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DESIGN

**> HOSPITAL
DOWNSIZING**

Plus


- > Art for Health**
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Paul Castel

SHARED VALUES AND EXPERIENCES

For the 23rd time, the congress of the European Association of Hospital Managers will bring together several hundred hospital managers, who have travelled from all over Europe. It will be, without a doubt, an occasion for rich and inspiring discussions facilitated by high-level international experts. The congress will also, and most importantly permit the gathering of professionals around the same values, the values that found the identity of hospital professionals.

Indeed, beyond the unique specificities of each healthcare system, whether this may be the organisation, the method of financing or the position of the hospital manager within the hospital, it is always striking to observe the force that unites hospital managers. These shared values are generosity, sense of responsibility, caring about developing their organisations, relentlessly improving the service offered to patients but also guaranteeing quality of care.

This strong professional identity constitutes for each of us, the base upon which we depend to manage our establishments and to assure their development. It also constitutes a heritage that we need to maintain through the exchange of experiences. It is precisely because these values are at the origin of the creation, now more than 40 years ago, of the EAHM, that the association wishes to engage, in the upcoming months, in a series of initiatives designed to multiply the exchanges between directors, to de-

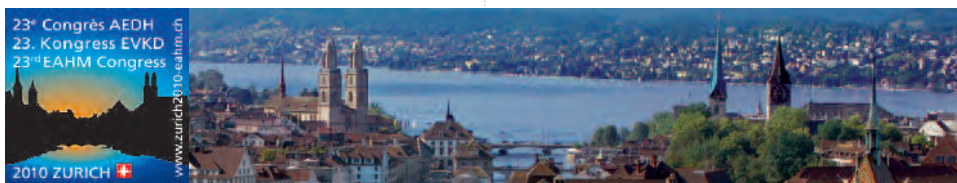
velop feedback sessions on these exchanges but also to pass on our professional identity to young managers who will manage the hospitals of tomorrow.

In general terms these initiatives, which will allow the EAHM to increase its visibility and to reinforce its links with the national associations it is made up of, aim to re-centre our association around the common problems we all face and to devise shared management solutions to combat them. Thus, our mission of constructing a social Europe will continue, despite the uncertainties and the successive comings and goings, for the benefit of all European citizens.

As the crisis, in its many dimensions, strikes Europe and shakes our organisations and our health systems, the affirmation of our identity, of the values that join us together is essential. Indeed, far from being a withdrawal into ourselves or a sign of closing down, the expression of our singularity should be seen as a sign of confidence and openness; confidence in the future, openness to change and innovation.

It is this spirit that I have endeavoured, with honour and pride, to inspire within the EAHM throughout my four-year presidency. As will no doubt my successor, who will be appointed in Zurich.

P. Castel
President EAHM



The editorials in *(E)Hospital* are written by leading members of the EAHM. However, the contributions published here only reflect the opinion of the author and do not, in any way, represent the official position of the European Association of Hospital Managers.



Design

Our cover story this issue illustrates the many different aspects of design within the hospital environment and how good design can have a positive impact on hospitals. We begin with two articles on evidence-based design (EBD): Pernille Weiss Terkildsen focuses on how EBD can improve our business models, while Carlo Ramponi discusses the merits of EBD for patient safety. We then move to another aspect of design in the hospital- design for patient dignity. Jan Dekker tells us about a design competition in the UK to improve patient experience which resulted in new hospital gowns, bed pods and capsule washrooms. We complete our dossier with an environmental article; Harry McQue reminds us that hospitals should be designed with a mind to reducing our carbon footprint.

Hospital Downsizing

In an extended article on hospital downsizing, Massimiliano Piacenza and Gilberto Turati debate whether hospital downsizing is an effective way to control health expenditure. The Italian economists highlight the issue that a reduction in the number of hospital beds is not always accompanied by a reduction or restructuring of the workforce.

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Switzerland's hospital system is subject to change. Cost containment, competitiveness, transparency of service quality, need for manpower and trend to out-patient care are the main constraints that hospitals face today. Political decision making like the introduction of diagnosis related groups (DRGs) further advances this process, which will intensify networking among hospitals, promote specialisation and lead to the closing of those enterprises who cannot meet the challenges of competitiveness.



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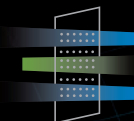
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NOVEL AND INTERACTIVE

IT @ 2010 boasts two rounds of presentations, MINDBYTE and WORKBENCH, each followed by lively and informative Q&A sessions with the audience. Our unique peer to peer voting system empowers the attending healthcare professionals to vote for their preferred projects alongside the panel of expert judges.

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IT @ Networking Awards 2010 is the only competition of its kind, bringing together the top

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- ▶ Media promotion worth Euro 50,000.

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Group B	Euro 400
Group C	Euro 700

GROUP A

Full Members of the HITM and EAHM and those eligible for Mates Rates.

GROUP B

Employees of hospital or healthcare facilities, national or European health administrations (proof of employer needed).

GROUP C

All other industry professionals.

MORE INFORMATION

For further information on *IT @ Networking Awards 2010* please:

- ▶ visit our website www.itandnetworking.eu;
- ▶ contact us via email at awards@hitm.eu; or
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ORGANISERS

IT @ Networking Awards 2010 is organised by the European Association of Healthcare IT Managers and the European Association of Hospital Managers, supported by Excellent Event and EMC Consulting Group.

GEORGE WITTE



The sudden and unexpected decease of George Witte has touched the EAHM deeply. George Witte was a remarkable standard bearer on different levels, at local level as president of the Board of Rivierduinen and nationally as for example, vice-president of the GGZ NL (Mental Health Organisation, Netherlands). Within EAHM, he was active within the Working Party Psychiatry. He even led this Party as president in the past years.

The EAHM wishes to express its sincerest condolences to his family, friends and colleagues.

THE EAHM-WEBSITE RESHAPED

The website of our association was in need of a reshape since its launch in 2004, focusing on the one hand on hospital management and hospital managers and on the other hand our member associations.

The website is building up a “European overview” on hospital management through documents, links and news. The current “themes” and “activities” of EAHM also receive a prominent place on the website. The “document”

section gives an overview of press releases, presentations and our magazine *(E)Hospital*. An overview of judgments by the European Court of Justice, congresses and links of interest for hospital managers are provided in the “resource center”.

Registered users can look up hospital directors in the “who is who” section as well as information on our member associations.

The new platform of our website also creates possibilities to deliver new information and updates faster. These can be provided by EAHM but also by our member associations, every individual hospital director or registered person. Documents, news, links and activities can be shared through the “contribute” section.

Finally the homepage of our website contains a poll; a short question on a particular theme. The opening poll is

“What is currently your main concern?” with the following options “1) Budget/Financing, 2) Human Resources, 3) (Re)organisation, 4) Quality, 5) Legal affairs and 6) Other”.

The website is launched in English, translation in French and German is underway.

We invite you to visit our website, to fill in our poll and to share information with your colleagues through the “contribute” section.

WILLY HEUSCHEN RECEIVES HMI FELLOWSHIP

On March 26th 2010, Mr. Willy Heuschen, General Secretary of the EAHM, received the HMI Fellowship from HMI President Denis Doherty in recognition for his great contribution to the health services in Ireland and Europe.



Figure 1. Screenshot of the new EAHM website

Theatre efficiency improved by implementing custom procedure trays

Custom procedure trays offer all single-use medical devices needed for a specific surgical procedure – in one pack. The high level of customisation results in work flow efficiency, correct consumption, timely delivery and reduction of waste.

An operating theatre is a busy environment and there is pressure to handle more interventions by optimising internal processes within the hospital. Hospitals are aiming to treat patients as quickly as possible without compromising on quality and safety. In the UK, the Royal Liverpool and Broadgreen University Hospitals NHS Trust identified early on that one of the main challenges was to reduce theatre time. They therefore looked at a range of ways of improving the efficiency.

“We use lean principles to increase theatre efficiency and have increased the number of patients treated by 40% over the last two years,” says John Davidson, Clinical Director Orthopaedics at Broadgreen Hospital. “Introducing custom procedure trays has had a significant improvement on theatre turnaround so we are not waiting around for an operation to start.”

As Mölnlycke Health Care has an understanding of the specific requirements and processes, implementing custom procedure trays also included support in selecting the right components for each procedure, as well as providing staff training.

Simple approach saves time – and the environment

Traditionally, nurses have had to collect all the individual components for each procedure and considerable time was needed getting the right



“Introducing custom procedure trays has had a significant improvement on theatre turnaround so we are not waiting around for an operation to start.”

John Davidson,
Clinical Director Orthopaedics,
Broadgreen Hospital, Liverpool

single-use materials and components in place.

Having all medical devices for each specific intervention in one pack, instead of numerous individually sourced and packaged items, results in time and money savings without compromising quality or patient safety.

“Before we got the trays we needed to set up all the components and sometimes things were missed out. With custom procedure trays everything is there and the quality

of everything in the trays is really good,” says Louise Woods, unit coordinator Orthopaedics.

The increased work flow efficiency gives O.R. staff more time to coach trainees and undertake additional work priorities focussed on the improved care of patients. And most importantly, the hospitals can increase the number of operations performed and more patients can be treated.

Both Royal Liverpool and Broadgreen University Hospitals are part of a national programme to reduce their carbon footprint by 15% over the next five years. These two targets have received a major boost thanks to the introduction of custom procedure trays in all the trust’s operating theatres.

In conclusion, the implementation of custom procedure trays from Mölnlycke Health Care has helped the two hospitals to save money, improve the environmental management and treat more patients to better care.

FACTS AND FIGURES

Implementing custom procedure trays at the Royal Liverpool and Broadgreen University Hospitals NHS Trust resulted in:

- 47% more knee replacement operations carried out after the introduction of custom procedure trays, which equates to more money coming into the trust¹
- Pre-theatre setup times reduced from 12 minutes 7 seconds to 2 minutes 9 seconds for knee replacement surgery using custom procedure trays¹
- Pack opening time reduces from 6 minutes 32 seconds with individual components to 20 seconds with custom procedure trays for knee replacement surgery¹
- Large operations result in an average of one fewer bag of non-clinical waste since the introduction of custom procedure trays¹

1. “High-quality custom procedure trays boost theatre efficiency, reduce waste and save time”, Case study developed by Mölnlycke Health Care, 2009

Case study sponsored by Mölnlycke Health Care.

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FRANCE**Remote Wound Care Pilot in Caen**

From September 2010, a regional network of skin wound telecare will operate in Caen, Normandy, France. The plan is part of the government's drive for hospital reform and the telecare system will eventually be extended to more French cities.

The brainchild of Dr. Domp Martin from the dermatology unit of the Caen University Hospital and Dr. Blanchere, head of the telemedicine network, the initiative will enable the patient to receive wound care at home. The first set of volunteers will be patients with chronic wounds such as leg ulcers and bedsores.

About twenty freelance nurses wishing to participate will be trained and provided with the transmission material (imaging and sound). "They will take care of 10 patients each. Thanks to a 3G mobile phone equipped with specific software, they will film the wounds to be treated." The remote consultation will take place over the Internet with an expert nurse holding a university degree in wound care management. The expert nurses will have their decisions validated every week by a dermatology specialist, and a video conference will be held once a week.

The freelance nurses will visit the patients staying at home. They will film the wounds and convey the film to the expert nurses to obtain their opinion. The reports and prescriptions aimed at the patients' general practitioners will be channelled through a secure messaging tool named 'Apicrypt'.

The motive behind the network is to not only to facilitate the return home of the patients and thus to cut costs, but also to combat doctor and nurse shortages.

UK**Liberating the NHS:
Improving Outcomes for Patients**

Detailed proposals for how the NHS will improve healthcare outcomes for pa-

tients and judge its success were set out in a public consultation by the Department of Health in July.

The White Paper Equity and Excellence: Liberating the NHS, published on 12 July, explained the government's intention to create an NHS that is more responsive to patients' needs and achieves better outcomes that are among the best in the world.

A new framework has been proposed, which aims to refocus the NHS on the outcomes achieved for patients rather than the process targets of the past that had no clinical justification.

The framework includes a set of national outcome goals which patients and the public can use to judge the overall performance of the NHS and hold the government to account for progress. The framework and the national outcome goals will form a combined mechanism by which the Secretary of State for Health can hold the new NHS Commissioning Board to account for the outcomes it is securing for patients.

The consultation document suggests five outcome domains:

- ▶ Preventing people from dying prematurely;
- ▶ Enhancing the quality of life for people with long-term conditions;
- ▶ Helping people to recover from episodes of ill health or following injury;
- ▶ Ensuring people have a positive experience of care; and
- ▶ Treating and caring for people in a safe environment and protecting them from avoidable harm.

Of the new framework, Health Secretary Andrew Lansley said, "Instead of politically motivated targets which lack clinical evidence, we will measure the outcomes that are most important to patients and that are relevant to healthcare professionals. These will be backed up by authoritative, evidence-based quality standards that will ensure every-

one understands how those outcomes can be achieved."

He also stressed the need for input from all those involved in the healthcare sector, "I want to hear the views of healthcare professionals, patients, carers and the public on how the new system should work, and what we should measure to ensure the NHS is focused on what is important to patients and what improves their overall experience of NHS care."

SPAIN**1.6 million Government Investment
in Three Health Centres for
Canary Islands**

The government remains committed to contributing to the construction in 2010 of three socio-medical facilities in the Canary Islands, with an investment of 1.6 million euro. This has been assured by the Minister of Health and Social Policy, Trinidad Jimenez, during his visit to Gran Canaria, which highlighted the partnership between the central government and the Canary Islands to carry out this objective.

Jimenez recently visited two of the social health centres in the Canary Islands, "El Pino" and 'Centro para discapacitados psíquicos Reina Sofía' (El Lasso) which care for mentally handicapped patients and the elderly and disabled. Jimenez stressed that these health centres not only improve patient care but also generate local jobs. The two centres previously mentioned have so far generated 362 jobs.

Jimenez has announced that in Lanzarote a social care centre for people suffering from Alzheimer's will be constructed and in Fuerteventura, the Ministry of Health and Social Policy will participate in the construction and equipping of a residence and occupational centre for the disabled. In addition, Santa Cruz de Tenerife will continue with the construction of a social-health centre.

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New Research Challenges in the Area of Infectious Diseases

Dr Marc Sprenger, Director of the European Centre for Disease Prevention and Control (ECDC), spoke about the new research challenges in the area of infectious diseases at the Shanghai Expo seminar on Research for Healthy Life.

Sprenger stressed that the public health research agenda needs to be wider than just bio-medical research. Research must focus on:

- ▶ How infectious diseases are spread;
- ▶ The effectiveness of interventions to prevent infection; and
- ▶ How to motivate people to take the steps to protect themselves from being infected.

In order to achieve this Sprenger believes that more interdisciplinary research projects are needed and behavioural sciences, especially health communication science, should be integrated into public health research.

He also stressed that one of the biggest challenges in public health is “understanding how to motivate people to adopt healthy behaviours”. Indeed, he went on to state that, “public health officials in Europe... need to understand why our advice is so often ignored by the public. We need to design new, more effective ways to communicate.” This requires multi-disciplinary research.

Council Agrees on New Rules for Patients’ Rights in Cross-Border Healthcare

The Council in charge of Employment, Social Policy, Health and Consumer Affairs has agreed on a draft directive concerning the application of patients’ rights in cross-border healthcare, on the basis of a compromise proposal of the Spanish Presidency.

The draft directive aims to facilitate the access to safe and high-quality cross-border healthcare and to promote cooperation on healthcare across member states. The compromise reflects the Council’s intention to fully respect the case law of the European Court of Justice on the patients’ rights while preserving member states’ rights to organise their own healthcare systems. The draft directive provides clarity about the rights of patients who seek healthcare in another member state and supplements the rights patients already have on an EU level.

The directive includes the following provisions:

- ▶ Patients will be allowed to receive healthcare in another member state and be reimbursed up to the level of reimbursement applicable for the same or similar treatment

in their national health system if the patients are entitled to this treatment in their country of affiliation;

- ▶ Member states may manage the outgoing flows of patients also by asking a prior authorisation for certain healthcare;
- ▶ Member states of treatment will have to ensure, via national contact points, that patients from other EU countries receive on request information on safety and quality standards on their territory in order to enable patients to make an informed choice;
- ▶ The cooperation between member states in the field of healthcare is strengthened, for example in the field of e-health and through the development of European reference networks; and
- ▶ The recognition of prescriptions issued in another member state is improved.

The draft directive is part of the social agenda package of 2 July 2008, focusing on a triple objective: to guarantee that all patients have care that is safe and of good quality, to support patients in the exercise of their rights to cross-border healthcare; and to promote cooperation between health systems. After the legal-linguistic revision of the draft directive, the Council will adopt its position at first reading and forward it to the European Parliament for its second reading.

Belgian Presidency of the EU and Health Policy

The key words underlining the health policy of the Belgian Presidency are solidarity and innovation. The Council will enter into policy discussions on the way in which Member States and the Commission manage public health risks together, in particular as a result of evaluation of the influenza pandemic. There will also be conclusions adopted on nuclear medicine and radioisotopes.

Negotiations on the draft directive relating to cross-border healthcare will continue and particular attention will be devoted to the question of professionals from the healthcare sector, to the determining social factors of health, to the fight against cancer and chronic illnesses, as well as to solidarity and innovation in the proprietary medicinal products sector.

The Council will continue to work on legislative initiatives constituting the pharmaceutical package; especially proposals aimed at combating the counterfeiting of medicines, and pharmacovigilance.

Also, at an international level, the Belgian Presidency will ensure preparation and coordination of the European of the Conference of the Parties on the Framework Convention on Tobacco Control.



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ORGANS

By Rory Watson

Just over one in two Europeans would be prepared to donate an organ immediately after their death to help someone else according to a new pan-European survey conducted for the European Commission.

The results of the fieldwork, which involved over 26,000 people, revealed that 55 percent are happy to be donors, 27 percent were opposed and the remaining 18 percent had no views on the matter. The findings are broadly in line with those when the question was last asked three years earlier. However, there are significant differences across the 27-member European Union.

People in northern Europe are clearly sympathetic to the idea of donating their organs. The highest levels were recorded in Sweden (83 percent), Finland and Belgium (both 72 percent) and Denmark (70 percent). The one exception to the geographical trend was Malta (77 percent). In contrast, there is more reluctance in central and eastern Europe. In Latvia, the idea was rejected by 52 percent of those questioned, in Romania by 40 percent and in the Czech Republic (37 percent). Opposition was also high in Austria (41 percent said 'no') and Greece (38 percent against).

Almost one third (31 percent) of those unwilling to donate their own organs or those of a deceased close family member gave no reason for their reluctance. Of the remainder, a quarter are afraid of manipulation of the human body and one in five distrust the system. That distrust is particularly high in Greece (45 percent), the Czech Republic (33 percent), Slovakia (31 percent) and Italy (30 percent).

Education level and occupation appear to be two strong factors determining people's decisions. Those who had studied until they were 20 or older were far more likely to support organ donation (65 percent) than those who had left school at 15 or younger (45 percent). Similarly, people in managerial positions (68 percent) were more willing to be donors than the unemployed (49 percent).

The survey appeared just a month after the European Parliament overwhelmingly adopted draft legislation that will set uniform quality and safety standards for organ transplants across Europe and should shorten waiting times. The measures cover all stages of the chain from donation to the actual transplant.

Currently some 60,000 people are waiting for a transplant and a dozen die every day before they can be operated on. In addition, donor rates vary considerably, ranging from 34 per million in Spain –

almost double the EU average of 18 – to 1.1 in Bulgaria. International cooperation already exists for transferring organs between countries, but is limited. The two exchange organisations: Eurotransplant (Austria, Belgium, Croatia, Germany, Luxembourg, the Netherlands and Slovenia) and Scandiatransplant (Sweden, Denmark, Finland, Norway and Iceland) cover only a limited number of EU countries.

The new pan-European system, which should be in place within two years is designed to extend these exchanges. Each EU member state will designate a single authority to ensure quality and safety standards are met and to supervise exchanges between countries. They will also be responsible for putting in place traceability and management procedures to monitor any adverse reactions.

Currently some 60,000 people are waiting for a transplant and a dozen die every day before they can be operated on

The European Parliament is also encouraging national authorities to implement an action plan for organ donations and transplants. This draws heavily on experience in Spain. The plan recommends every hospital establish a donor coordinator. It suggests exchange of

best practice to raise the level of donations in countries where these are low. It also floats the idea of asking citizens to join a donor register when applying for official documents such as passports or driving licences and, in countries where they exist, to record their decision on identity cards.

Alongside its survey on organ donations, the European Commission's Eurobarometer service published findings into blood donors. This showed that donations are on the increase. Eight years ago, 31 percent of Europeans had given blood. Now, the figure has risen to 37 percent and is particularly high in Austria (66 percent), France (52 percent) and Greece (51 percent). At the other end of the scale came Portugal (22 percent), Italy (23 percent), Poland (25 percent), Malta (29 percent) and Sweden (30 percent).

The findings indicate that men (44 percent) are more likely to have given blood than females (31 percent) and that it is the 40 to 54 year age group (46 percent) that has made the most donations. Again, people in managerial positions (49 percent) and the self-employed (44 percent) are more prepared to donate than students (19 percent), the unemployed (33 percent) or those who do not work, but remain at home (25 percent). At the same time, a clear majority (57 percent) believe that blood transfusions are safer now than they were ten years ago.

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EVIDENCE-BASED DESIGN – A KEY TO COLLABORATIVE INNOVATION OF BUSINESS MODELS IN EUROPEAN HEALTHCARE

By Pernille Weiss Terkildsen

How the built environment in healthcare influences output in terms of patient safety, efficiency, quality of care, staff turnover, total economy etc, is often overlooked. Perhaps this is because hospitals are different to “normal” companies; the building and the operation in public owned institutions in complex welfare models is often organised in separate political, managerial and budget systems. But in the present state of massive resource scarcity added to increased globalisation, we need to rethink and redesign the concept of healthcare and hospitals as extremely complex and dynamic systems.

It is pivotal to learn how to catalyse all available determinants if we want the future state of healthcare in Europe to be signified by cutting edge business models of maximum quality and efficiency. This need might explain the increasing interest in evidence-based design (EBD). The purpose of this article is to explain and discuss how EBD can contribute developing a European language and shared methods to innovate healthcare.

The European attitude towards EBD can be described as ambiguous at least. I am concerned that this ambiguity towards EBD – as we experience in Scandinavia – is consuming focus and energy that instead could be used for more structured and open-minded debates leading to a development of a European concept of EBD. Such a concept could be a tool to benchmark various governmental models and systems of healthcare aiming towards innovative and sustainable solutions for modern healthcare. The discussion on EBD seems to be more focused on terminology than on substance. One risk related to such a discussion is that while we discuss whether we believe in EBD or not patients die, staff get injured and money spent on healthcare does not offer optimum payoff in terms of quality and efficiency. Another risk is that the trend towards generic global standards will threaten a dynamic development of national, context-based and innovative solutions necessary to cope with the ever-changing environment of healthcare.

The Pros and Cons

The topic of EBD is an inviting battlefield for hospital managers, architects and consultants with their often, strong opinions. Some say “old wine in new bottles” – we have always done it the EBD-way although we do not write research reports, guidelines or manuals. Others refuse to use evidence that is still young and to some extent scientifically premature. And then there are those who – using strict logic – claim, that design and architecture is tied to the context and culture that it is embedded in and therefore it is impossible to use what is considered to be proven evidence from another country like the US. The latter argument is often stated in the local European debate on hospital innovation due to the undisputed large diversity between national models of healthcare.

Those who claim to embrace and perform EBD often fail when the magnifier of methodology and scientific investigation is set to assess the strength of the conclusions and the possibility for generalisations. Many perform EBD as if it is only a matter of healing gardens that can be seen from the bedside of the patient, single patient-rooms and famous artwork in the lobby. Most often pre- and post-oc-

cupancy data are completely missing, making it impossible to compute the actual result of the change in design. Finally, many EBD processes have a total lack of coherent, multidisciplinary and transparently described method design making it difficult to navigate and impossible to assess universal perspectives.

Stop the Battle – it Kills Patients and the Business

I say: stop the theoretical discussion and jump to a higher level of debate. The fact is many patients are hurt and killed by safety issues in the built environment due to the negligence of relations between the physical environment and what goes on between the walls. Many patients and relatives have bad experiences of the buildings and rooms. However, they choose

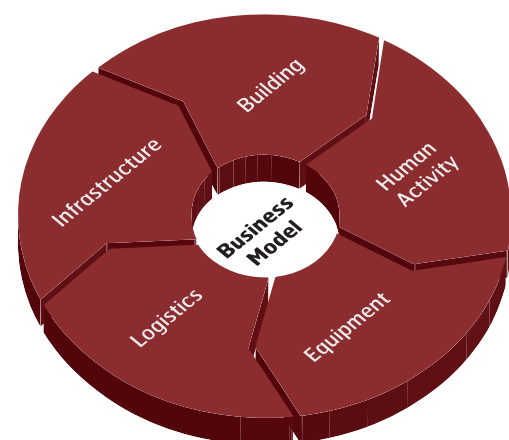


Figure 1. A hospital business model

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to accept and silently adjust to the circumstances as if “a hospital stay is something that must be endured and survived – and not to be enjoyed in a healing, meaningful and comfortable way” (Frandsen et al). And staff often struggle with stress and back pain while delivering high-performance quality of care and treatment despite bad design and bad décor – often in addition to extreme bustle in a chaotic organisation.

Common to all of the above scenarios is that neglecting the consequences is damaging on several levels. First: irrespective of your position in healthcare – as owner, manager or staff – you are in a business that can either heal or hurt others in your custody. Herein lies a responsibility to contribute with whatever works from a combination of available resources and methods for the individual patient – this is the ethical part of the game. Second: it’s pivotal that money – often in EU countries the tax payer’s money – spent on healthcare is invested in a way attributing most value in terms of health and healing patients. The balance between efficiency and quality must not be “either/or”, but work as twins in a coherent sustainable system.

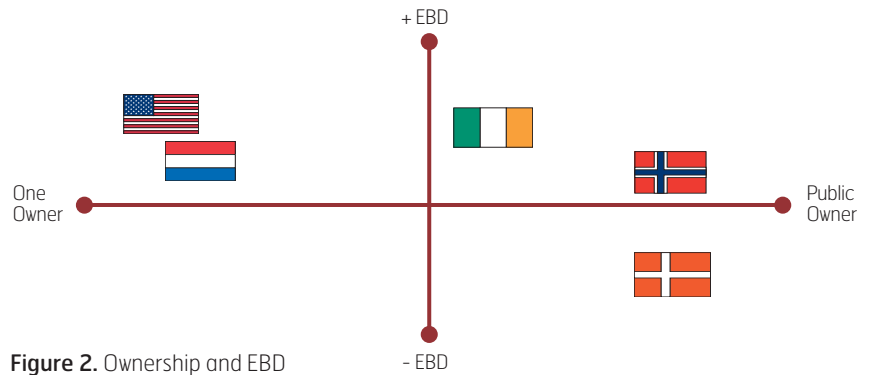


Figure 2. Ownership and EBD

The New Paradigm

The new paradigm of healthcare innovation and hospital business models is that hospitals consist of five main components: building, equipment, human activity, infrastructure and logistics – understood as handles on the machine or keys on the keyboard. These are the components, which must be constantly kept in optimum synergy in an ever-changing context of scarce resources, shifting demands and technological developments (Fig. 1). This new paradigm will catal-

yse the potential for optimum health and efficiency; the methods of evidence-based design can serve as tools.

But a theoretical paradigm is not enough. What we need to address, from my Scandinavian position, is the structure and sense of ownership that works as a secondary foundation of incentives and systems for strategic and managerial decision-making. In a matrix way of categorising the various types of ownerships simplified by figure 2 where the bank or trust controlled hospitals as the very simple and visually significant “one owner” that



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- > **AUTOMATED DRUG MANAGEMENT SYSTEMS** for storage and distribution of drugs, packaging in unit dose bags with barcode



can be directly addressed. That may explain the early start of the USA in the research fields of EBD – the significant focus on output-responsibility in the market is obvious. At the other end of the continuum we find the publicly owned hospitals, where the owners are “you and I” in the shape of a bulky bureaucracy and diffuse groups and sectors. That is often the model in many EU countries making it challenging to responsibly lead and manage hospitals as coherent and sustainable businesses. Fig. 2 is supposed to provoke national self-critical assessment and debate.

The Theory of Evidence-Based Design

Many mix up the concepts of EBD and healing architecture. The simple differentiation is that evidence-based design is a method to obtain healing architecture. But EBD can do more than provide healing architecture. The focus of EBD is optimising the value of the desired outputs. These can be healing architecture, but can also be low energy, high ambulatory efficiency, low staff turnover or lean processes. It depends on the specific strategy plan of the business model and the measures chosen to assess the success or performance.

Because of the high level of complexity in healthcare and design we need to move the discussion from rigid theoretical discussions often focused on the battle between qualitative and quantitative research paradigms and accept EBD with a more multidisciplinary approach, first and foremost as a tool developing a common language. This will enable us to benchmark the mechanisms in different complex systems that can explain for different outputs. Performed in the framework and relations between EU countries and

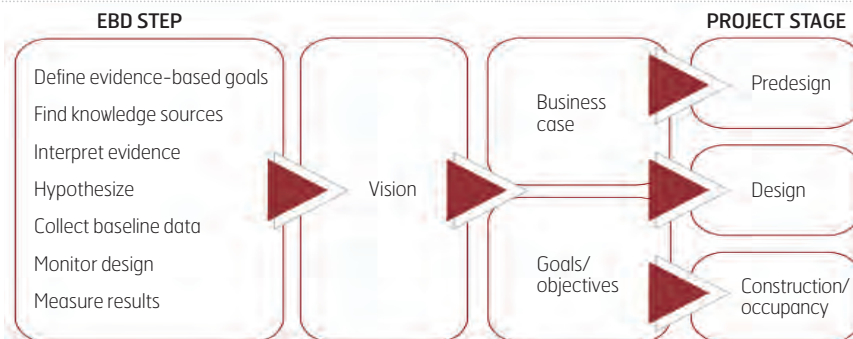


Figure 4. How to develop a hospital with EBD

Archimed © EBD trin (EDAC 2009)

with an open, collaborative attitude to global trends and communities, the door to real healthcare innovation is open.

The Methods

The discourse of EBD is still signified by its novelty as a research paradigm although the vocabularies in terms of definitions and tools are increasing. Again the “first movers” from overseas are trying to lead the way. Since 2009 the certification and accreditation of EBD as a process or method – EDAC (Evidence-Based Design Accreditation Certification) has been a possible “school” of practice. Yet we are only 385 people worldwide who are certified and US candidates are dominant and unfortunately the distribution shows a majority of architects and designers (Fig. 3). Healthcare executives and hospital managers are missing. They are key professionals initiating the demand and the design of sufficient projects, processes, assessments and incentives towards optimum interaction between the physical environment and operations. EDAC offers a methodology and hereby a framework for mutual understanding and a platform for co-creation of both a common language and future solid evidence.

EDAC is not a rigid system, but a place to start the journey and is open for meaningful change of methods as long as EBD can be improved. Fig. 4 is one of the key models on how to develop a hospital based on the principles of evidence-based design.

Yes, EDAC was born in the US and with close inspection of the current methodology we could dismiss its relevance to European healthcare systems. But that is too easy. EDAC is thought as an international set of methods and the invitation from EDAC is clear: jump on board and join the co-creation of both language and tools towards global innovation from local and contextualised best-practices.

Conclusion

Healthcare and hospitals all over Europe are challenged by scarcity of resources – the hunt for the best business model is on. We need to activate and cultivate the interrelationships between the built environment and operations. EBD can be our shared tool. By a collaborative approach and by the use of EBD as a common language and set of methods for mutual understanding, EU countries can succeed by developing – from combining the best of all different healthcare models – cutting edge and totally sustainable concepts for institutions, buildings and processes that are signified by optimum synergy between the built environment, human activity, equipment, infrastructure and logistics. This would be a great contribution to future health in Europe.

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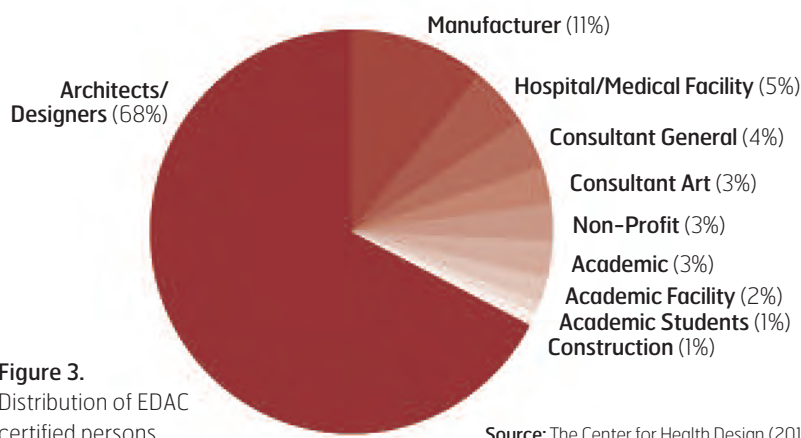


Figure 3. Distribution of EDAC certified persons

Source: The Center for Health Design (2010)

EVIDENCE-BASED DESIGN OF A PATIENT-SAFE ENVIRONMENT

The Joint Commission International Perspective

By Carlo Ramponi

Evidence-based design (EBD) is the process of basing decisions about the built environment on credible research to achieve the best possible outcomes. Healthcare leaders around the world are incorporating design elements into the built environment of new or renovated facilities that have demonstrated positive outcomes.

Just as medicine has increasingly moved toward evidence-based medicine—in which clinical choices are informed by research—healthcare design is increasingly guided by rigorous research linking the physical environment of hospitals to patient and staff outcomes and is moving toward EBD.

Ulrich and Zimring found strong links between physical environment and patient/staff outcomes in four areas:

Improved overall patient safety

- ▶ By affecting airborne and contact transmission routes, EBD demonstrates has strong impact on hospital-acquired infection rates;
- ▶ By affecting the medication delivery systems—from pharmacy to the bedside—the number of medication errors can be reduced;
- ▶ By producing a reduced rate of patients falls, even if without a clear evidence for the independent effectiveness of environmental modifications programmes; and
- ▶ By improving patient confidentiality and privacy, which leads to better patient safety and risk reduction.

Overall improvement in healthcare quality

- ▶ Single-bed rooms have several advantages over double-bed rooms and open bays, including lower nosocomial infection rates, fewer patient transfers and associated medical errors, less noise, better patient privacy, and improved patient confidentiality; and
- ▶ Reduction in length of stay.

Staff stress and fatigue reduction

- ▶ Environmental measures have a positive impact on staff health and safety; and
- ▶ Better workplace design has positive effects on staff effectiveness and satisfaction as well as error reduction.

Patient stress reduction

- ▶ Through noise reduction, better patient sleep is among the positive effects;
- ▶ Through improving wayfinding systems, patients and their families can better navigate the facility; and
- ▶ Reduced depression through adopting appropriate, bright lighting systems.

Joint Commission International and EBD

Joint Commission International (JCI) has long recognised that design is an essential component of creating an environment for safety and quality. The increase of research in the field of healthcare design has significantly improved our understanding of the relationship between design and safety and now has the potential to inform decisions about approaches to design that are clinically and financially effective and that promote safety and quality. EBD is used to create healthcare environments that are therapeutic, supportive of family involvement, efficient for staff performance, and restorative for workers under stress.

The growing evidence for EBD is compelling enough that it is incumbent upon healthcare organisations to consider such evidence as they address the physical design of new construction or major renovation of facilities. It is critical that healthcare leaders become educated on the current research, applicable accreditation standards, new technology, and related industry practices and standards. In addition, during the planning and design phases, the health design process should also include methods for re-engineering current processes to achieve measurable improvements to quality and safety. Such re-engineering will prevent replication of ineffective processes in the new design.

Organisational Preparation

A successful design process should begin with the identification of the organisation's goals and needs. This first step of creating goals—also known as creating guiding principles—should be accomplished once the leadership team for the project has taken the following steps:

- ▶ **Evaluating what the organisation wants to achieve in a new or renovated facility.** This can be accomplished by identifying issues that hinder safety and improved patient outcomes in the current facility. Often this information is collected through sessions that invite many stakeholders together to discuss their perspectives. The stakeholder groups should include physicians, employees, past patients and patient families, regulatory representatives, and key vendors such as technology vendors or major suppliers.
- ▶ **Evaluating current research.** Once information has been gathered regarding the current facility and what stakeholders would like to have in a future facility, leadership needs to be educated on the current research available to guide facility planning. JCI recommends that both EBD and standards-based design are important to consider.

After that preparation, the project leadership team can develop the guiding principles for the construction or renovation project. The principles should be clearly defined by asking difficult questions, including the following:

- ▶ If patient and family involvement is a strategic goal, does the design allow space for such participation?
- ▶ If high performance in infection control is a goal, is there a process for assess-

ing the extensive evidence related to material selection, such as air quality or waste management?

- ▶ Has the organisation reached a plateau in its progress towards eliminating falls, infections, or similar safety issues?
- ▶ Is there an opportunity to reduce staff and patient stress or risks through improved flow?
- ▶ How far does a patient have to be moved for particular diagnostic or treatment options and how many minutes does the transport take?

The design planning process can identify safety goals, such as reduction of infections, falls, or other adverse events, as well as build improvement into the design of the facility by making decisions informed by health design evidence.

To optimise opportunities for improvement through EBD, an organisation should assess its current compliance with JCI standards and the International Patient Safety Goals. Using JCI requirements helps organisations develop a knowledge framework that leads the assessment process, priority identification, and stakeholders' involvement.

JCI standards do not specify what a safe environment entails. Instead, the standards are written in a manner that gives organisations latitude to determine the risks by developing programmes that are best for them and that provide a safer environment for patients and caregivers. For example, what works for a psychiatric unit might not work for an emergency department housing a patient at risk for suicide.

JCI standards on Facility Management and Safety (FMS) clearly address the design considerations that impact safety and quality, but other standards and the International Patient Safety Goals should also guide design decisions. For example, Medication Management and Use (MMU) standards related to the preparation, storage and security of medications can be addressed through design. Hand hygiene, reduced falls, and reduced suicide risks are clear example of opportunities for improvement through design.

The design planning process can identify safety goals, such as reduction of infections and falls or other, and build improvement into the design of the facility by making decisions informed by health design evidence.

Setting Priorities for Incorporating EBD

In an effective design process, it is critical to identify potential risks proactively and to use a consistent process when setting long-term and short-term priorities. JCI encourages identifying high-risk and high-volume issues for improvement. Specific instances depend on the particular setting, but they include previously mentioned examples—falls, infections, and suicide, to name three—in which design can be a factor in developing a complete and effective solution. There might also be “quick fixes” that can be immediately addressed at low cost, such as improved lighting and installing hand-sanitation dispensers. Other priorities might be issues linked to strategic goals for moving the hospital forward technologically in the next three to five years, such using technologies for automating the medication delivery process.

The resources available for constructing or renovating facilities are often limited, so the return on investments is an important consideration in making design decisions. The evidence for return on investment for different design strategies is growing and there is guidance for many key design issues.

The Process of Incorporating EBD

The process of incorporating EBD includes analysis, synthesis, and application. Analysis starts with gathering information from current operations to identify opportunities for improving safety and quality through better design. Tools like failure mode and effects analysis (FMEA), root cause analysis (RCA), lean management, and cause and effect diagrams can be used. Another effective tool is the EBD review checklist developed by the MHS, which is based on a set of questions for identifying main problems and a list of principles with attached EBD responses and appropriate features.

Synthesis includes grouping data to find information relevant for setting priorities and decision making. Information must be organised and assessed with honesty, candor, and transparency. This is best done when individuals at all levels of the organisation, as well as patients and their fami-

lies, are engaged in the process. Physicians and staff should be interviewed so that their point of view is incorporated by the design team; this point of view is critical for the success of the project.

Finally, the application portion of the process empowers work groups and organisational leaders to decide which information is most relevant to their particular organisation and how it should be applied to the design scheme. The results of these steps are often referred to as elements or features of the facility design. The elements are assigned to a guiding principle or goal as a means to accomplish the principle. Understanding systems is very important at this point to evaluate how one element might impact other aspects of the organisation, what trade-offs may be necessary to accomplish the principles, and whether the impacts, costs, and trade-offs are acceptable.

Conclusion

Health design is a relatively new field and we are just beginning to see its potential. In the foreseeable future, the science of physical design that supports safe, high-quality healthcare delivery will be state of the art. The sharing of related evidence, returns on investments, and best practices will advance. Increasingly we will come to expect more from design; thus we will achieve greater efficiency and healthier and safer environment for patients and staff.

The potential to improve healthcare quality and safety through an informed EBD process is real and significant. EBD is consistent with JCI's emphasis on making informed decisions about safety and quality of care. Further, JCI accreditation standards and EBD are consistent in both their goals and preferred processes. An organisation seeking to improve its quality- and accreditation-related efforts should strongly consider both EBD and accreditation tools and requirements as critical supports in planning for safe design.

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DESIGN **FOR PATIENT DIGNITY**

A UK Initiative to Improve Patient Experience

By Jan Dekker

Hospital patients' health can sometimes cost them their dignity as they grapple uncomfortably with mixed sex bathrooms, revealing gowns and disorientating transportation. Now an innovative project has seen designers and manufacturers hit back with bed pods, capsule washrooms and a very versatile gown. And it's only taken six months.

Hospital, for most people, isn't an experience to look forward to. Even though there's the prospect of better health at the end of it, the reality of being away from their usual environment and sharing a new and strange one with people they don't know is an uncomfortable prospect.

It becomes even more uncomfortable if, in return for their health, patients have to give up some of their dignity. Feeling ashamed, vulnerable and insecure in hospital is not just unpleasant, it can also hinder a speedy recovery. So it's not just patients who want dignity. Clinicians, staff and hospital managers want to provide it.

That was the trigger for the NHS's Delivering Same Sex Accommodation programme and the 100m Privacy and Dignity Fund, launched in 2009 to eliminate mixed-gender wards, bathroom and toilet facilities that just under one in ten patients in hospital for planned care say they experience. And it was the launch pad for a project called Design for Patient Dignity, run by the Design Council and the Department of Health (DH), which asked six teams of designers and manufacturers, as well as healthcare design specialists from the Royal College of Art's Helen Hamlyn Centre, to work with frontline staff and patients to overcome a stubbornly persistent issue.

The teams, chosen following a national call for entries, produced ten designs in all, responding to briefs prepared by an Expert Reference Group of healthcare and design specialists, academics and patient group representatives and informed by in-depth, firsthand observation of hospital environments and routines by design teams. Each team was awarded 25,000 pounds to carry out their own research, develop ideas and take them through to proof-of-concept stage. The result is designs including

a patient gown that protects the wearer's privacy while still letting the carer do their job, a bed pod that lets staff reconfigure ward space quickly without the upheaval and expense of rebuilding work and a pre-fabricated capsule washroom that can plug in to existing services fast without the need for plumbing work.

All the concepts went on display earlier this year at an exhibition in London and hopes are high that they will all go in to production once the designers and manufacturers have done further development work in response to feedback from clinicians and patients. The speed of uptake will depend how quickly they are taken up by the NHS procurement system.

They will be following a trail successfully blazed by an earlier Design Council project, Design Bugs Out, which used the same method to confront the problem of healthcare acquired infection. In around nine months, it produced concepts for furniture and equipment designed to make cleaning easier and faster while eliminating the corners and joins that can harbour bacteria such as *C.difficile*. The results here included an easy-clean, stackable commode, an indicator showing when cannula lines need to be changed, a wipe-clean blood pressure cuff, a plastic wipe-down bedside cabinet and a mattress with a layer of ink that provides an early warning of infection risk by changing colour when the cover has been pierced.

Design Council Project Manager Chris Howroyd says: "The method aims to take the risk out of innovation by providing a neutral space for public sector professionals and staff to come together with the private sector and tackle problems at very low cost. Design allows the ideas to be prototyped and tested and improvements to be made before large sums of money are commit-

ted. Design Bugs Out proved the method works and it also showed that it's possible to get the private sector involved in healthcare innovation with relatively small incentives. We were keen to test it further with Design for Patient Dignity, and so was the DH."

People-Centred Perspective

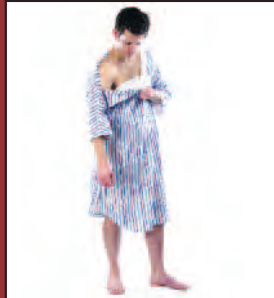
The starting point for both projects was the same as for any good design process: research to define the problem. For Design for Patient Dignity, this meant a literature review and a search for any examples of previous attempts to confront the same issues. These were not abundant, beyond experiments with swipe-card access to same-sex bathrooms and building projects that reconfigured internal walls but caused lengthy ward closures.

The key research saw four different teams spend a week each in four hospitals of varying types and ages. Howroyd explains: "Designers lived and breathed the daily routines of staff and patients and the problems and issues they're dealing with every day. As well as watching everything closely, they're talking to patients, visitors and staff, from doctors to nurses and support people, to gather insights. Designers call this ethnographic research, and, driven by their people-centred perspective, it often yields important insights."

Patients' dignity can be compromised in many ways from the moment they come through the hospital doors to the day they are discharged, says Howroyd: "Your privacy could be threatened by the clothing you're asked to wear, which often exposes parts of your body you'd rather keep covered. Your private details are on display through your notes, which hang on the bed head, perhaps with a sign, 'Mrs Smith – nil by mouth'. Oth-

Universal Gown

Design: Ben de Lisi
Industry supplier: Silveeed



The gown covers the patient's front and back, opening down both sides and across the shoulder with polymer press studs that don't interfere with MRI scanners. IV lines and other equipment can be attached without exposing the patient's skin. The gown is reversible, allowing staff to make sure the side with the openings is close to any equipment needed at the bedside. The shoulder opening means it can also be put on without disturbing oxygen masks or other equipment attached to the head, and immobile patients can be rolled on to the gown, as it can be laid out flat. Extra panels can be fitted for larger patients, making the gown a truly universal potential replacement for a range of garments currently being used.

Modular Bed Pod

Design: Nightingale Associates/Billings Jackson Design
Industry supplier: SAS International



This prefabricated modular bed system offers patients more privacy and more control of their immediate environment. And it gives hospitals a low-cost way to reconfigure wards quickly without the upheaval and expense of refurbishment work. When wards are closed, bed spaces are lost – for a standard 30-bed ward this could mean up to 9,500 bed days in a 40 week period. The design integrates the components of the bedside, from medical gases, power, grab rails and drip rails to lighting and a bedside locker, into one product to simplify procurement and installation. Features include a modesty screen and lighting which the patient can control from the bed, and a ceiling canopy that directs the sound of conversation on to the bed, not across the room. Materials also improve infection control and cleanliness.

Washroom Pod

Design: Avanti Architects
Industry supplier: Panaloc Worldwide Manufacturing



Pre-fabricated washrooms which are quick, easy and cost-effective to install help improve ward layout with minimum disruption. In particular, they mean that patients don't have to pass through areas accommodating members of the opposite sex to get to the bathroom. The Washroom Pod, featuring shower, sink and toilet, can be installed in two to three days. It can be attached to the outside of the building and connected to existing drainage and power, and can be stacked to reach upper floors. It can also be installed internally, with a macerator to deal with drainage. A pumped drainage system in the floor handles shower waste, allowing the unit to occupy a normal hospital floor, and although the pod is compact it offers wheelchair access.

Reclining Day Chair, Bay Screen and Poncho

Design: PearsonLloyd
Industry supplier: Kirton Healthcare



A hybrid bed and chair, the Reclining Day Chair can be wheeled around the hospital and its forward tilt makes it easier for patients to get in and out. It is designed for patients who are too tired, faint or unwell for a chair but not sufficiently ill to need a hospital bed. The herringbone layout of the Bay Screen means patients in short-term shared spaces do not have to look directly at each other, giving them more privacy. They can still see and talk to staff, however, and the layout also makes it easier for staff to manoeuvre a patient on a chair or bed into the space. The poncho complements the chair and screen, keeping patients warm as they move around the hospital. The sleeveless design allows staff easy access to patients for treatment and makes it easy to wear over a gown in place of a dressing gown.

er people may also hear things about you that you'd rather they didn't – a drawn curtain doesn't stop the consultant's voice carrying around the ward. Also, you will feel embarrassed if you have to use a commode on the ward. And you may feel vulnerable while being wheeled around the hospital on trolleys or in porters' chairs."

"The main issue to crack was dignity in mixed-sex accommodation, but clearly these insights extended to cover the whole patient experience."

The Expert Reference Group and an Advisory Board then grouped the research insights into 20 focus areas, narrowing them down to six specific design briefs, plus one open brief. The focus areas included clothing to protect patients' privacy; equipment or services to help patients feel more secure as they're transported around hospital; products or services to separate male and female patients and give staff flexibility to change areas at short notice; a more dignified toi-

leting experience; ward layouts which can be retrofitted to different ward types to deliver same-sex accommodation; and a system of signs to help patients, staff and visitors find their way round, focusing particularly on toilet signage.

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HOSPITAL DESIGN: THE ENVIRONMENTAL QUESTION

By Harry McQue

Steadily decreasing natural resources, pollution and global warming are some of the aspects associated by researchers to our lack of respect for the environment in the past. But even in the absence of these factors, we have no reason to not “reduce, re-use, recycle”. Prudent use of resources is the name of the game and hospitals are one of the bigger waste generators in a community.

The purpose of this article is to remind ourselves that caring about environment is worth serious thought and individual commitment and action; to urge people to think outside the box; and to illustrate a number of ways people around the world are trying to minimise waste, including through hospital design.

Humans Resist Change

The biggest hurdle for any organisation is to implement change. I believe it is the change of attitude towards environment and to adopt a proactive approach to reducing waste that will bring about the real benefits. Personal commitment would have to go beyond the boundaries of work and into personal lives such as drying your clothes outside when weather permits instead of a dryer, cycling to work, sharing cars for school runs and buying wooden furniture made from sustainable resources.

Designers of new hospitals have to think further than just the use of sun and daylight for optimum use of energy. Let's take a leaf out of their book. With ever tightening energy targets for hospitals, the designers have to find novel ways to reduce our carbon footprint. It would be news for many of you that around the world one kilo-

watt of electrical energy produced has a footprint of approximately 1 kg of CO₂! It is high time that measures are taken ensuring that WCs are installed that use water efficiently, paper dispensers are replaced with high speed hand driers, landscaping requirements are partially met by stored rain water and solar and wind power is introduced at least partially to reduce non renewable energy bought off the main grid. Suppliers are encouraged to reduce packaging to bare minimum and to re-use it, if it cannot be removed altogether.

Similar principles would need to be applied to all the goods and materials coming into a hospital and all kinds of wastes going out of the hospital would have to be monitored. To be able to make a positive difference, benchmarks and future targets would have to be set and then actively monitored. This is all the more important if it is realised that methane emerging out of the landfills is a major contributor to greenhouse gases (GHGs).

Hospitals Care

Hospital waste varies from packaging, food, paper, perishable/short life goods to con-

taminated medical waste. Each one of these waste streams needs to be analysed. What can be done to reduce all those printouts lying at the printer/photocopier no one seems to want? What can be done to reduce those surgical scissors or oximeter sensors or the balloon angioplasty catheters which once removed from packaging for an operation have to be thrown out, even if not used. This of course would have to be balanced with patient safety to the required standards.

Make no mistake, if a change has to be successfully implemented it would have to be supported by everyone in the organisation. In a hospital, it's not just the staff that will bring about a complete change. They would need the patients and the visitors to buy into that philosophy as well. And that will need a carefully managed campaign that should be highly visible and with a clear support from top down. But the change does not have to be driven from the top. It should be at grass root level, supported by every individual.

All the stated examples to reduce the human impact on our environment are prevalent in the healthcare environment in the present day. Not only do we need to keep this momentum going but in addition we need to have new and novel approaches such as sharing journals and newspapers, improving ordering practices to reduce food and short life products' waste and organising regular "environment events" such as cycle-to-work or plant-a-tree day. Run competitions to generate new ideas, reward and give recognition to those who proactively contribute.

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Change Starts with Individuals

In my office every person has a bin with three sections – two of them for recyclable items and one for waste that cannot be recycled. I make a point to try and put as little as I can in the waste section.

At the end of each working day I turn off my computer monitor. Every time I go past an empty meeting room I turn off the lights. It's that level of commitment that will bring about the sorely needed change. I can choose to not do any of these things but I have been told "All that is necessary for the triumph of evil is that good men do nothing" – a quote associated to Edmond Burke. Our current attitude towards dealing with the environment may not qualify as "evil" but we can surely do with more good men and women!

HOSPITAL DE SANT PAU'S VISION FOR THE FUTURE

Long-Term Partnership for all Imaging Technology Needs

The *Hospital de la Santa Creu i Sant Pau* in Barcelona has signed a 10 year industry partnership deal for all its imaging technology needs. This agreement is the first of its kind in Spain and illustrates the hospital's ambitious vision for the future. This article will examine the details of the contract and explain why the hospital favoured such a unique partnership.

The *Hospital de Sant Pau*, at over 600 years old, is steeped in history. It is the largest hospital in Spain and is currently undergoing a major process of modernisation; operations are moving just metres away from the historical buildings (declared UNESCO world heritage site in 1997) to a new modern hospital, equipped with the state of the art technology for patient care and research.

Sant Pau is a private foundation composed of three different institutions. The hospital is managed by the *Patronat de la Fundació de Gestió Sanitària del Hospital de la Santa Creu i Sant Pau*, a board that includes representatives from the Regional Catalan Government, the City Hall of Barcelona and the Archbishopric of Barcelona.

Sant Pau has over 34 000 admissions a year and attends approximately 150 000 emergencies. There are 71 day beds, 634 hospitalisation beds and 19 surgical rooms. Sant Pau prides itself on quality care and research; it is a reference in several specialities. The new hospital site grants Sant Pau the space required for new processes and new technologies bringing the historic hospital into the 21st century.

Imaging Department

The Imaging Department has greatly benefited from the move to the new site, which was completed in 2009. The move allowed for the upscaling of the department as a whole to fulfil its growth and clinical ambitions. One of these ambitions includes equipping and maintaining state-of-the-art technologies. This has led to the first long-term public-private partnership for imaging technologies in Spain.

Dr. Antoni Capdevila, Head of Digital Imaging joined the hospital at the beginning of the move to the new site and the start of the partnership in March 2009. He is very positive about the partnership and admits that the partnership was a decisive factor in his acceptance of the posi-

tion. The challenges of planning and budgeting for new technology are taken care of, leaving clinicians to concentrate on their patients.

We are all aware of the expense of imaging departments, especially large departments like that of Sant Pau; the department consists of 47 radiologists and 110 nurses and technicians and some 300, 000 explorations are performed per year. With the move to the new site some equipment could be transferred but such a modern building deserved modern equipment so the hospital planned for technological renewal. For Sant Pau the chosen solution was a long-term partnership with the industry taking care of all imaging technology for 10 years. All services are provided for an all inclusive fixed fee contract over a period of 10 years.

The Partnership Agreement

The long-term 26 million Euro partnership between hospital and single industry partner for the provision of all imaging technology is a first for Sant Pau and indeed for Spain. The partnership covers all imaging equipment, maintenance, upgrades and replacements over a 10 year period. This includes MR, CV, GXR, NM and US systems. The equipment plan sets out when new technologies will be implemented and when others will be replaced over the 10 years but it is also flexible in order to meet the demands of new challenges and needs. The maintenance contract runs for the duration of the partnership with industry technicians permanently on site. A research collaboration programme and training and education scheme are also included in the agreement.

The appeal of the partnership seems to be a shared vision for the future. Ensuring the latest technologies for a fixed monthly fee, including provisions for future technological developments, is flexible and proving extremely successful in the eyes of the management and clinicians in Sant Pau.

Why a Partnership?

The benefits of the partnership are technological, clinical and managerial. The premise behind the collaboration is facilitation of the future development of Sant Pau's clinical, teaching and research activities for the next 10 years. It goes beyond the need for up-to-date technologies and is a true partnership between hospital and industry, seeking to advance quality of care and research.



Picture 1. Dr. Josep Lluís Soler, Manager of Sant Pau

Dr. Josep Lluís Soler, Manager of Sant Pau, acknowledges that imaging technology is in constant movement and that this technology is not without significant cost. He wanted to find a way to equip the imaging department with the latest technology and ensure that new technology would be available in the future too. But beyond just a simple buyer-seller relationship, Dr. Soler sought a partnership to provide the technology but also to collaborate in research and innovation; a partner to share Sant Pau's vision for the future.

Clearly there are financial benefits to an agreement of this kind. It is unprecedented that a publicly financed hospital has secured a 26 million Euro partnership deal over a 10 year period. However, Mrs. Rosa Vilavella, Financial Director of Sant Pau, is keen to stress that the financial savings of the agree-

ment are secondary to the overall idea of the project, “The financial aspect is not so important. The philosophy is to get a technological partner for 10 years that can provide the technological framework for the hospital to develop as a technological referral centre.”

The public tender for the agreement focused on technical resources, research and common educational objectives. Followed by maintenance and technical assistance. Finance, although important, was a secondary issue.

Due to the economic situation in Spain, Sant Pau faces financial constraints like all hospitals in the country. For the acquisition of new technology, leasing was considered at first but technology acquisition over time was preferred taking into account their preference for a long-term partnership with technical partner and not a bank.

Key Benefits

The financial department have a clear spending plan for the next 10 years and do not have to deal with lengthy negotiations with clinicians and management regarding new equipment. For clinicians this gets rid of the long cycles of renewal. It no longer takes years to agree on new technology and the technology will be new and not several years old by the time an agreement is made.

Clinically, there are many advantages with the partnership. For Dr. Capdevila the most important aspect of the collaboration is its “elasticity”, if new technologies become available, or a need arises for something not included in the plan, the plan can be changed, adapted to meet the needs of the department. For example, at the beginning Sant Pau had planned to install the old X-ray equipment in the new site but they changed their minds and thought it was better to install digital radiology to ensure they become a filmless hospital. So the plan was amended and digital radiology was installed at the beginning.

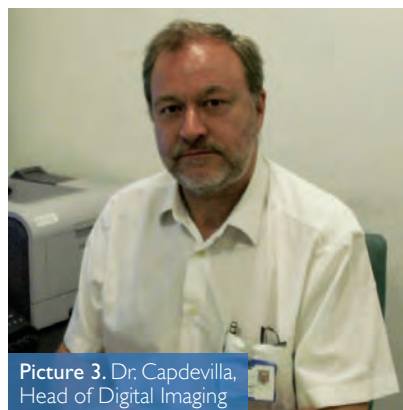
The new technologies in the imaging department have meant a big change for both clinicians and management. Dr. Ignasi Carrió, Head of Nuclear Medicine is excited about the new technologies now available to him and his team and the prospects they bring for patient care. Teamed with the new building, the new equipment facilitates improved patient flow. Dr. Carrió is particularly excited about the new hybrid imaging technologies; in a year and a half



Picture 2. The Hospital de la Santa Creu i Sant Pau in Barcelona

his department will be equipped with a PET MR. Hybrid technologies are excellent for the patient. By performing two or three examinations at the same time the patient can cut down the number of trips to the hospital, clinicians can interpret and diagnose more successfully and the healthcare system benefits from improved patient management.

The maintenance contract and provision of training and education for staff in the department are two other key facets of the partnership. For the managerial staff the maintenance contract is a great security blanket, if something goes wrong with the technology they have industry technicians on site to repair equipment and the industry partner is obliged to replace anything when necessary. Training is also essential, new technologies would be useless without adequate training for those using them.



Picture 3. Dr. Capdevila, Head of Digital Imaging

As Head of Digital Imaging, Dr. Capdevila believes the agreement makes his job easier, “Thinking about the future I only need to see what kind of things I need to change.” Gone are the worries over financial constraints allowing him to focus on the future, on how to improve his service, “in the future my decisions will be about choosing between two new technologies, not worrying about the money.”

Too Good to be True?

So far everything may seem a little too good to be true. Indeed, feedback from Sant Pau is extremely positive and they are determined to take advantage of this opportunity. The hospital has ensured that there are clauses so they get what they want. Regarding new state-of-the-art technology for example, if another company makes a breakthrough and produces a piece of equipment not offered by their industry partner, the partner has one and a half years to provide the same service. If this does not happen Sant Pau will receive the competitor’s equipment.

Sant Pau is also keeping a close eye on the partnership itself. 10 years is a long period of time so the hospital has created a follow-up commission that meets twice a year. During these meetings the hospital analyses the development of the partnership. The role of this commission is key to development as they discuss finance, how the partnership is progressing and the respective contribution of both partners. Research and education are also discussed to ensure they are on the right track.

The commission has met twice already with very positive results. However, it is only year one of the 10 year agreement, there will be many issues in the future and the follow-up commission is there to deal with them. It is clear that a contract like this needs this type of continuing exercise to learn in the process how to run the development and the partnership itself. It is a learning experience for both hospital and industry partner.

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IS HOSPITAL DOWNSIZING AN EFFECTIVE WAY TO CONTROL HEALTH EXPENDITURE?

By Massimiliano Piacenza and Gilberto Turati

Hospital downsizing is a phenomenon characterising almost all western economies in the last decades, from the US to Europe. As a matter of definition, downsizing policy is related to a reduction in the total number of acute care beds, generally pursued by central or regional governments imposing crude ratios of beds per population, which are not based on any empirical supporting evidence on real healthcare needs. This massive ongoing restructuring of the hospital industry has to be understood in the framework of changing population needs – an ageing population increases the demand for long-term care with respect to the past – and a search for a more efficient healthcare provision aiming at controlling health expenditure growth, as hospital costs represent the most relevant share of total spending.

As for the control of health expenditure growth, an important issue to be discussed concerns the reaction of hospital managers to the beds reduction imposed by the government, in particular in terms of workforce management. Indeed, while in the US bed downsizing has been typically accompanied with a medical staff reduction, in other countries – such as the European ones – the restructuring has been limited mainly to beds. In this article we try to understand whether this latter policy is effective in reducing hospital costs, or if it generates potential inefficiencies that require paying more attention to workforce management.

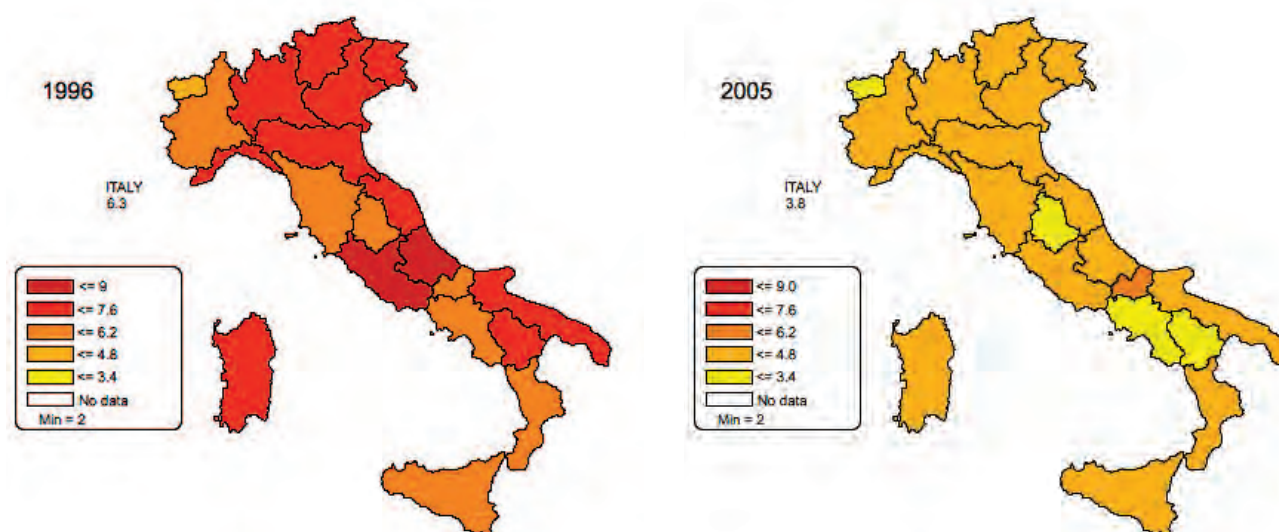
Hospital Downsizing Italian Style

To discuss the effectiveness of controlling health expenditure using hospital downsizing as a policy tool, here we concentrate on Italy, one of the countries where bed cutting was more severe. Italy is characterised by a National Health Service, which is a universalistic public scheme covering a wide array of health risks in place since 1978. Total public expenditure outstripped 100 billion euro in recent years, reaching about seven percent of GDP, a figure less than other comparable western countries, like Germany, France, and the UK. Given pressures on public finances coming from

European constraints, particularly severe during the nineties (because of the Maastricht Treaty), Italian governments tried to establish a tight control on health expenditure with a number of different policy measures. Given the regional responsibility for the management of healthcare services, a naive form of fiscal decentralisation to regions has been introduced, in order to curb regional expectations of bailouts. Bed downsizing needs to be understood in this framework, as a way to design a more effective and less costly NHS.

The way central government pursued downsizing was by using beds to population ratios. In 1980, according to OECD data,

Figure 1. Ordinary beds (acute care & LTC) per thousand population (1996–2005)



Source: ISTAT – Health for All



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the hospital network was characterised by eight beds per thousand inhabitants; the Law 595/85 defined the standard of six acute care beds per thousand population. The Laws 537/93 and 549/1995 further reduced this standard, by fixing the new one at 4.5 acute care beds per thousand, plus 1‰ bed for rehabilitation and long-term care. Since the year 2000, the standard has been changed two more times. In 2001, the acute care beds should not have exceeded the number of four per thousand inhabitants, plus again 1‰ bed for rehabilitation and long-term care. In 2005, after an agreement between the central government and the regional governments, the standard was fixed to 4.5‰ beds without any distinction between different types

of beds. Despite these centrally defined mandatory standards since 1985, regional differences were marked in 1996 (the first year we have data on different types of beds in Italy), and still persist at least to some extent also in 2005 (Figure 1).

If the evolution of the number of beds is clear, the evolution of the workforce followed a completely different pattern. Indeed, despite turnover being blocked several times starting from the Nineties, the number of medical staff (physicians and nurses) out of the number of ordinary beds shows a steady increase, from 1.82 in 1996 to 2.85 in 2005 (Figure 2). How can we rationalise this sharp change? One first possibility is that the quality of care improved

during the period. A second related explanation is the increase in the need of care: if hospitals are to be limited to cure acute patients, then the complexity (and the associated need of care) necessarily increases. Of course, there is a third possibility: namely, that workforce was not managed properly after downsizing, so that there are potential inefficiencies to be exploited in order to cut expenditure. This is an argument analysed by Piacenza, Turati and Vannoni (2010, PTV from now on), that we now briefly discuss.

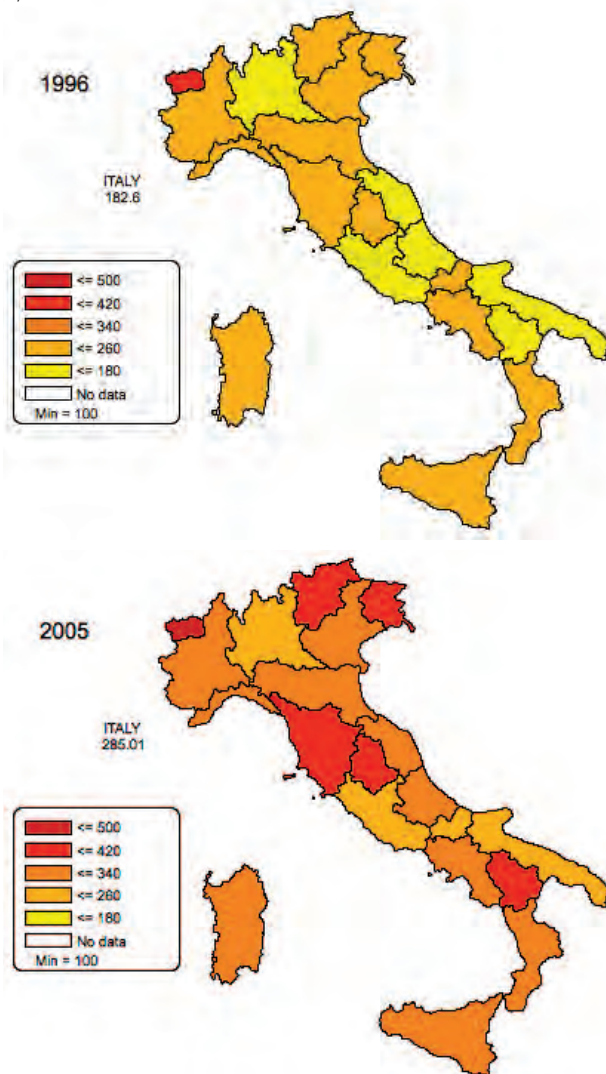
Simple Economics: the Elasticity of Substitution in Hospital Services

Definition of input elasticity of substitution

According to standard applied microeconomics, the usual way of assessing the flexibility in managing the different resources within a given production process and the efficiency of substantial changes in the input mix – e.g., in the ratio between medical staff and beds – relies on the statistical estimation of a cost function model for the firms included in the analysis and the computation of the related elasticities of substitution for the different input pairs. A cost function is a mathematical relationship between production costs – on one side – and output levels – on the other side, where the firm is assumed to minimise the cost needed to provide each amount of production, adopting a given technology and facing given prices for the production factors. Parameter estimates from this model can be exploited to derive important measures of technological characteristics, such as – amongst others – input substitutability.

There are different concepts of elasticity of substitution available for the analysis of the flexibility in managing inputs, i.e., Allen, Morishima and Shadow elasticities. Generally, all these measures aim at assessing, for each couple of productive factors, how the input mix reacts to a change in the input price ratio, which modifies the relative convenience in using the two factors. For instance, considering the particular topic we are discussing here, these measures assess how the “medical staff-beds” mix responds to an increase (or a decrease) in the average wage of physicians and nurses compared to the average cost of beds. Estimated values for such elasticities very close to zero in-

Figure 2. Ratio between medical staff (physicians & nurses) and ordinary beds (% , 1996-2005)



Source: ISTAT – Health for All

dicating a quite rigid technology, with difficulties for managers in substituting between inputs, and highlight potential cost inefficiencies in managing downsizing processes focusing only on the reduction of a particular factor (e.g., the number of beds), while maintaining the unchanged usage of other inputs (e.g., the number of physicians and nurses).

Evidence available for hospital industry

In the context of hospital industry, the strand of empirical studies investigating input substitutability is rather scant and mostly based on US data, where the provision of healthcare services is prevalently managed by private hospitals and fi-

Italy representing one of the 21 administrative entities that are responsible for the regional healthcare systems. The full sample is a panel of 29 productive units observed over the period 2000-2004. The estimated cost function is based on a very general mathematical specification (the Generalised Composite) and includes the total annual number of patients (both inpatients and outpatients) as output indicator and the sum of the operating costs associated to the inputs more closely related to the production of healthcare services as dependent variable: labour – distinct in medical staff (physicians and nurses) and other residual workers (technicians, professional and administrative staff), drugs, and beds –

price of capital relative to the average wage of physicians and nurses implies the ratio of medical staff to beds to rise by 1.4 percent only. Notice also that considering output volumes higher than the sample mean – for instance a tripled production (66,216 annual patients) – a slight decrease of the substitutability between medical staff and beds, emerges when increasing the complexity of treated patients from 0.56 up to 2.24 average DRG weight. The latter finding is consistent with a more marked rigidity of the production process starting from high levels of output.

Final Remarks

Overall, the results from PTV (2010) on Italian hospitals confirm previous evidence on small input substitutability obtained in the literature on North-American countries, thus validating the difficulties for hospital managers to substitute between productive factors, in particular between medical staff and beds. This technology rigidity casts some doubts on bed downsizing policies as an effective tool for controlling hospital costs and public healthcare expenditure in countries, like the European ones, where the share of public providers and public funding is significantly higher than in the US.

A restructuring of the hospital industry limited to the cut of the number of beds, without also properly managing the workforce to avoid excess staffing – such as the downsizing carried out in Italy during the last decades – is likely both to limit the production possibilities and to preclude potential savings in operating costs. The latter could be effectively exploited, for instance, by re-allocating excess medical staff after bed reductions, from the hospitals towards the provision of other health services on the territory, such as home and community care.

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The available evidence points to a very low degree of substitution between beds and medical staff, both for nurses and physicians

nanced with private funds. Overall, the available evidence points to a very low degree of substitution between beds and medical staff, both for nurses and physicians, suggesting that bed downsizing should be accompanied by a proportional workforce reduction in order to avoid wastes of resources. However, it is important to test whether this result holds also in Europe, where – differently from the US – there is a prevalence of public providers and public funding in healthcare provision, and the process of restructuring of hospital industry has been limited mostly to bed downsizing, causing a large increase in medical staff per bed. The study by PTV (2010) provides first evidence on input substitutability in the European context, relying on the estimation of a cost function model for a representative sample of public hospitals in Italy.

Main findings for hospitals in Piedmont

The data used in the analysis refer to all the public hospitals operating in the Local Health Units of Piedmont (Regione Piemonte), a highly industrialised area in North-Western

usually adopted as a proxy for the capital stock in the empirical studies on hospital efficiency. Moreover, a variable measuring the average DRG weight is introduced in the model, in order to control for the role played by the severity of illnesses and the composition of the production volume. The robustness of the results is also tested by extending the analysis in several directions, so as to consider some critical issues not tackled in the basic model (e.g., the potential reduction of operating costs following an increase in the number of outpatient beds).

Looking at the estimates of input substitutability – assessed using all the available concepts (i.e., Allen, Morishima and Shadow elasticities) – the evidence obtained highlights that substitution possibilities in the production of hospital services are in general very limited. This is especially true for the input pair “medical staff-beds”, for which the measure of Shadow elasticity computed at mean values of the output (22,072 annual patients) and average DRG weight (1.12) is 0.14 (not statistically different from zero at 10 percent of significance level), meaning that a 10 percent increase in the

TELEPRESENCE USING ROBOTS IN ACUTE CARE FACILITIES

By Gilberto Felipe Vazquez de Anda and Sebastian Larraza Rico

The idea to be in two or more places at the same time is now feasible thanks to technology and telecommunications, which allow physicians to participate in the care of patients that are located at distant suburban communities. In the past, some patients received less than optimal treatment due to geographical remoteness, often relying on care by physicians lacking certain expertise. However, in current times, suburban hospitals can have a well-designed and well-equipped ICU supported by online physicians located in a high-care hospital.

The Programme

Telepresence is primarily based on the combination of robotics and telecommunications, which allows interaction between audio/video connections in real-time between two or more health teams geographically distant from each other. In our programme, acute care facilities include: Intensive Care Unit (ICU), Emergency Room (ER), Operation Room (OR), and (in the wards) the Rapid-Response team. The main objective of Telepresence is to provide a high level of care to critically ill patients in places where a specialised intensivist is not available 24/7.

Our remote presence robotic system works with a control station (Photo 1) connected to a robot RP-7i® (Intouch Health, Santa Barbara, CA, US) by way of a wireless secured Internet connection. The capabilities of the RP-7i® allow it to roam by

remote control around the ICU or any other place in the hospital, as long as a Wi-Fi network is present. Personal communication between a 'distant' physician and a patient, other physicians, nurses, or the patient's relatives is possible thanks to a two-way audio/video communication projected on a wide, flat display placed at the robot's 'head'. In this way the patient, physicians, nurses, or any other member of the healthcare team can see and talk to the 'distant' physician without leaving his or her actual location.

Telepresence allows the distance and time for diagnosis to be shortened considerably, further allowing the start of specialised medical attention for a critically ill patient, and additionally supports the nursing team and other medical fellows. In addition, it is possible to acquire medical reports, nurse's reports and laboratory results, as well as to

supervise ventilator settings and give advice regarding guidelines, all of which may result in increased quality and safety during medical care at the ICU.

Experience of Telepresence with RP-7i® Robots in Mexico

Our institute is leading and coordinating the experience of Telepresence in Mexico by using robots in acute-care facilities. The programme was launched in August 2009 at five suburban hospitals of 60 beds each, covering a population of about one million, either without social security or with 'Seguro Popular'. The programme is intended to compensate for the lack of intensivists in towns/cities that are distant from the main city, and to guide and provide expert support to those physicians who do not have specialised expertise. The Telepresence programme uses an RP-7i® robot to support nine main processes in each hospital:

- 1) Rounds at acute-care facilities;
- 2) Care for pregnant women at high risk of death;
- 3) Advanced trauma life support;
- 4) Advanced cardiac life support;
- 5) Neurovascular disease;
- 6) Rapid response team;
- 7) Children with severe burns;
- 8) Coordination for air transportation; and
- 9) Influenza AH1N1.

As an additional benefit our programme has created a network of acute-care facilities, which are connected to our two most important high-care hospitals (a specialty university hospital, and a maternal/perinatal university hospital), and to a paediatric



Photo 1. RP-7i® Control Station: Desktop monitor, camera, joystick DT, speakers, keyboard, mouse, microphone and computer. Intensivist at the Maternal and Perinatal University Hospital, Mexico.

Acute Care Processes from August to December 2009	No. of cases	%
ICU Rounds	60	36.36
Emergency Department	27	16.36
Transfer by Helicopter	3	1.82
Operating Room	2	1.21
ATLS	5	3.03
Pregnant women with high risk of death	1	0.60
Rapid Response Team	5	3.03
Influenza AH1N1	62	37.57
Total no. of patients	165	100

Table 1. Telepresence using RP-7[®] robots in Mexico

ICU specialised in severe burns. In the future, we believe there will be an opportunity to coordinate and work with an international network of Telepresence, which means the availability of a virtual critical care medicine practice without borders.

The nerve centre of our programme is located in our hospital (maternal/perinatal university hospital) located in the state-capital, Toluca, Mexico. Five suburban hospitals are involved in the programme (Toluca, Atlacomulco, Valle de Bravo, Tenancingo and Tejupilco). The closest is the Atlacomulco suburban hospital (located 60 km north of the state-capital) and Tejupilco is the most distant hospital (located 180 km from the state-capital). In Toluca, we recently allocated an RP-7[®] robot to a paediatric ICU which specialises in treating children with severe burns.

From August to December 2009, 165 interventions took place using the RP-7i[®] robot, the processes involved can be seen in Table 1. Three patients were transferred by helicopter due to severe brain injury and all survived hospitalisation. Generally, there was optimal internet broadband connection thus providing good video images and clear audio sounds. Malfunctions were mainly due to Internet network failure at the suburban hospitals. Medical staff, patients and their relatives easily accepted the programme and were highly convinced about the expertise offered. The programme has technical support from the FONDICT at the UAEMex (State of Mexico Autonomous University).

Additionally, the programme has potential for improvement in other areas, for example: network for access to web-based information (e.g. medical records, X-ray images, to monitor information and advice on ventilator settings, etc.), and Multi-Pres-

ence (Intouch Health[®]) education and teaching for nurses, physicians and medical fellows about critical care topics.

Conclusion

Technology and telecommunications applied in the ICU has created a new paradigm for critical care practice: This 'new' practice is known as Telepresence.

Telepresence can be applied to solve one of the major problems in the ICU, i.e. the lack of intensivists. Critically ill patients in towns/cities that are geographically distant from high-care hospitals will be able to receive specialised medical assistance and attention, thus increasing the quality and safety of care during hospitalisation in the ICU.

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ART FOR HEALTH: USE OF ART IN HOSPITAL SPACE

By Katarzyna Ryczek and Rosemary Jenssen

Hospital space can provide healing at all levels: psychological, spiritual and physical, with the architecture and interior design affecting all of them. Art has been used in hospitals since the 14th century. In spite of this, for decades the concept of art in hospitals remained a marginal one. In the 1980s, however, views began to change.

In recent years, increased debate about the importance of art in health environments, and numerous studies conducted in this field, have shown that the quality of the visual environment can have a positive im-

impact on users of that space. In the case of hospitals and healthcare buildings, art can have an impact on the staff and recovery process of patients. The interior arrangement of hospitals seeks to humanise space,

and art can be a significant element in achieving this.

Research by Lechuk Staricoff R. (2004) with Chelsea and Westminster Hospital Arts shows that the visual and performance arts

Case Study: Shannon Clinic, Knockbracken (Northern Ireland)



Figure 1.

One example of the integration of art and landscape in a hospital space is the Shannon Clinic in Knockbracken (Belfast, 2005). The project was designed by the UK based architectural design office of Devereux Architects (London), in collaboration with Ostick + Williams Architects (Belfast). This modern medium secured facility for 36 patients was inspired by need to create a space that ensures a sense of dignity, respect and an adequate standard of living for patients, staff and visitors.

Integration of the Art

At the main entrance (Figure 1), the first element of art, (a ceramic mural set against the screen wall), creates a unique sense of identity for the Shannon Clinic, where the first impression is one of a private educational facility or exclusive hotel, rather than a publicly-funded mental health facility. In 2003, the South and East Belfast Trust at Knockbracken Healthcare Park employed artistic coordinators Vivien Burnside & Helen Shields, whose task was to develop and lead the art strategy for the project.

A selection process which included a representative of the Arts Council, architects and Knockbracken's artist in residence then short listed 12 artists from wide ranging artistic disciplines including sculp-

ture, environmental art, stained glass, mural artists and painters.

These short listed artists were then commissioned to create site specific pieces of work which were incorporated into the building.

Therapy by Design: Wards

The entrances to each of the units are highlighted by built-in colourful ceramic wall panels, similar to the main entrance artwork. The wards therefore satisfy the conditions of security and the creation of a therapeutic space, whilst providing a sense of individuality. Calming and pastel colours in all wards provide a base for a variety of artistic elements. Through the use of the colour of the wood in both the floor finishes and the furniture, the interior is more reminiscent of the environment inside the home or of a hotel. Adequate and varied lighting also helps create a diverse atmosphere for the different nature of the interior.

Art of Nature: Landscape

Patient contact with the landscape was an important guideline in developing the idea of the hospital. Nicholas Pearson Associates designed the landscape, which included provision for calm and safe environments to promote a sense of well being and lower emotional tensions for both staff and patients. This has been achieved by using soft colours in surfaces, the use of plants and lighting. Externally-accessed spaces have been orientated to maximise exposure to sunlight to ensure that they are useable for long periods throughout each day. To create and maintain connections with the outside world, the landscape design sought to heighten awareness of seasonal change. Plants were chosen for their seasonality and users of the landscape have access to and experience of natural weather changes. Birds and insects are encouraged in many areas through the provision of suitable plants. Sensory stimulation has been provided by ensuring patients and staff have access to a variety of landscapes with different textures, smells, sounds, attractions and overall character.

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reduce stress levels, improves mood and act as welcome distractions. In the UK, since the 1970's there have been working organisations and institutions engaged in consulting and promoting art programmes for hospitals.

Art in Architecture: The role of the Architect in Creating a Healthy Space

The architecture of hospitals is at the intersection of two disciplines – the artistic and the technical – reflecting the development

of thought in medicine, technology and medical techniques. Hospital space must serve patients and assist hospital staff in their work and mission, which is to bring health and relief from illness.

Integration of art into healthcare is not linked only to pictures on walls, it promotes engagement through performing arts, working with artist at the design stage of hospitals and truly integration art within the hospital. Patients can take an active part in the creation of art; known as “therapy through art.” For this purpose, hospital space may include an art workshop, or an artistic programme with art workshops, music and more.

Case Study: Langley Green Hospital, (England)



Figure 2.

Langley Green Hospital, opened in 2008, provides a 69-bed Adult Mental Health Unit on the outskirts of Crawley. The main aim in the design was to create a modern facility and respectful environment where architecture and landscape, interior arrangement and the arts, have a positive impact on the process of patient recovery. The concept design centered on providing meaningful activity, with therapies and social care at the heart of the new unit. A number of various forms of therapy/recreation areas have been provided, including a gymnasium, recreation hall, arts/crafts rooms, a café/shop, and gardens.

The building and grounds benefit from the art projects working with art consultant Impact Art, specially commissioned through Sussex Partnership NHS Trust, incorporating ideas from people who use the services.

This project has combined architecture, landscape and interior design with art to contribute positively towards the healing process and explore pre-conceptions around mental health for visitors, staff and service users.

In order to achieve a contemporary, considered environment Devereux Architects, landscape architects Standerwick Land Design, and art consultants Impact Art collaborated with an inspirational team of administrators, staff, and service users, together with clinical and non-clinical staff from Sussex Partnership NHS Foundation Trust.

Impact Art worked together with the team to develop a range of works which included prints, sculptures, wood carving, ceramics, etchings and poetry. Artists were appointed to use the build programme as part of the creative and learning experience, to relax, uplift, inspire and contribute to the healing journey.

Lead artist Sasha Ward, through consultation with hospital staff, created over 12 window designs for hand painted and fired glazed panels for offices and conference rooms. In the Therapies and Faith Rooms, etched glass windows incorporate patterns of foliage and gentle natural forms (Figure 2).



Figure 3.

In the Intensive Care Unit garden, artists David Watson and Stig Evans designed a Colour Bench (Figure 3). This project included colour bathing lighting and a recycled plastic colour bench based on a colour emotion diary workshop. Recycled glass bottles were used in the creation of a pavement surface. Another sculpture in the garden is the oak Hope Stick. Enlarged and printed sketches by one of the hospital's patients are used in the corridors.

Conclusion

Good hospital design can improve medical outcomes, satisfaction, and efficiency as administrators and providers everywhere face strong pressures to increase quality, become more patient oriented, reduce costs, and in some locations establish a positive market identity in the face of strong competition from other providers.

As research by Professor Ulrich shows, the integration of art within well-designed hospitals not only provides a restorative and pleasant environment, but also reduces stress and improves clinical outcomes through other mechanisms such as increasing access to social support, and providing opportunities for positive escape from stressful clinical settings.

Art helps to heighten patient and family satisfaction with the healthcare provider and the overall quality of care, and also increases staff satisfaction with the workplace.

A hospital is a place where we encounter human suffering and pain, but it is also a place where we struggle for life and human dignity, which restores faith and hope. In addition to the technological aspect in which hospitals operate, there is the second one: the spiritual, (invisible and difficult to measure), as expressed through the form and detail, colour and light, nature and art, acting through beauty.

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APPLICATIONS OF TELECARDIOLOGY

Recommendations for its Use in Practice

By Simonetta Scalvini

Cardiovascular diseases play a major role in general morbidity and disability, representing one of the major burdens to our healthcare system. Telemedicine can reduce the pressure on medical experts, who are limited in number, and extend their expertise to patients in isolated or remote locations. Telemedicine appears particularly promising in cardiovascular disease, because early, tailored interventions are extremely cost-effective in terms of life-saving and functional recovery.

Telecardiology has advantages for the individual patient in the interaction between primary and secondary care. In addition, general practitioners (GPs) gain educationally and hospital follow-up appointments may be reduced in number, because the GPs can handle more advanced medical problems.

Telecardiology has been widely used in the diagnosis of arrhythmias and for the management of patients with chronic cardiovascular conditions. It is important to note that in many cardiovascular conditions, such as acute coronary syndromes, the opportunity to offer prompt diagnosis and treatment will improve outcomes in terms of mortality and functional recovery.

Technology

In a telemedicine network there are three basic components: the Electronic Personal Record (EPR), digital devices and telecommunications. The main aim of the system is to collect specific and systemised patient data from different medical centres and to organise them in the best possible way in order to make the appropriate medical decisions. The information technology of the telecardiological system uses different solutions. An EPR could be built in a open source/free software; the most popular solution for internet applications is the three-layer client-server application; such a choice ensures that an EPR can be used by various medical centres cooperating with each other and implementing e-health applications. The telemedicine platform handles all the medical information and integrates it with the EPR, which collates all healthcare data in a dynamic way. The characteristics of the platform should be:

- ▶ Usability;
- ▶ Web based architecture;
- ▶ Direct access to information via browser;
- ▶ Access to information through cross-links;
- ▶ Flexibility;
- ▶ Dynamic dealing of medical/health data (easily customisable);
- ▶ Interoperability;
- ▶ Communication support, as the main standard communications systems, to external server to server and/or platforms of technology providers;
- ▶ Health information systems;
- ▶ Biological signals acquisition platforms;
- ▶ Adherence to standards;
- ▶ Semantic standardisation;
- ▶ Terminology and coding standardisation, e.g. ICD (ICD-9-CM), LOINC, SNOMED, UHID, AIFA;
- ▶ Syntactic standardisation, e.g. HL7, (CDA, Clinical Document Architecture), DICOM; and
- ▶ Modularity and extensibility.

The type of connection will affect the speed of transmission and the quality of the video-conference. Standard telephone lines (PSTN) or the patient's mobile phone are enough for the transmission of a one-lead electrocardiography (ECG). Digital lines (ISDN) may be required to transmit signals from more complex devices (e.g. multi-lead ECG or video). Digital subscriber lines (e.g. ADSL) for high-speed Internet connections can be used for every type of video, signal and images in cardiology.

Telecardiology Applications

1. Pre-hospital

Telecardiology can be used to support the treatment of acute coronary syndrome by

emergency medical services. Studies have shown the feasibility of obtaining a 12-lead ECG during the pre-hospital period. Diagnostic quality ECGs can be successfully transmitted for approximately 85 percent of patients with chest pain who are eligible for 12-lead ECGs. Pre-hospital 12-lead ECG transfer improves pre-hospital diagnostic accuracy for patients with a final hospital diagnosis of AMI, angina or non-ischaemic chest pain.

The guidelines of the American Heart Association for cardiopulmonary resuscitation and emergency cardiovascular care recommend the use of out-of-hospital 12-lead ECG diagnosis in urban and suburban paramedic systems.

2. In-hospital

In-hospital telecardiology is used between small hospitals in rural regions and main hospitals. Telemedicine has the potential to improve access to echocardiography diagnoses in the intensive care unit, emergency room and newborn nursery. In some centres, urgent echocardiography is performed during the weekend, evening and overnight to assess ventricular function, ischaemia, pericardial effusion, valvular disease and heart donor status. Several studies have reported close to 100 percent diagnostic agreement when live telemedicine interpretations were compared with videotape interpretations, and the mean time from the echo-images recording to reporting was significantly shorter than the traditional method. Live transmission of neonatal echocardiograms by paediatricians led to an immediate change in management of patients including transport to the main clinic if necessary. More recently, videoconferencing for the transmission of echocardiography data has been also proven useful

for the assessment of children with suspected cardiac diseases.

3. Post-hospital

I. Teleconsulting between GPs and specialists

General practitioners deal with increasing numbers of patients with cardiac disease, who have often been discharged early from the hospital and whom the GP must manage by themselves. In this case, second opinion consultation may be helpful. Telemedicine has mainly been applied in the diagnosis of arrhythmias, or used directly by GPs as an alternative to ambulatory visits for patients with chronic conditions or systemic hypertension. The advantages include early diagnosis and tailored therapeutic interventions, home management of conditions, availability of specialist teleconsultation out of the hospital, and improvement in the appropriateness of hospital admissions and referrals to the emergency department.

II. Home telenursing for chronic cardiac diseases

Chronic cardiac diseases such as chronic heart failure benefit from a multidisciplinary approach that can reduce hospitalisation and improve the patient's quality of life, while lowering costs for the national health service. Home telenursing is an integrated approach that involves the patient, the family, the GP and specialised cardiac centres. Real-time transmission of objective data (physiological data and biological signals) in association with personal data given by the patient is a new approach to the problem. Telemonitoring allows the follow up of patients for long periods. Indeed, telemonitoring and teleassistance through nurse, specialists and GPs can constitute a disease management programme.

There is some evidence that multi-disciplinary management and home-based intervention can reduce readmission rates and length of hospital stay in chronic cardiac patients. However, many studies have involved few patients, often they were not randomised, and also used different types of telemonitoring in combination with the multidisciplinary management of chronic heart failure, making it difficult to determine to what extent beneficial outcomes were due to telemonitoring.

Different results have been reported for mortality, but in no study was this the primary

endpoint. Very few studies have assessed the cost-benefits of telemonitoring but implementation of such a programme was found to decrease annual medical costs compared with the previous year in some cases.

III. Diagnosis for arrhythmias, monitoring of pacemakers and implantations of cardioverter defibrillators (ICDs)

Palpitation is a common symptom that sometimes results from a substantial cardiac arrhythmia. Establishing the cause of palpitations may be difficult because historical clues are not always accurate. A 24-hour Holter monitor is usually used, but the yield of this instrument is low in patients whose symptoms occur infrequently. An-

other instrument used to study palpitations is a transtelephonic event recorder.

Transtelephonic pacemaker monitoring is accurate and reliable and reveals a significant quantity of unpredictable abnormalities, such as failure to sense and capture tachyarrhythmias that necessitate a change of pacemaker mode. As a result of recent trials on prevention of sudden cardiac death, the rate of ICD implementation is increasing, in particular with the advent of biventricular ICDs for patients with heart failure. Remote ICD interrogation allows frequent, convenient, safe and comprehensive monitoring. Device- and patient-related problems were reliably detected and reduced the frequency of outpatient visits. Patients are satisfied with the convenience and easy use of the system.

Other Applications

In paediatric patients with suspected cardiac disease, a telephonic stethoscope can accurately distinguish between functional and organic murmurs and can be used in remote areas where paediatric cardiologists are not present. Moreover, control magnetic resonance (MR) imaging in complex car-

diovascular procedures was developed from a remote location and advanced processing of diagnostic images in stereographic display of CT and MR data were performed by an Italian group from Pisa.

Conclusions

Despite the diversity of models and the lack of systematic research, successful telecardiology programmes exist. One barrier to more widespread implementation is that there are many different software, hardware and telecommunications options, but none are designed specifically for cardiology. Thus each component may function well in isolation, but integrating the components is

Telecardiology has yet to reach maturity, but the evidence to date indicates that it has made a good start

more difficult, e.g. a call centre may receive ECGs from different devices sent via different telecommunication modalities. Reimbursement for telecardiology consultation is also limited and may discourage many physicians from participating.

Telecardiology is one of the fastest-growing fields in telemedicine. There is already a significant quantity of published clinical data, with some randomised multi-centre trials to answer the most important questions in definitive way. The contribution of telecardiology in some fields such as emergency and chronic care undoubtedly improves the quality of healthcare and helps contain rising costs. Telecardiology has yet to reach maturity, but the evidence to date indicates that it has made a good start.

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OVERVIEW OF THE SWISS HEALTHCARE SYSTEM

By Bernhard Wegmüller and Stefan Berger

Switzerland's hospital system is subject to change. Cost containment, competitiveness, transparency of service quality, need for manpower and trend to outpatient care are the main constraints that hospitals face today. Political decision making like the introduction of diagnosis related groups (DRG) further advances this process, which will intensify networking among hospitals, promote specialisation and lead to the closing of those enterprises who cannot meet the challenges of competitiveness.

Facts and Figures

Switzerland contains 7.7 inhabitants on a space of 41,285 square metres. The four official languages are German (64 percent), French (20 percent), Italian (6.5 percent) and Rhaeto-Romanic (one percent). The remaining 8 percent speak other languages. 20 percent of the population are foreigners. Switzerland is a confederation, divided into 26 cantons (politically autonomous regions). Its gross domestic product is 424 bn. USD, which is 55,000 USD per capita. Life expectancy is 80 years on average for men and 84 years for women.

Healthcare services are one of the growth and innovation sectors. The hospitals alone have a turnover of 20 bn. Swiss francs. The direct value added by Swiss Hospitals sums up to 9 billion Swiss francs, 2.1 percent of the GNP. In addition the Swiss hospitals add indirectly a value of 3.8 bn. Swiss francs (value added, by demand of hospitals at other suppliers).

In 2007 the Swiss hospitals employed 130,000 full time equivalent; these are 35 percent of all employees in the healthcare system. The quota of women is 75 percent; the quota of part time employees is 44 percent. The hospitals employ 19,000 medical doctors, 49,000 nurses, 30,000 other healthcare professionals and 30,000 other professions. The hospitals' total pay for salaries is 12 bn. Swiss francs per year.

The costs of the healthcare system amount to 55 bn. francs, with a tendency to rise each year. The access to healthcare services exists for everybody, and the medical catalogue of the social insurance system is large (except dental medicine). Switzerland's expenditures on social healthcare are therefore high in comparison with other countries. However, costs for healthcare have not increased more than the GDP during the last five years. That's why the healthcare cost ratio on the GDP is stable; it amounts to nearly 11 percent.

In principle, Switzerland has a mandatory health insurance system. Each citizen has to be insured by an insurance company, and gets paid basic healthcare services. Citizens can be additionally insured in a non-regulated healthcare insurance market which covers special healthcare services. Within one company, premiums are the same for everybody, regardless of one's income. Insurance companies are privately owned companies and cover all expenses of the ambulatory services. The costs of the hospital services are divided among the insurance companies and the regional state unities (cantons). This is the social element in healthcare financing. Nevertheless, a diminishing number of people can afford the insurance premium, and more and more citizens receive government subsidies.

The mandatory insurance system covers about 43 percent of the healthcare

system's costs, providing for health, accidents, and disability. Private households account for 30 percent, public spending for 17 percent, and private health insurances for 10 percent.

Trends and Challenges

This section will examine the trends and challenges in the Swiss healthcare system. Four actors are in focus: hospitals (as medical service providers), state (especially cantons), health insurance companies, and patients.

The actors' roles are complex and multifaceted. Hospitals are basically healthcare providers, but besides they are often an important factor for regional economy and employment. Cantons are not only state actors, but mostly they also own and pay hospitals, and they adopt and control tariffs. Health insurance companies are private enterprises, but as providers of mandatory health insurance they interpret the role of a state authority. And, last but not least, patients are also citizens, tax payers and insurance holders.

The main focus lies on hospitals. Their system is changing, and the challenges they face are heavy: cost containment, stronger competition among themselves, transparency of service quality, more need for manpower and trend to outpatient care.

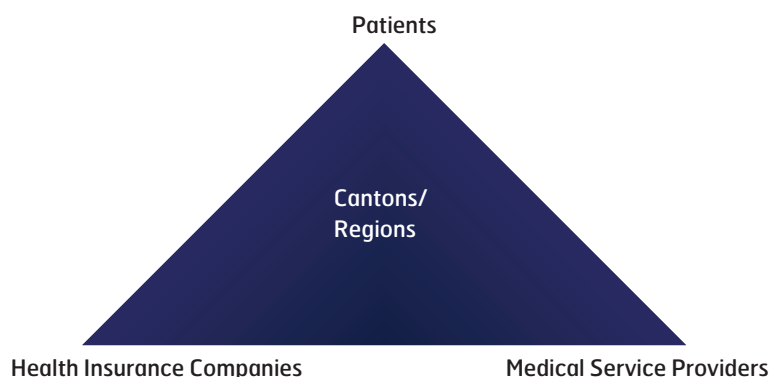


Figure 1. The actors of the Swiss healthcare system

The Swiss Hospital System is Changing

The Swiss hospitals undergo a profound change, which is manifold.

- ▶ Most cantons have changed the status and organisation of public hospitals. 18 of the 26 cantons have regrouped their hospitals to one juridical and organisational unity, mostly as entity of the public law. Only three of them have chosen a form in private law.
- ▶ The hospitals have reduced their capacities over the past years. Beds have been reduced in great numbers, from 76,000 in 1982 to 40,000 in 2008. At the same time, the number of patients has risen from 0.95 to 1.2 million. The average length of stay is 10.7 days in 2008 (7.8 days in acute care hospitals), which is 12 percent less than five years before. Shorter stay is the consequence of more innovation.
- ▶ Swiss hospitals are internally changing their organisation. They tend to focus on a core business, a trend which is accelerated by the introduction of the new hospital financing system: diagnosis related groups, or DRG. In particular public hospitals are forming partnerships, e.g. for purchase, and are forced into networks.
- ▶ Healthcare providers need more manpower in order to meet the growing demand for healthcare from an aging society. 60,000 retired professionals have to be replaced until 2020 and it is estimated that 25,000 professionals have to be recruited additionally.
- ▶ Private hospitals are regrouping and gaining more patients with comple-

mentary private insurance in a shrinking market.

- ▶ Hospitals are closing (stable number of hospitals until 1970: around 250; from 1970 to 1982: rising to 460; from 1982 to 2008: declining to 320).

The political framework requirements change as well: in 2007 the Swiss parliament decided a new hospital payment system, whereby cost covering and financing of hospitals as structures is replaced by paying for performance. Cantons and mandatory health insurance companies share the hospital financing in a ratio of 55:45. The revision comes into force in 2012.

Challenges to Swiss Hospitals

Hospitals are the most important part of the whole healthcare system. They drive the inventions; they provide the most complex – and most expensive – healthcare services. The healthcare sector covers over one tenth of the gross domestic product, the hospitals alone about one fifth. The healthcare sector is expanding more than the average economy, and it will continue to do so.

The Swiss hospitals offer very different services depending on their size and ownership status (public or private). Their sizes also greatly differ, from five beds to 2,167 beds. There are five university hospitals throughout the country, with total 5,900 beds for 7.7 million inhabitants. The 14 biggest hospitals, nine percent of all hospitals, contain 45 percent of all beds, which reflects their importance in healthcare provision. In contrast, the 87 smallest hospitals of acute care, 54 percent of all hospitals, offer only 13 percent of all beds.

Cost containment

With its combination of medical, technical, pharmaceutical and biological innovations on the one hand, the social insurance system on the other hand, the costs of Swiss healthcare are rising each year, and with it the premiums of the insured population. Pressure on hospitals by the media, the public and the politicians is high. Yet it remains to say that the citizens – patients as well as employers – and the economy as a whole are profiting from modern, although expensive medical services.

Competitiveness

Swiss hospitals have undergone changes to strengthen their efficiency in recent years. Yet they are expected to be even more efficient. One of the incentives is financing by DRG. Swiss DRG is similar, though not equal, to German DRG, and is due to be introduced on 1 January 2012. The DRG may serve as the basis for a more competitive hospital market, which would include a role change of the up until now, dominant cantonal authorities.

It has to be accepted that more hospitals will close. The new method of hospital financing will put the medical service providers under more pressure to perform efficiently. Especially small and middle-sized hospitals will probably search solutions in specialising, i.e. in focusing on medical services in which they have a competitive advantage. In fact, many specialised hospitals do already exist, often run by private owners.

Parallel to specialisation, Swiss hospitals are forced into networking by the constraints of price pressure, cost containment and quality requirements. Public as well as private hospitals are collaborating more: some merge completely, some combine certain services.

40 percent of the hospitals are run privately. In the past five years, two big private hospital groups have emerged, each consisting of a dozen sites. In addition a network of another dozen private hospitals has been founded. Many other private hospitals hope to continue independently, as a provider of very special services, and/or as a regional actor.

Transparency of Service Quality

Politicians and public opinion are demanding more transparency in quality. Today, half of the Swiss hospitals publish

their yearly quality reports under the new Label H+ qualité. H+, the national hospital association, has already released two branch reports on quality based on these documents. The national administration, for its part, has published quality data on the basis of mortality. However, mortality on its own can never be an adequate indicator for quality.

Manpower Need

In the short term, the rising need for health professionals can be covered by recruiting abroad. The mean of foreign personnel in Swiss hospitals is at 30 percent, but in some enterprises the foreigner quota amounts to over 50 percent. In the long run, Switzerland has to supply its own health professionals, by providing more training positions, better marketing and securing formation financing, as well as by other means.

Out-Patient Care

A rising number of hospitals and clinics have developed to centres of competence for out-patient diagnostics and therapies. Swiss hospitals deliver up to 40 percent of all out-patient services in a region. Nowadays, patients who used to be hospitalised for several days can return home and go back to the workplace much faster thanks to out-patient treatment and after care. The transition between in- and out-patient treatments becomes smooth. The introduction of diagnosis related payment will further advance this development.

Patient Expectations

Switzerland faces the same trends and challenges as many other “western” countries: the population is aging, meaning increased demand for healthcare services. The baby boomer generation is entering the healthcare market in large numbers. Society has become more individualistic, with higher mobility, a growing proportion of one-person households and a tendency to seek more professional healthcare for curing more kinds of illnesses.

On the other hand, today’s patients are better informed. Books, internet and self-help groups provide lots of information. In Switzerland, like elsewhere, a consumer attitude towards healthcare has emerged. Consequently, hospitals are often judged by the hotel services they provide, rather than by their medical services. Expectations towards the whole service package

are rising. The distinction between wellness and healthcare services is getting blurry: health insurance companies are offering the use of fitness centres, and lifestyle medicine is advancing.

than one hundred. In the near future the concentration will continue. Many insurance companies can only survive due to cross subsidises within a holding. Their substance might soon be consumed. So-called “cheap

Hospitals are the most important part of the whole healthcare system

Waiting lists are not frequent within the Swiss healthcare system. Patients wish to maintain this situation even at a high cost. On the other hand, people have a hard time paying for their mandatory insurance premium. As a consequence, many cancel their complementary private healthcare insurance.

Cantons

The cantons hold many roles: owner and financier of public hospitals, tariff adopter and controller, legislator etc. In particular, cantons decide who appears on the hospital list, and whose services are therefore subsidised. However, the cantons’ roles are changing. More rules, especially market rules, will be provided on the national level, a process which might weaken the position of the cantonal authorities. At the same time, there is a great financial responsibility for the insured population, and pressure on cost reduction will be upheld.

Still the cantons will keep a lot of power. Lately, they even seemed to widen their scope by starting and enforcing health promotion and prevention campaigns.

Health Insurance Companies

The role of health insurance companies is complex and ambivalent. As private enterprises they are profit-oriented and act within a competitive environment. However, since they all have to offer and pay the same medical services within the mandatory health insurance, real competition is restrained. Instead a pseudo competition takes place, usually concerning the young and healthy insured because they pay the insurance premium without demanding expensive services.

The number of healthcare insurance companies has reduced dramatically within the past two decades, from a thousand to less

insurance companies” who have insured mostly young and healthy people will have to raise their premiums, too. The “hunt for the good risks” can only be inhibited by introducing a risk compensation which is effective, i.e. by adding morbidity to the criteria of age, sex, and hospital stay.

The influence of health insurance companies on political decision making is high, since many parliamentarians represent and defend their interests. They even aim for more power within the healthcare system. For example they seek more control over patient data, an aim which is often in conflict with data protection law.

Ongoing Issues

Switzerland’s legislation process is long. The political parties, as well as the federal power sharing and interest groups, do anything they can to save their particular interests, and therefore tend to block progress. This is true for most political domains but for healthcare reforms in particular.

The most important upcoming reform is the introduction of managed care, i.e. the coordination of therapy processes along the whole chain of treatment. To achieve the reform, all medical service providers have to be included in equal measure, independent doctors as well as hospitals and clinics. Managed Care must focus on chronic, complex and critically ill patients. Next to the refinement of risk compensation, monistic financing has to be installed.

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Paul Castel

DES VALEURS ET DES EXPÉRIENCES PARTAGÉES

Pour sa 23^{ème} édition, le congrès de l'Association Européenne des Directeurs d'Hôpitaux réunira une nouvelle fois plusieurs centaines de managers hospitaliers venus de toute l'Europe et sera sans nul doute l'occasion de travaux riches et nourris autour d'experts internationaux de haut niveau. Ce congrès sera aussi et avant tout le rassemblement de professionnels autour de mêmes valeurs, celles-là même qui fondent l'identité des hospitaliers.

En effet, au-delà des spécificités propres à chaque système de santé, qu'il s'agisse de leur organisation, de leur mode de financement ou encore de la place qu'occupent en leur sein les responsables hospitaliers, il est toujours frappant de constater la force de ce qui réunit les directeurs d'hôpitaux. Ces valeurs partagées faites de générosité, du sens de la responsabilité, du souci de faire évoluer les organisations, d'améliorer sans relâche le service offert aux patients mais aussi de garantir des soins de qualité.

Cette identité professionnelle forte constitue, pour chacun d'entre nous, le socle sur lequel nous nous appuyons pour diriger nos établissements et pour assurer leur développement. Elle constitue aussi un patrimoine que nous devons entretenir à travers des échanges d'expériences. C'est précisément parce que ces valeurs sont à l'origine de la création, il y a maintenant plus de 40 ans, de l'AEDH, que celle-ci souhaite engager dans les prochains mois une série d'initiatives destinées à multiplier les partages entre les directeurs, à développer les

retours d'expériences mais aussi à transmettre notre identité professionnelle aux jeunes managers qui dirigeront les hôpitaux de demain.

D'une façon générale, ces initiatives, qui permettront à l'AEDH de gagner en visibilité et de renforcer ses liens avec les associations nationales qui la composent, visent à recentrer notre association sur les problématiques qui nous sont communes et à inventer des solutions managériales partagées. C'est ainsi que l'Europe sociale continuera, malgré les incertitudes et les allers et retours successifs, à se construire et à prendre sens pour les citoyens européens.

Alors que la crise, dans toutes ses dimensions, frappe de plein fouet l'Europe et bouscule nos organisations et nos systèmes de santé, l'affirmation de notre identité, des valeurs qui nous rassemblent est essentielle. En effet, loin d'être un repli sur soi ou un signe de fermeture, l'expression de notre singularité doit au contraire être un signe de confiance et d'ouverture. Confiance en l'avenir, ouverture aux évolutions et aux innovations.

C'est cet esprit que je me suis efforcé, avec honneur et fierté, d'insuffler au sein de l'AEDH tout au long de ma présidence de quatre années et qui animera sans doute mon successeur, qui sera désigné à Zurich.

P. CASTEL

Président de l'AEDH



Les éditoriaux d'(*E*)Hospital sont rédigés par des membres des instances dirigeantes de l'AEDH. Les contributions publiées ici ne reflètent cependant que l'opinion de leur auteur et ne représentent en aucune façon la position officielle de l'AEDH.

GEORGE WITTE



Le décès soudain et inattendu de George Witte a profondément touché l'AEDH. George Witte était un remarquable porte-drapeau à différents niveaux : au niveau local, il était président du conseil de Rivierduinen et au niveau national, entre autres, vice-président de la GGZ NL (Organisation de la psychiatrie aux Pays-Bas). Au sein de l'AEDH, il a été actif dans le groupe de travail sur la psychiatrie. Il en a même été le président au cours des dernières années.

L'AEDH tient à exprimer ses plus sincères condoléances à sa famille, ses amis et ses collègues.

UN NOUVEAU SITE POUR L'AEDH

Le site de notre association a été réaménagé pour la première fois depuis son lancement en 2004, mettant l'accent d'une part sur la gestion de l'hôpital et ses gestionnaires et d'autre part sur nos associations membres.

Le site constitue une vue d'ensemble européenne sur la gestion des hôpitaux à travers des documents, des liens et des nouvelles. Les « thèmes » et « activités » de l'AEDH reçoivent également une place de choix sur le site. La section « Document » donne un aperçu des com-

muniés de presse, des présentations et de notre magazine (E)Hospital. Un aperçu des arrêts de la Cour européenne de justice, des congrès et des liens pertinents pour les gestionnaires hospitaliers est fourni dans la section « ressources ».

Les utilisateurs inscrits peuvent rechercher des directeurs d'hôpitaux dans la section « Who is Who » ainsi que des informations sur nos associations membres.

La nouvelle plateforme de notre site Web donne aussi la possibilité d'effectuer des mises à jour et d'apporter de nouvelles informations plus rapidement. Elles peuvent être fournies par l'AEDH, mais aussi par nos associations membres, par chaque directeur d'hôpital et chaque usager inscrit. Les documents, les nouvelles, les liens, les activités peuvent être partagés dans la section « contribution ».

Enfin, la page d'accueil de notre site Web contient une enquête, une rapide question portant sur un thème particulier.

Notre première question est : « Quelle est actuellement votre principale préoccupation ? »

Les éléments de réponse sont les suivants : « 1) Budget / financement, 2) Ressources humaines, 3) (Ré)organisation, 4) Qualité, 5) Affaires juridiques et 6) Autres ».

Le site est lancé en anglais, la traduction en français et en allemand est en cours de réalisation.

Nous vous invitons à visiter notre site Web, à répondre à notre sondage et à partager des informations avec vos collègues à travers la section « contribution ».

WILLY HEUSCHEN A REÇU LA RECONNAISSANCE DE L'HMI

Le 26 mars 2010, M. Willy Heuschen, Secrétaire général de l'AEDH, a obtenu la reconnaissance de l'HMI de la part de son Président Denis Doherty pour son importante contribution aux services de santé en Irlande et en Europe.

The screenshot shows the EAHM website homepage. At the top, there is a navigation menu with links for Home, login, Contact us, Impressum, and a language selector. Below the menu, there are tabs for About us, European overview, Themes, Activities, Documents, Resource center, and Member's area. The main content area features a banner for the 23rd EAHM Congress in Zurich, 2010. Below the banner is a 'News' section with a list of recent articles, including 'The EAHM website reshaped', 'George Witte', 'Austrian Institute for Hospital Management visits EAHM', and 'Willy Heuschen receives HMI Fellowship'. To the right of the news section is a poll titled 'What is currently your main concern?' with radio button options for Budget/Financing, Human Resources, (Re)organisation, Quality, Legal affairs, and Other. Below the poll is a 'vote' button. Further down, there is a section for 'Training and Education - Value Models' featuring a book cover for 'Hospital Training & Education'. At the bottom of the page, there is a date and time indicator: 'Thu, 9 Sep 2010 - Sat, 11 Sep 2010' and '23rd Congress of EAHM (CH)', along with another date and time: 'Thu, 9 Sep 2010 09:00' and '40th Ordinary General Assembly (CH)'.

Figure 1. Le nouveau site de l'AEDH

► **Evidence-Based Design: une clé pour l'innovation collaborative de modèles d'affaires dans les soins de santé en Europe**

Par Pernille Weiss Terkildsen

Les soins de santé et les hôpitaux de l'Europe entière sont menacés par l'insuffisance des ressources : la chasse au meilleur modèle de gestion est lancée. Nous avons besoin d'activer et de cultiver les liens entre l'environnement bâti et le fonctionnement. L'Evidence-Based Design (EBD) peut être notre outil commun. Par une approche collaborative et par l'utilisation de l'EBD comme un langage commun et un ensemble de méthodes pour la compréhension mutuelle, les pays de l'Union européenne peuvent réussir à développer, en combinant les meilleurs aspects de tous les modèles de la santé, de nouveaux concepts entièrement durables pour les institutions, les bâtiments et les processus. Ils peuvent développer une synergie optimale entre l'environnement bâti, l'activité humaine, les équipements, l'infrastructures et la logistique dans le contexte en constante évolution, ce qui serait une grande contribution pour la santé future en Europe.

► **L'« Evidence-Based Design » pour la sécurité du patient dans l'environnement : la perspective de la « Joint Commission International »**

Par Carlo Ramponi

Pendant que la médecine évolue de plus en plus vers une médecine basée sur les faits (EBM pour Evidence-Based Medicine) dans laquelle les choix cliniques sont orientés par les données issues de la recherche, le design et l'architecture adaptés à la santé sont de plus en plus guidés par des recherches rigoureuses dans le but de comprendre, dans l'orientation donnée par l'« Evidence-Based Design » (EBD), l'influence de l'environnement physique des hôpitaux sur les patients et sur le personnel. Le potentiel d'amélioration de la qualité et de la sécurité des soins de santé grâce à un processus informé EBD est réel et significatif. EBD répond également à la forte insistance de la « Joint Commission International » de prendre des décisions éclairées en ce qui concerne la sécurité et la qualité des soins. En outre, les normes d'accréditation de la « Joint Commission International » et de l'« Evidence-Based Design » sont conformes à la fois dans leurs objectifs et leurs choix de processus. Une organisation qui désireait faire porter ses efforts sur la qualité et les accréditations devrait sérieusement envisager à la fois l'EBD et les outils et les exigences de l'accréditation comme supports critiques dans la planification d'un design et d'une architecture qui se soucient de la sécurité.

► **Design et dignité des patients**

Par Jan Dekker

Se retrouver patient dans un hôpital peut parfois être à l'origine d'une perte de sa dignité. Les patients sont confrontés de manière embarrassante avec des salles de bain mixtes, doivent porter des chemises très ouvertes et être soumis à des transports désorientants. Un projet novateur vient de rassembler des concepteurs et des fabricants proposant des « goussets de lit », des « salles de bain capsules » et une chemise très polyvalente. Et cela en seulement six mois !

Dirigé par le ministère de la Santé et le Design Council au Royaume-Uni, « Design for Patient Dignity » a demandé à six équipes de concepteurs et fabricants, ainsi qu'à des spécialistes en conception des soins de santé de travailler avec le personnel et les patients pour trouver des réponses adéquates à ces difficultés. Les domaines d'intervention incluaient des vêtements pour protéger la vie privée des patients, des équipements ou des services pour faire en sorte que les patients se sentent plus en sécurité pendant leur transport au sein de l'hôpital, des produits ou des services pour séparer les hommes et les femmes et pour donner au personnel la possibilité de transformer rapidement une zone. Cela devait inclure un usage plus digne du cabinet de toilette, un système adaptable à des services différents pour offrir un hébergement commun à des personnes de même sexe, et une signalétique adaptée aux besoins des patients, du personnel et des visiteurs afin de les aider à trouver leur chemin, en se concentrant particulièrement sur le signallement des toilettes.

► **La conception des hôpitaux et la question environnementale**

Par Harry McQue

Avec la diminution toujours plus importante des quotas d'énergie alloués aux hôpitaux, les concepteurs doivent trouver de nouvelles manières pour réduire notre empreinte carbone. Savez-vous qu'un kilowatt d'énergie électrique produite n'importe où dans le monde a une empreinte d'environ 1 kg de CO₂ ? Il est grand temps que des mesures soient prises : nous devons nous assurer que les toilettes installées utilisent l'eau efficacement et que les distributeurs de papier seront remplacés par des sèche-mains haute vitesse. Les exigences de l'aménagement paysager sont partiellement satisfaites par le stockage de l'eau de pluie, l'énergie solaire et éolienne seront introduites au moins partiellement pour réduire la part des énergies non renouvelables achetées en dehors de l'enceinte hospitalière. Les fournisseurs sont encouragés à réduire au maximum les emballages et à les réutiliser, s'ils ne peuvent pas totalement les supprimer.

► La réduction des effectifs est-elle une façon efficace de contrôler les dépenses de santé à l'hôpital ?

Par Massimiliano Piacenza, Gilberto Turati

Les coûts hospitaliers représentent la part la plus importante des dépenses totales de santé. L'un des principaux objectifs étant de contrôler la croissance des dépenses de santé, la réduction des effectifs hospitaliers est un phénomène qui caractérise presque toutes les économies occidentales dans les dernières décennies. Toutefois, dans les pays européens, la réduction des effectifs a été limitée essentiellement au nombre de lits, sans porter une grande attention à la gestion des effectifs. Nous essayons de comprendre si cette politique est efficace pour réduire les coûts hospitaliers ou si elle génère éventuellement des inefficacités.

Les résultats suggèrent que la restructuration du secteur hospitalier limitée à la réduction de lits est de nature à empêcher les économies potentielles en coûts d'exploitation et un contrôle efficace des dépenses de santé si elle ne se préoccupe pas de la gestion équitable du personnel afin d'éviter un excès de dotation.

► Telepresence utilise des robots dans les services de soins intensifs

Par Gilberto Felipe Vazquez de Anda, Sebastian Larraza Rico

Telepresence est principalement basée sur la combinaison de la robotique et des télécommunications. Elle permet des interactions entre les branchements audio et vidéo en temps réel entre deux ou plusieurs équipes de santé géographiquement éloignées les unes des autres. Dans notre programme, les services de soins intensifs comprennent : une unité de soins intensifs, la salle d'urgence, la salle d'opération, et l'équipe d'intervention rapide dans les services. L'objectif principal de Telepresence est de fournir un niveau élevé de soins aux malades en phase aigüe dans les lieux où un réanimateur spécialisé n'est pas disponible 24 heures sur 24 et 7 jours sur 7.

► L'utilisation de l'art à l'hôpital

Par Katarzyna Ryczek, Rosemary Jenssen

L'espace de l'hôpital peut être un vecteur de guérison à plusieurs niveaux psychologique, spirituel et physique, l'architecture et la décoration intérieure affectant chacun d'entre eux. Ces dernières années, l'augmentation des débats sur l'importance de l'art dans le milieu de la santé et les nombreuses études menées dans ce domaine ont montré que la qualité de l'environnement visuel peut avoir un

impact positif sur les utilisateurs de cet espace. Dans le cas des hôpitaux et des bâtiments consacrés à la santé, l'art peut avoir un impact sur le personnel et sur les processus de récupération fonctionnelle des patients. L'aménagement intérieur des hôpitaux vise à humaniser l'espace, et l'art peut être un élément qui y contribue.

► Les applications de la télécardiologie

Par Simonetta Scalvini

Les maladies cardiovasculaires jouent un rôle majeur dans la morbidité et l'invalidité générales et représentent l'un des principaux soucis de nos systèmes de santé. La télémédecine peut réduire la pression exercée sur les experts médicaux, qui, en nombre limité, doivent pourtant faire profiter de leur expertise des patients vivant dans des endroits isolés ou très éloignés. La télémédecine apparaît particulièrement prometteuse dans les maladies cardiovasculaires, les interventions rapides et adaptées y étant extrêmement rentables en termes de vies sauvées et de recouvrement fonctionnel.

En milieu hospitalier, la télécardiologie est utilisée dans les régions rurales pour faire le lien entre les petits hôpitaux et les hôpitaux principaux. La télémédecine a la capacité d'améliorer l'accès à des diagnostics échocardiographiques dans l'unité de soins intensifs, en salle d'urgence et en pouponnière. Dans certains centres, les échocardiographies d'urgence sont effectuées pendant le week-end, la soirée et la nuit afin d'évaluer la fonction ventriculaire, l'ischémie, l'épanchement péricardique, les valvulopathies et le statut des donneurs d'organe.

► Le système de santé suisse

Par Bernhard Wegmüller, Stefan Berger

Les hôpitaux constituent la part la plus importante du système de santé suisse. Ils pilotent la recherche et fournissent le plus complexe - et le plus coûteux - des services de santé. Le secteur de la santé couvre plus d'un dixième du produit intérieur brut, les hôpitaux à eux seuls environ un cinquième. Pourtant, le secteur de la santé continue à se développer plus que l'économie moyenne.

En combinant les innovations médicales, techniques, pharmaceutiques et biologiques d'une part, et le système d'assurance sociale d'autre part, les coûts de la santé en Suisse sont à la hausse chaque année ainsi que les primes des assurés. La pression sur les hôpitaux par les médias, le public et les politiciens est élevée. Pourtant, les citoyens - les patients comme les employeurs - et l'économie dans son ensemble tirent profit de services médicaux modernes, même si le prix en est élevé.



Paul Castel

GETEILTE WERTE, GETEILTE ERFAHRUNGEN

Zum 23. Mal führt der Kongress der Europäischen Vereinigung der Krankenhausdirektoren mehrere Hundert Krankenhausmanager zusammen, die aus ganz Europa anreisen. Dies ist zweifelsohne eine Gelegenheit für ergiebige und inspirierende Diskussionen, was auch den hochrangigen internationalen Experten zu verdanken sein wird. Der Kongress wird also – und das ist der wichtigste Faktor – ein Zusammenkommen von Fachleuten erlauben, die ein gemeinsames Wertezentrum haben: jene Werte, auf denen die Identität der Fachleute des Krankenhausbereichs letztendlich aufgebaut ist.

In der Tat ist es immer wieder faszinierend zu beobachten, welche Stärke Krankenhausmanager überall verbindet – jenseits der einzigartigen Spezifität eines jedes Gesundheitssystems, ob es sich nun um die Organisation, die Finanzierungsmethode oder die Stellung des Krankenhausmanagers innerhalb des Spitals handelt. Diese geteilten Werte sind Großzügigkeit, ein Sinn für Verantwortung, Sorgfalt für die Entwicklung ihrer Organisationen, eine tatkräftige und andauernde Verbesserung des Services für Patienten, aber auch die Gewährleistung der Qualität der Betreuung.

Diese starke berufliche Identität stellt für uns alle die Basis dar, auf die wir beim Management unserer Betriebe und dem Sicherstellen ihrer Entwicklung vertrauen. Sie ist gleichzeitig auch unser Erbe, das wir durch den Erfahrungsaustausch lebendig erhalten. Genau weil diese Werte an der Basis der Schöpfung der EVKD vor mehr als 40 Jahren liegen, ist es der Wunsch der EVKD, sich in den nächsten Monaten an einer ganzen Reihe von Initiativen zu beteiligen, die den Austausch zwischen Direktoren vielfältigen und Rückmeldungen über diese Austausche entwickeln sollen. Auch soll unsere berufliche Identität an

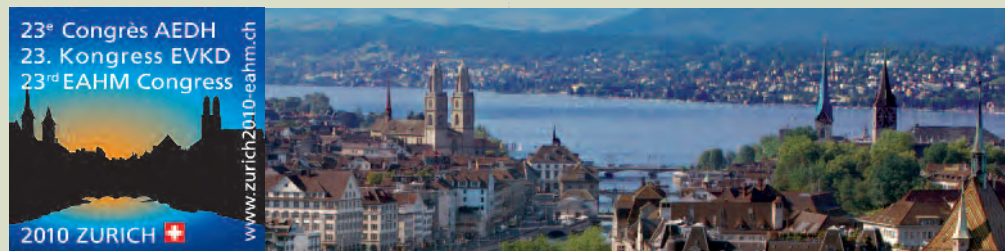
junge Manager weitergegeben werden – sie führen die Krankenhäuser von morgen.

Generell zielen diese Initiativen darauf ab, dass sich unsere Vereinigung einmal mehr auf die gemeinsamen Probleme fokussiert – Probleme, denen wir alle gegenüberstehen –, und dass Lösungen auf Managementebene gefunden werden, um diese Probleme zu bekämpfen. Zusätzlich erlauben diese Initiativen der EVKD, ihre Sichtbarkeit zu vergrößern und ihre Verbindung mit den nationalen Verbänden, aus denen die Vereinigung ja aufgebaut ist, zu stärken. Und so führen wir unsere Mission, ein soziales Europa aufzubauen, weiter, trotz aller Unsicherheiten und dem andauernden Kommen und Gehen, zum Vorteil aller Europäer.

Während die Krise in all ihren Dimensionen Europa heimsucht und unsere Organisationen und unsere Gesundheitssysteme durcheinander rüttelt, ist die Bekräftigung unserer Identität und der Werte, die uns zusammenbringen, unerlässlich. Und weit entfernt von einem Rückzug oder einem Zeichen des Zusammenbruchs sollte der Ausdruck unserer Individualität als Anzeichen des Selbstbewusstseins und Offenheit gesehen werden; mit Zuversicht in die Zukunft, und mit Offenheit für Veränderung und Innovation.

In diesem Sinne habe ich mit Ehre und Stolz danach getrachtet, während meiner vierjährigen Präsidentschaft innerhalb der EVKD eine Quelle der Inspiration zu sein. Zweifelsohne wird das auch für meinen Nachfolger gelten, der in Zürich gewählt werden wird.

P. Castel
Präsident EVKD



Leitartikel in *(E)Hospital* werden von Führungspersonlichkeiten der EVKD verfasst. Die hier veröffentlichten Beiträge geben dennoch ausschließlich die Meinung der Autoren wieder und sind nicht als offizielle Stellungnahme der EVKD zu werten.

GEORGE WITTE



Das plötzliche und unerwartete Ableben von George Witte hat die EVKD tief getroffen. George Witte war auf vielen Ebenen ein bemerkenswerter Fahnen-träger: auf der lokalen Ebene als Prä-sident des Vorstandes der Rivierduinen und auf nationaler Ebene beispielsweise als Vizepräsident der GGZ NL (eine niederländische Organisation für Psy-chische Gesundheit). Innerhalb der EVKD war er innerhalb der Arbeits-gruppe Psychiatrie tätig, und während der letzten Jahre auch als Präsident die-ser Arbeitsgruppe.

Die EVKD möchte hiermit seiner Fa-milie, seinen Freunden und seinen Kolle-gen ihr aufrichtigstes Beileid bekunden.

DIE NEU GESTALTETE EVKD-WEBSEITE

Die Webseite unserer Vereinigung har-te seit ihrer Lancierung im Jahr 2004 einer Neugestaltung, mit einem Fokus auf Kran-kenhausmanagement und Krankenhaus-manager, und einem weiteren Schwer-punkt auf unsere Mitgliedsverbände.

Die Webseite ist derzeit dabei, mit Hilfe von Dokumenten, Links und News einen „Europäischen Überblick“ in Bezug auf Krankenhausmanagement aufzubauen. Den aktuellen „Themenbereichen“ und „Aktivitäten“ der EAHM wird ebenfalls ein wichtiger Platz auf der Webseite einge-

räumt. Die „Dokument“ Sektion bietet einen Überblick über Pressemitteilun-gen, Präsentationen und unser Maga-zin (*E*)Hospital. Im „Ressourcencenter“ finden Krankenhausmanager eine Über-sicht über themenbezogene Urteile des Europäischen Gerichtshofs, und weiters Informationen über Kongresse und in-teressante Links.

Registrierte User können Krankenhau-direktoren in der „Who’s who“ Sektion nachschlagen, und dort auch auf Infor-mationen unserer Mitgliedsverbände zu-greifen. Die neue Plattform unserer Web-seite eröffnet uns auch die Möglichkeit, neue Informationen und Updates schnel-ler online zu stellen. Diese werden durch die EVKD zur Verfügung gestellt, aber auch durch Mitgliedsverbände oder durch jeden Krankenhausdirektor oder jeden registrierten User. Dokumente, News, Links oder Aktivitäten können in der „Beitragssektion“ gemeinsam ge-nutzt werden.

Und schließlich beinhaltet die Websei-te eine Umfrage, eine kurze Frage be-züglich eines bestimmten Themas. Die

erste Umfrage lautet: „Was ist derzeit Ihre Hauptsorge?“, eine Antwort ist aus den folgenden Optionen auszuwählen: „1) Budget / Finanzierung, 2) Personal-wirtschaft, 3) (Re-)Organisation, 4) Qualität, 5) Rechtliche Angelegenhei-ten und 6) Andere“.

Die Webseite wird auf Englisch lanciert, eine französische und eine deutsche Übersetzung ist im Gange.

Wir laden Sie herzlich ein, unsere Web-seite zu besuchen, an unserer Umfra-ge teilzunehmen und Informationen mit Ihren Kollegen in der „Beitragssek-tion“ zu teilen.

WILLY HEUSCHEN ERHÄLT HMI-STIPENDIUM

Am 26. März 2010 erhielt Hr. Willy Heu-schen, Generalsekretär der EVKD, das HMI-Stipendium aus den Händen von HMI Präsident Dennis Doherty, in An-erkennung seines großen Beitrags für die Gesundheitsdienste in Irland und in ganz Europa.

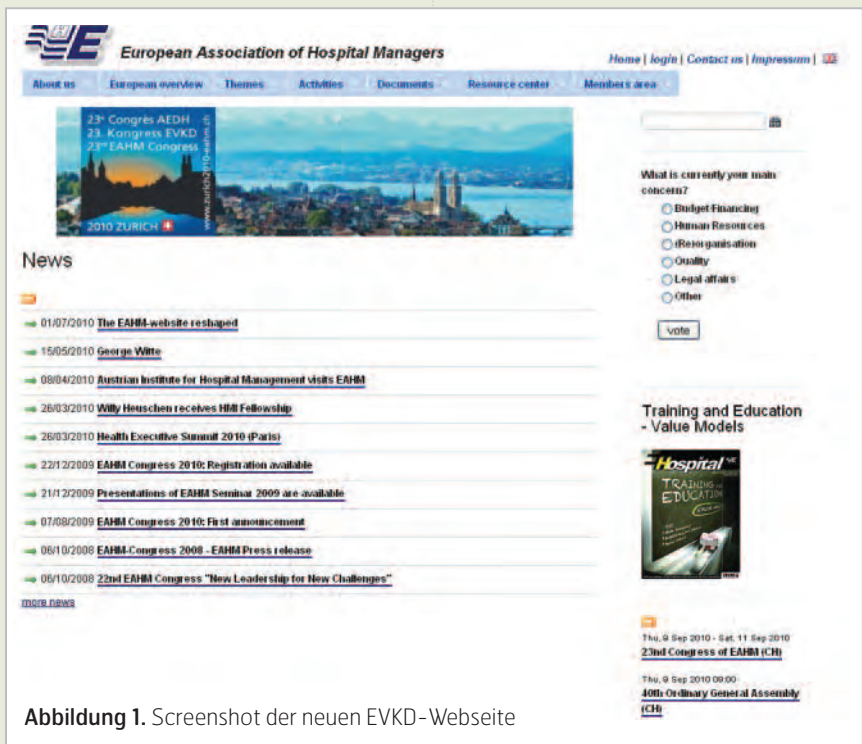


Abbildung 1. Screenshot der neuen EVKD-Webseite

Evidenz-basiertes Design – ein Schlüssel zur Kollaborativen Innovation von Geschäftsmodellen in der Europäischen Gesundheitsorge

Von Pernille Weiss Terkildsen

Knappe Ressourcen stellen für Gesundheitswesen und Krankenhäuser in ganz Europa eine Herausforderung dar – nun beginnt die Jagd auf das optimale Geschäftsmodell. Wir müssen die Beziehungen zwischen der erbauten Umwelt und der Vorgehensweise aktivieren und kultivieren. Evidenz-basierter Design (EBD) kann unser gemeinsames Werkzeug sein. Mittels eines partnerschaftlichen Ansatzes und dem Einsatz von EBD als gemeinsame Sprache und als Methode für das gegenseitige Verständnis können EU-Länder erfolgreich sein, indem sie durch Kombination der besten aller unterschiedlichen Gesundheitsorgemodelle topaktuelle und vollständig nachhaltige Konzepte für Institutionen, Gebäude und Vorgehensweisen entwickeln, die durch eine optimale Synergie zwischen erbaute Umwelt, menschlicher Aktivität, Ausrüstung, Infrastruktur und Logistik gekennzeichnet sind, im Rahmen eines sich ständig verändernden Kontexts – und damit für die zukünftige Gesundheitsorge in Europa einen sehr großer Beitrag leisten.

Evidenz-basierter Design in einem patientensicheren Umfeld: die Joint Commission International Perspective

Von Carlo Ramponi

So wie sich die Medizin kontinuierlich auf eine evidenz-basierte Medizin hinbewegt und ihre klinischen Entscheidungen somit zunehmend auf Forschungsergebnissen beruhen, so wird der Aufbau des Gesundheitswesens zunehmend von umfassender, genauer Forschung gelenkt, welche die physikalische Umwelt der Krankenhäuser mit den Outcomes von Patienten und Arbeitnehmern verbindet – gerichtet auf EBD. Das Potential zur Verbesserung der Qualität der Gesundheitsversorgung und -sicherheit mithilfe eines sachkundigen EBD-Prozesses ist real und in einem signifikanten Ausmaß vorhanden. EBD steht auf einer Linie mit der Schwerpunktsetzung der JCI: dass hinsichtlich Sicherheit und Vorsorge informierte, ausgereifte Beschlüsse zu fällen sind.

Weiters stimmen die Akkreditierungsstandards der JCI und EBD in ihren Zielen und bevorzugten Vorgehensweisen überein. Einer Organisation, die danach strebt, ihre Bemühungen auf den Gebieten der Qualität und der Akkreditierung zu verbessern, wird dringend angeraten, EBD und Akkreditierungswerkzeuge und Anforderungen als wichtige Stützen für ein sicheres Design in Betracht zu ziehen.

Design für die Würde des Patienten

Von Jan Dekker

Die Gesundheit so mancher Krankenhauspatienten geht auf Kosten ihrer Würde – die Patienten sind gezwungen, sich mit gleichgeschlechtlichen Badezimmern, nur schlecht verhöhlenden Patientenkitteln und desorientierenden Wegen von A nach B abzumühen. Nun schlagen Designer und Herstellerfirmen zurück, mittels eines innovativen Projekts, das Bettenkabinen, eingekapselte Waschräume und einen äußerst verwandlungsfähigen Patientenkittel beinhaltet. Und die ganze Prozedur hat nur sechs Monate gedauert.

„Design for Patient Dignity“, geleitet vom Design Council und dem Gesundheitsministerium, bat sechs Teams von Designern, Herstellern und Spezialisten für Gesundheitsdesign, mit Gesundheitspersonal und Patienten zusammenzuarbeiten, um dieses Problem zu meistern. Der Fokus lag unter anderem auf Bekleidung, welche die Privatsphäre des Patienten schützt; Ausrüstung oder Dienstleistungen, die den Patienten bei ihrem Transport im Krankenhausbereich mehr Sicherheit vermittelt; Produkte oder Dienstleistungen, um männliche und weibliche Patienten zu trennen, und dem Personal die Möglichkeit zu geben, flexibel und kurzfristig Bereiche zu trennen; eine würdevollere Erfahrung beim Toilettengang; Gestaltung der Abteilungen, die nachfolgend auf unterschiedliche Abteilungstypen umstrukturiert werden können, um gleichgeschlechtliche Unterbringung zu bieten; und ein System von Anzeichnungen und Hinweisschildern, die es Patienten, Personal und Besuchern ermöglichen, sich zurechtzufinden, mit besonderem Fokus auf die Toilettenkennzeichnung.

Krankenhausdesign: Die Umweltfrage

Von Harry McQue

Die Zielwerte für den Energieverbrauch für Krankenhäuser werden immer enger gesteckt. Zeit für Designer, neue Wege zur Verminderung unserer CO2-Bilanz zu entdecken. Für viele unserer Leser ist es wahrscheinlich eine Überraschung zu lesen, dass weltweit die Produktion eines Kilowatts elektrischer Energie zur Bildung von etwa einem Kilogramm CO2 führt! Es ist höchste Zeit, dass Maßnahmen ergriffen werden, damit Toiletten mit effizientem Wasserverbrauch installiert werden, Papierrollenspender durch Hochgeschwindigkeits-Handtrockner ersetzt werden, die Bedürfnisse der Landschaftsgestaltung teilweise durch gespeichertes Regenwasser gedeckt werden und Solar- und Windenergie eingeführt werden, um zumindest teilweise die vom Verbundnetz eingekaufte nicht-erneuerbare Energie zu reduzieren. Zulieferer werden ermutigt, die Verpackung auf ein absolutes Minimum zu reduzieren und sie wieder zu verwerten, so sie nicht sogar komplett weggelassen werden kann.

► Ist das Downsizing von Krankenhäusern ein effektiver Weg für die Kontrolle der Gesundheitsausgaben?

Von *Massimiliano Piacenza, Gilberto Turati*

Downsizing von Krankenhäusern – ein Phänomen, das in den letzten Jahrzehnten für fast alle westlichen Länder charakteristisch war. Da Krankenhauskosten den Hauptteil der gesamten Gesundheitsausgaben ausmachen, ist ein wesentlicher Grund für das Downsizing die Kontrolle der wachsenden Gesundheitsausgaben. Doch in Europäischen Ländern hat sich das Downsizing größtenteils auf die Bettenzahl beschränkt, ohne dem Personalmanagement die nötige Aufmerksamkeit zu erteilen. Wir versuchen zu verstehen, ob diese Strategie für die Verminderung der Krankenhauskosten effektiv ist, oder ob sie potentiell ineffizient ist. Ergebnisse weisen darauf hin, dass eine Restrukturierung der Krankenhausindustrie, die sich auf die Reduktion der Bettenzahl beschränkt, ohne gleichzeitig die Belegschaft richtig zu managen – um hier ein Übermaß an Personal zu verhindern –, wahrscheinlich potentielle Einsparungsmöglichkeiten hinsichtlich Betriebskosten und effektiver Kontrolle der Gesundheitsausgaben ausschließt.

► Telepräsenz: Roboter in der Akutversorgung

Von *Gilberto Felipe Vazquez de Anda, Sebastian Larraza Rico*

Die Telepräsenz basiert vor allem auf der Kombination von Robotik und Telekommunikation, welche die Interaktion zwischen Audio/Video Verbindungen in Echtzeit zwischen zwei oder mehr Gesundheits-Teams in räumlicher Distanz erlaubt. In unser Programm eingeschlossen sind folgende Einrichtungen der Akutversorgung: Intensivstation (ICU), Notaufnahme (ER), Operationssaal (OR) und (auf den Stationen) das Soforteinsatz-Team. Das wichtigste Ziel der Telepräsenz ist es, qualitativ hochwertige Versorgung für lebensbedrohlich kranke Patienten zu schaffen, an Orten, an denen ein Facharzt für Intensivmedizin nicht rund um die Uhr zur Verfügung steht.

► Kunst macht gesund: Der Einsatz von Kunst in der Krankenhauswelt

Von *Katarzyna Ryczek, Rosemary Jenssen*

Der Krankenhausraum kann auf allen Ebenen Heilung bieten: psychologisch, spirituell und körperlich, wobei die Architektur und die Innenausstattung alle drei Faktoren beeinflussen. In den letzten Jahren haben eine zunehmende Debatte über die Wichtigkeit von Kunst in Gesundheitseinrichtungen und unzählige Studien auf diesem Gebiet gezeigt, dass die Qualität des visuellen Umfelds einen positiven Effekt auf den Benutzer dieses Raumes haben kann.

Im Fall von Krankenhäusern und anderen Gesundheitseinrichtungen kann Kunst die Arbeitnehmer und den Heilungsprozess der Patienten beeinflussen. Die Inneneinrichtung von Krankenhäusern strebt danach, Raum zu vermenschlichen, und Kunst kann dabei eine wesentliche Rolle spielen.

► Anwendungen der Telekardiologie

Von *Simonetta Scalvini*

Kardiovaskuläre Erkrankungen spielen bei der allgemeinen Morbidität und Behinderung eine große Rolle, und stellen eine der wichtigsten Belastungen für unser Gesundheitssystem dar. Telemedizin kann den Druck auf medizinische Experten vermindern, da diese nur beschränkt zur Verfügung stehen können, und ihre Expertise auf Patienten ausweiten, die an isolierten oder von Krankenhausstrukturen weit entfernten Orten leben. Telemedizin erscheint vor allem auf dem Gebiet der kardiovaskulären Erkrankungen vielversprechend, da frühe, maßgeschneiderte Interventionen außerordentlich kosteneffektiv hinsichtlich Lebensrettung und funktioneller Erholung sind.

Telekardiologie zwischen Krankenhäusern wird zwischen kleineren Spitälern in ländlichen Gebieten und großen Krankenhäusern benutzt. Telemedizin hat das Potential, den Zugang zu EKG-Diagnosen auf der Intensivstation, der Notfallaufnahme und auf der Neugeborenenstation zu verbessern. In manchen Zentren wird ein dringendes EKG während des Wochenendes, abends und in der Nacht durchgeführt, um die ventrikuläre Funktion, eine Ischämie, einen Perikarderguss, Klappenerkrankungen und den Status von Herzspendern zu überprüfen.

► Das Schweizer Gesundheitssystem

Von *Bernhard Wegmüller, Stefan Berger*

Krankenhäuser sind der wichtigste Teil des gesamten Gesundheitssystems. Sie treiben die Innovationen an; sie bieten die komplexesten – und die teuersten – Gesundheitsdienste an. Der Gesundheitssektor deckt mehr als ein Zehntel des Bruttoinlandsprodukts ab, die Krankenhäuser allein etwa ein Fünftel. Der Gesundheitssektor expandiert mehr als die durchschnittliche Wirtschaft, und wird dies auch weiterhin tun. Mit seiner Kombination aus medizinischen, technischen, pharmazeutischen und biologischen Innovationen auf der einen Seite, und dem Sozialversicherungssystem auf der anderen Seite, steigen die Kosten des Schweizer Gesundheitswesens Jahr für Jahr an, und damit auch die Zahlungen der versicherten Bevölkerung. Der Druck auf die Krankenhäuser durch die Medien, die Öffentlichkeit und die Politik ist groß. Jedoch bleibt zu betonen, dass die Bürgerinnen und Bürger – sowohl Patienten als auch Arbeitgeber – und die Gesamtwirtschaft von den modernen doch teuren medizinischen Dienstleistungen profitieren.

September

23rd Congress of the European Association of Hospital Managers..... 9-10
 Zurich, Switzerland
 www.zurich2010-eahm.ch

October

CIRSE 2010- Cardiovascular and Interventional Radiological Society of Europe 2-6
 Valencia, Spain
 www.cirse.org

IT @ Networking Awards 2010 7-8
 Brussels, Belgium
 www.itandnetworking.org

13th European Health Forum Gastein (EHFG) 6-9
 Bad Hofgastein, Austria
 www.ehfg.org

REHACARE International 6-9
 Dusseldorf, Germany
 www.rehacare.de

ESMO 2010- 35th Congress of the European Society for Medical Oncology 8-12
 Milan, Italy
 www.esmo.org

1st Global E-Health Forum 25-26
 Hamburg, Germany
 www.global-ehealth-forum.com

November

ESICM - 23rd Annual Congress of the European Society of Intensive Care Medicine 10-13
 Barcelona, Spain
 www.esicm.org

Medica 2010 17-20
 Dusseldorf, Germany
 www.medica.de

RSNA 2010 28-03
 Chicago, USA
 www.rsna.org

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- ▶ Financing in Crisis
- ▶ Ergonomics
- ▶ Focus: Luxembourg

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