*
* *How can performance culture be built?*

Effective communication at hospitals and health systems contributes to the development and sustainability of a culture of safety. Yet, miscommunication remains a consistent and pervasive problem. In order to improve communication, the hospital should specify that the patient is the first priority and train the staff. The Exchange Programme participant presented diagrams showing how communication with patients is analysed at the institutions level.

Infections could be reduced through the introduction of electronic records, supporting professionals in providing high quality care to patients. Yet, electronic records provide accurate data and easy to analyse results. During the Agora, evidences on CVC, PVC, urinary catheters and intubation time have been provided. This was captured through the Nurses Electronic record.

Quality criteria for patient care in hospital department refer to: pain management, hand hygiene, commutation skills - staff education, healthcare associated infections management.

Performance culture can be built prior introduction of quality criteria for patient care in hospital departments. Several performance measurement initiatives have been presented. Pain management measurements are obtained through patient surveys. Hand hygiene procedures compliance are checked once a month for each department staff by an independent trained expert (nurse) for five hours. Communication skills are evaluated through patient surveys. Staff education is guaranteed through a monthly training for each employee. Associated infections are listed monthly in the hospital departments.

POLAND

HOPE National Coordinator: Bogusław BUDZIŃSKI
Exchange Participant 2019: Olga BUKARICA (Serbia)
Maria J. MANTILLA (Spain)
Ana M. MOROTE (Spain)

The process of applying Evidence-Based Informed Management in workplaces requires diverse steps: identifying the problem; collecting evidences; revising the plan and applying changes. It is possible to gather data from different sources as well as observing data from different perspectives. Data could be also collected from stakeholders. After having collected information and data, it is possible to reflect those in the reality. Lastly, a plan is developed and tested and possibly revised.

The first example presented was the decision taken by some Polish hospitals (*Bielanski Hospital* in Warsaw; *Wojewódzki Specialistyc Hospital* in Olsztyn and *Warszawski Dla Dzieci Hospital*) to implement the WHO strategy: "*Clean Care for All: It's in Your Hands*". In 2013, 165 hospitals in the country implemented this strategy promoted by the Polish Ministry of Health.

Hand hygiene is a critical element in achieving universal health coverage for three reasons: it is an evidence-based practice; it has demonstrated an impact on quality care and patient safety and reaches all levels of healthcare. It is not an expensive measure, but it creates great impact. Hand washing has rightly been considered a measure of personal hygiene for centuries. There is now enough scientific evidence to show that this simple, inexpensive measure can help reduce infections. At the institutional level, it is necessary for health managers to place hand hygiene as one of the institution quality objectives. The Exchange Programme participants reported that according to available data, hospitals were facing safety, legal and cost-related problems due to hand hygiene.

A further initiative implemented in 2019 is "*My 5 Moments for Hand Hygiene*", as a key approach to protect the patient, the healthcare worker and the healthcare environment against the spread of pathogens and thus reduce healthcare acquired infections. This approach encourages healthcare workers to wash their hands before and after touching a patient; before clean/aseptic procedures; after body fluid exposure/risk and after touching patient surroundings.

In summary the action plan for hand hygiene improvement, is based on five steps:

1. System change: ensuring that the necessary infrastructure is in place to allow healthcare workers to practice hand hygiene. This includes two essential elements: access to a safe, continuous water supply soap and towels; readily accessible alcohol-based hand rub at the point of care.

2. Training and education: providing regular training on the importance of hand hygiene, based on the "My 5 Moments for Hand Hygiene" approach, and the correct procedures for hand rubbing and hand-washing, to all healthcare workers.

3. Evaluation and feedback: monitoring hand hygiene practices and infrastructure, along with related perceptions and knowledge among healthcare workers, while providing performance and results feedback to staff.

4. Reminders in the workplace: prompting and reminding healthcare workers about the importance of hand hygiene and about the appropriate indications and procedures for performing it.

5. Institutional safety culture: creating an environment and the perceptions that facilitate awareness raising about patient safety issues while guaranteeing consideration of hand hygiene improvement as a high priority at all levels.

The application of the WHO Guidelines on Hand Hygiene in Healthcare requires action in many areas. It is important that professionals with the capacity to make key decisions are actively involved in the implementation process. In order to raise awareness and involve health professionals in the prevention of healthcare-associated infections through this simple and effective measure, the director of Bielanski Hospital in Warsaw signed and put her photo on each reminder. In the Voiewoski Hospital each worker has on his/her computer screensaver a reminder of hand hygiene. The aim is that the increase will be observed over time until at least 2020, when it is expected that a culture of hand hygiene excellence will be embedded in all healthcare facilities

The second example was the *triage process in emergency wards* in Bielanski Hospital, Warsaw. The classification of patients is structured there in five levels of priority according to Manchester guidelines. This triage has some peculiarities.

Data were collected and strategies for the attention of users in emergency rooms have become essential for the proper functioning of these services. The demand of healthcare services in the Emergency department was indeed growing. To solve the problem, an electronic triage system, developed by the emergency service team together with the management support, has been adopted. At the entry of the emergency department, there is a device with a touch screen. The patient has to select the purpose of the visit and fill a short survey. Date gathered through the survey are processed through an algorithm and a number is assigned to patients. On a further screen, there is information about the waiting time associated to every number, which variate depending on the seriousness of the situation.

The third example was about STEMI care. The mortality and morbidity due to ST elevation in acute myocardial infarction is correlated with the time from the onset of symptoms to reperfusion. Telemedicine can be very useful by sending the ECG of the patient from the first point of care to confirm the diagnosis. Primary percutaneous coronary intervention (PCI) is the treatment with the highest level of recommendation for STEMI. The optimal treatment of patients with STEMI requires a regionalised network approach that includes rapid coordination between several services. There is a network of hospitals on PIC in Poland. When the patient presents a chest pain and notifies the emergency service, the ECG is performed and transmitted. The hemodynamic unit of the reference hospital, once the diagnosis is confirmed, prepares all the procedures to welcome the patient and perform PIC.

PORTUGAL

HOPE National Coordinator: Francisco Antonio MATOSO
Exchange Participant 2019: Laureano FOLGAR ERADES (Spain)
Linda FRIDENBERGA (Latvia)
Calina LUNGU (Republic of Moldova)
Rebecca MASON (United Kingdom)
Sarah SCHRAML (Austria)
Mette JENSEN (Denmark)
Robert ZACNIEWSKI (Poland)

The HOPE Exchange Programme participants presented as a first good practice the *reduction of waiting list* for surgeries. The Government decided that hospitals have to collect data in the same way and, the waiting lists started reducing at the regional level. The patient could choose another hospital, public or private, if the target in accordance with waiting time standard is not respected.

The second good practice regards the *average length of stay*, that was reduced prior collection and analysis of data. The focus to reduce it was on clinical processes and pathways. Multidisciplinary consultations were performed before and after a surgery, and the health services were organised in order to be provided at home, when the patient was discharged.

The third example is on *complex chronic patient management*. Due to the demographic structure of the population, people suffering from chronic and complex conditions increased. The same did the number of patients admitted to emergency rooms. After having observed the statistics, a robust coordination system with community nurses was created to assist such patients. Consequently, there was a reduction of people attending the emergency services.

REPÚBLICA PORTUGUESA
SAÚDE

Vision

$$\text{Value} = \frac{\text{Patient outcome} \Uparrow}{\text{Cost of delivering the outcome} \Downarrow}$$

SLOVENIA

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Jose Ramon SAIZ-LLAMOSAS (Spain)

According to the HOPE Exchange Programme participants, Slovenia is rich of good examples on Evidence-Informed Decision-Making. However, they opted to present actions guided by evidence from trials, research and partnership.

The first practice was about *Legionella control*. Legionella pneumophilia is a naturally occurring bacteria residing in water reservoirs which is pathogenic to many groups at risk (elderly, diabetic, COPD, CVD, tobacco and alcohol users). It prospers between 20 and 40 Celsius degrees, which is the typical temperature for hospital environment. Legionella control became a priority given that the number of cases in the world steadily increased in the last 15 years. Three possible approaches could be put in place to fight against Legionella: at the point of use; at the point of entry or performing systemic treatment. Following a scoping exercise and literature review, Tech Serv Dept began a trial in June 2017 which rapidly improved water safety to yield effectively zero Legionella detected – now to be expanded to other problem areas. Results were positive and Legionella decreased over time.

The second good practice referred to *improving major emergency event outcomes* by deploying real-time e-devices. Conventional paper and voice-based systems are prone to communication error, they are local single copy information sources rather than event wide information dissemination systems and therefore can yield sub-optimal patient outcomes. In the ideal situation, there would be accurate real-time information available at every location and stage in the field of operations. E-devices lend themselves to deployment at the emergency scene, they enhance triage and patient categorisation from “not injured” to “stable”, “critical” and “deceased”. They improve scheduling of patient transport and hospital preparedness for optimised emergency department care.

The third good practice was on *community integrated mental healthcare* in Idrija (& Fuzine). With 369 participants they made trials with a multi-disciplinary team (psychiatrist, psychologists, nurses, social worker and occupational therapist) using a community-based approach to treat people with mental illness. Community treatment includes state healthcare provision, social and non-governmental services, mental and physical health education, and formal and informal networks. Care is delivered in a moderated way according to the degree or intensity of the patient’s mental health problem in a community and holistic approach. In Fuzine nursing home a similar approach has been taken but instead the patient environment is normalised by bringing the community into the nursing home – a seamless integration with the local community destigmatising ageing and dementia. For current and future therapies in treating Alzheimer’s disease it is essential to diagnose the disease as early as possible, to slow and hopefully one day stem its progress. Disease process takes place over many years and symptomatic stages can be broadly categorised into three: mild, moderate and severe. There would be pre-symptomatic diagnosis and treatment. Based upon research the MOPEAD partners including Department of Neurology in Ljubljana have developed early diagnosis via on-line test, open-day walk-in clinics, GP visit and selecting T2D patients.

SPAIN

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The first example of Evidence-Informed Decision-Making practice presented by the Spanish group was *patient involvement in care*. The Asturian Health Authority OETSPA promoted a project for insulin dependent diabetic patients. Patient feedback revealed poor pain control and concerns about the needles quality. Decision were taken to select new provider of insulin needles, in accordance with patient feedback. A patient satisfaction survey was designed and sent to selected patients. Each patient only used one brand of needles for five consecutive days and scored the provider according to pain level (VAS); presence of hematoma and overall satisfaction. Patients were supported by nursing staff to rate their experience but were unaware of the brand used. The results were shared with patients and used to select the supplier. Supplier A was preferred by patients, due to high satisfaction and lower pain scores. Following the scoring process, supplier A was chosen due to economic and technical advantages as well as patient opinion.

The second example was on *eHealth*. If followed, the motto "right time, right place, right care" allows to avoid duplication and increase efficiency; it improves continuity and immediacy of care; it promotes safety and quality. The implementation of an integrated electronic health record connects primary, secondary and tertiary care. It feeds population database and it is integrated with support systems e.g. finance and human resources. eHealth increases the visibility of the patient clinical history. Further examples are precision medicine and big data, contributing to improve and personalise health and preventing and detecting diseases earlier.

Chronic Disease Management – reported as third good practice – enhances quality of life; improves patient autonomy; contributes to sustainability; reduces cost of care; fosters continuous improvement and promotes integrated care. The implementation process consists of a multi-disciplinary work where the patient is at the centre. The stratification of patients according to the disease and its severity is necessary, as well as the improvements tracking. The outcomes are reduction of urgent admissions; increased satisfaction for patients and providers; reduction in the use of resources and increasing of care integration.

Spain is responding to changes in demographic composition and chronic disease prevalence. Evidence demonstrates effective and efficient healthcare system. The HOPE Exchange Programme participants observed evidence of innovation, learning and responsiveness to ensure sustainability.

SWEDEN

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The *good and close care* was the first example of Evidence-Informed Decision-Making reported by the Swedish group. Demographic developments raised new needs and new patterns in population disease management. To increase quality, improve access and ensure more efficient use of resources changes to the structure and organisation are required. Systems are moving towards more integrated care systems, organised across cooperation between different healthcare units. Further aspects of this new scenario are collaboration between regional and municipal healthcare; building of new competences and optimising digitalisation. The project *Effektiv vård* (Efficient healthcare) was commissioned by the Government in 2017 to perform an investigation aimed at supporting regions and national authorities in their development of a modern, equal, accessible and efficient healthcare focusing on primary care. Healthcare services provision must provide open, flexible and accessible solutions. Patients shall participate to their care path definition and decision making. All regions in Sweden joined this project.

According to the OECD and the European Observatory on Health System and Policies, there are increasingly convincing evidences for:

* lower levels of avoidable impatient care;
* fewer visits to emergency-rooms;
* better health outcomes;
* more equality;
* slower increases of costs in healthcare.

Examples of this development are the *mobile doctors*. Doctors from the hospital go to the patient's home, being aware of his/her clinical background. Doctors take the necessary time to talk with the patient about his/her needs. The doctor who is in charge at the patient collaborated with all parties involved in the path care and provides the treatment at patient's home. The *phone consulting for diabetics* involves nurses. It is a service based on blog, phone and Skype communication. There is one documentation system for the whole region. If we look at the future of *digitalisation*, patients should triage themselves and will be referred directly to the best point of care. Therefore, the digital systems have to be improved and optimised – a long term improvement until 2029. The National Patient Survey provides an annual measurement of how patients perceive the quality of healthcare. The survey reaches an average of about 640,000 people per year. Specialised care and primary care are measured on a two years basis.

The second good practice was the *optimisation of surgery process*. The Region of Gävleborg had commissioned a specific number on medical consultations/interventions and assigned specific tasks. There is a joint long waiting list for planned surgery for the patients from the whole region. To respond to this challenge, ALERIS was introduced as a tool to optimise the surgery process in small hospitals and healthcare centres.

The challenge was approached by involving all the stakeholders including patients. pre-operative processes were optimised, and operatory theatre processes reorganised. Patients were interviewed and took part in focus group. The staff was trained to improve the process. Finally, processes were monitored in a very clear way. Waiting times were reduced and more surgeries were performed.

The third good practice was the *daily evaluation at the hospital laboratory*. Every day, professionals working at the laboratory of the Central Hospital in Växjö provides individual and anonymous evaluation after every shift. All results are displayed on screens in the hallway of the departments. Weekly meeting with manager and a representative of the staff is organised to talk about the results and make improvements together. All the staff is happy with the results, so they keep filling out the evaluation.

SWITZERLAND

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The first Swiss evidence-based example was *patient triage in emergency room*. An increasing number of patients was admitted to the emergency department, and many of them were requiring primary health care services. Based on data on number of patients, waiting times and patients' satisfaction and after the analysis of patients' complaints and measurement of medical parameters, a double triage system was introduced. After an initial triage, the patient is assigned to emergency path or ambulatory path. In the first case, a second triage is performed according to Manchester triage standard. In the second case, the patient is addressed to a GP.

The second example was *ward – lean management*, introduced to respond to the lack of information between stakeholders. The data used are feedback from the staff and process flows. This solution eliminates waste and helps identifying the value stream; anticipates the peaks of patients following a path; enhances standardisation and fosters continuous improvement. Processes are optimised and more value is created for patients. Examples of ward-lean management are daily meeting (huddle board), Kaizen board; KPIs and questionnaires to explore patient satisfaction.

The third example was *PATMAN* and refers to Patient Manager Model. Patients in rehabilitation wards were not satisfied due to a lack of information between stakeholders. This caused delayed and rigid therapies. PATMAN ensured an earlier/faster start of the therapy and higher quality information collected by multidisciplinary teams.

The third example concerns *rehabilitation* as well. According to feedback received from insurance companies and acute-care hospitals, patients were not receiving best practice treatments. Through data analysis on processes, cohort studies and multi-professional experts' meetings there were changes in the organisational processes. Lean management principles were applied and changes in IT systems were introduced to support the analysis of processes and performance. As a result, inpatient rehabilitation became more efficient; rehabilitation procedures faster and patients were more satisfied.

The fourth example referred to the *home care programme*, introduced to respond to the challenges of lack of continuity of care, patients' dissatisfaction, and necessity of focussing more on long-term care. The solution consisted in the creation of a self-regulated team of 12 people, including two nurses providing holistic care to patients. As a result, the satisfaction of patients and professionals increased.

THE NETHERLANDS

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The HOPE Exchange Participants presented as a good practice the *forecasting model introduced to respond to influenza epidemic*. In 2017/2018, there was an increase in the number of patients diagnosed with influenza epidemic. Diagnostic time was long, and patients started to complain. Moreover, there was also a lack of nursing staff and problems with bed planning. However, patients cannot be kept at the hospital for too long but no existing protocols at the department for controlling this.

Qualitative and quantitative data were collected to find a solution. Data collected and used were data about influenza in the Netherlands; number of patients in isolation room per week; data on patient patterns and capacity such as admissions, discharges, length of stay and available beds. Data support in making prediction but it is necessary of paying attention because they cannot be accurate. Finally, data on number of absent nurses due to illness was considered as well. Feedback from the staff and patients was collected.

Proposed actions on base of evidence were:

* Rapid diagnostics, making results available in two hours and reducing the time spent by the patient at the hospital. A protocol was introduced on this;
* Decision-tree for doctors to decide whether keeping patient in the hospital;
* Decision-tree for wards to decide which patient is in need most for single bedroom;
* Outbreak management team to make data-driven decisions;
* Forecast model and prediction for number of patients next winter;
* Establishing a staffing methodology system.

The effective interventions were:

* Rapid diagnostics and protocols;
* Decision-trees for doctors;
* Outbreak management team;
* Staffing methodology system
* Forecast model prediction.

Forecast model and prediction are based on vaccines effectiveness, patients' number, calendar factors (months with highest number of patients) and also google trends (number of inputs into google with words like "flu"). This year there was not such a high number of patients with flu but at least a good baseline to benchmark the next year with was created.

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The practical examples reported by the HOPE Exchange Programme participants in the UK were *patient information*, *patient feedback* and *implementation of scan for safety solutions*.

In England there are several initiatives to collect patient information such as patient survey, Patient and Public Involvement (PPI), Patient Advice and Liaison Service (PALS), team call, team face to face, care opinion website as well as patient voluntary involvement.

Neil Churchill, the Director for Experience, Participation and Equalities at NHS England said "*Patient experience expert are spending a lot for their time collecting feedbacks. We need to think about how we can spend more time on doing something about these feedbacks*".

All the information collected are included in a system called *Datix*. From this information reports are generated. Every week the responsible person will have meeting, analyse data and identify the main problems. The line manager is responsible to keep in charge patient and inform the patient about the complaint process. The solution is to elaborate a teaching programme for all the staff, to provide information material, providing feedback to patient and posters where you can find patients feedback associated with the solution referring to that. The patient experience is a great platform to analyse, to make decisions and improvements. NHS is supporting so much healthcare providers, giving opportunities to be proactive and involve the patient in the healthcare process.

Scan4safety is a scan for safety solution. In 2015 a review on efficiency of 22 NHS hospitals has been released. The review justifies variations in productivity and efficiencies around unnecessary spending. After having studied the variations, recommendations on how to save money have been made. A lot of saving in patient safety can be improved using new technologies. *Scan4safety* is a global standards-based project that uses the barcode to improve the patient safety. In March 2016 the *scan4safety* started as a demonstrator in 6 NHS hospitals. In this project of over 2 years period, the six sites worked to implement the standard bar code and improved the operational efficiency and patient safety. It is used in several departments. They have developed an in-theatre usage and procedure level costing system using GS1 barcodes to capture the patient, staff, instrument trays, scopes, products, consumables and the time used in an operation. It led to a significant reduction of the volume of stock held and the ability to have accurate cost data. They have barcodes for the procedures as well as barcodes to track co-morbidities. This enables the capture, at the point of use, of every single detail of the procedure using compliant barcodes.

The project encountered staff resistance to change and the system takes time to be implemented. There were improvements in patient safety, operations and financial results. According to data reported by the Exchange Programme participants, a reduction of inventory averaging £1.5 million per trust, £216 million across the NHS was estimated. Moreover, ongoing operational efficiencies of £2.75 million per trust annually generated corresponding to £424 million across the NHS.

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HOPE represents national public and private hospitals and healthcare associations, national federations of local and regional authorities and national health services from 30 European countries.

HOPE mission is to promote improvements in the health of citizens throughout Europe, high standard of hospital care and to foster efficiency with humanity in the organisation and operation of hospital and healthcare services.