

# Hospital



ASSOCIATION EUROPEENNE DES DIRECTEURS D'HÔPITAL  
EUROPEAN ASSOCIATION OF HOSPITAL MANAGERS  
EUROPEAN ASSOCIATION OF HOSPITAL MANAGERS

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## HOSPITAL MANAGEMENT IN TIMES OF CRISIS:

### CONSTRAINTS, CHALLENGES AND OPPORTUNITIES

**Plus**

Multidisciplinary Teamwork  
Patient Room 2020  
Pharma Supplement

Reducing Energy Consumption in Hospitals  
Focus: Italy

OFFICIAL JOURNAL OF THE EUROPEAN ASSOCIATION OF HOSPITAL MANAGERS





25. Kongress EVKD  
25th EAHM Congress  
25<sup>e</sup> Congrès AEDH  
Berlin 2014

SAVE THE DATE

# 25. EVKD-Kongress Berlin

## 10. - 12. September 2014



### Herzlich laden wir Sie schon heute zum 25. Kongress der EVKD nach Berlin ein!

Vom 10. bis 12. September 2014 werden wir im Zusammenschluss der Europäischen Krankenhausdirektoren die Zukunft der Gesundheitswirtschaft diskutieren und weiter voran treiben. Merken Sie sich daher den Termin schon heute vor! Weitere Informationen finden Sie unter [www.eahm-berlin2014.eu](http://www.eahm-berlin2014.eu)

### Invitation to the 25th EAHM Congress in Berlin!

European hospital managers will be discussing the future of the health sector and development options at the EAHM Congress from 10 to 12 September 2014. Please save the date in your diary today! For further information please visit [www.eahm-berlin2014.eu](http://www.eahm-berlin2014.eu)

### Nous vous invitons cordialement dès aujourd'hui au 25ième congrès de l'AEDH à Berlin!

Du 10 au 12 septembre 2014, nous discuterons ensemble dans le cadre du regroupement des directeurs d'hôpitaux européens l'avenir de l'économie de la santé et le ferons progresser. Nous vous prions donc de noter cette date dès aujourd'hui! Vous trouvez d'autres informations à l'adresse [www.eahm-berlin2014.eu](http://www.eahm-berlin2014.eu)



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# FACING OUR CHALLENGES HEAD ON



Heinz Kölking

These days hospitals in Europe are facing considerable challenges. Every country is struggling with the same issues: how to ensure top quality, efficient and effective medical and nursing care, often under extremely difficult conditions.

The economic and financial crisis is far from over; its effects are still being felt. Demographic developments warrant a change of views and alterations to our structures and processes in the hospital and in healthcare as a whole. Coping with and organising these changes requires a qualified management team with good leadership skills.

These links and connections formed the basis for choosing the theme of our recent EAHM in Luxembourg. A variety of reports and contributions at the congress from our countries' hospitals described the challenges and issues we currently face and showcased some possible solutions. It was an impressive spectacle to behold: colleagues from across Europe came together to discuss successfully shaped strategic and operative management plans. In this edition, we offer some insights from the congress in our review. One key conclusion is the basic preconditions for success are altered structures and processes.

Our association has been working intensively on the IMPO-Model, which was officially launched in Luxembourg. It serves to define a 'common thread' in form of a working tool (IMPO: **I**nputs-**M**anagement-**P**rocesses-**O**utcomes). It should be seen as a system in which we define characteristics and elements of management for hospitals and relate them to prevailing conditions, structures, processes and most of all to the results achieved (outcomes). The aim of the IMPO-Model is to help create a system (in the style of a toolbox) with standardised elements, and to reduce complexity. It encompasses all that is necessary for an effective and good management, in order to

strategically and operatively lead the hospital enterprise to success and good results – including visions, mission statements, goals, basic principles, instruments and tools. In summary, this is a question of developing an extensive set of guidelines within a given framework, and within these set rules to guide and monitor processes in a way that allows good results to follow, both for patients and for the public supply mandate.

Hospitals stand for high quality healthcare including the appropriate emergency care. But they also stand for medical advances, a lot of jobs and are therefore an important input for economic power and growth. The next European Congress of the EAHM will pick up on both these aspects of hospitals in Europe under the headline: "Health Economy – our responsibility for the people". It is the association's 25th congress, in the 25th year after Europe's separation finally came to an end. You are cordially invited to join us in Berlin from 11th to the 13th of September 2014. We are looking forward to it!

For more information, please visit our website:  
[www.eahm-berlin2014.de](http://www.eahm-berlin2014.de)

Heinz Kölking  
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.



### Hospital Management in Times of Crisis: EAHM Congress 2013

Attended by over 450 delegates from 18 different countries, the 24th EAHM congress was a resounding success packed with top quality speakers, inspiring roundtable discussions and a lively social programme. The two day congress was split into three sessions: Strategic Guidelines in Crisis, Business Process Re-Engineering and New Buildings, New Logistics, New Technologies.

### Pharma Special

This issue our supplement focuses on pharmaceuticals. We spoke to Dr. Roberto Frontini, the President of the European Association of Hospital Pharmacists, to find out more about innovation in hospital pharmacy and the future of the discipline. Anita R. Vila-Parrish introduces us to data-driven hospital supply chains for intelligent pharmaceutical inventory management strategies. The news section covers the Field Administration of Stroke Therapy—Magnesium (FAST—MAG) trial and a breakthrough approach to identify new drug candidates through genome sequencing.

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**Focus: ITALY**

The National Health Service in Italy has seen numerous phases of reform. Since 1999, numerous legislative measures have been adopted with the aim of containing health costs, rather than for the improvement of healthcare itself. Many experts have expressed concern about the future sustainability of the current health system and strongly recommend new reforms. The National Association of Hospital Medical Directors (ANMDO), an association that represents medical management for both scientific and trade union issues, plays an important advisory role with regard to the reform of the Italian health system.

## 43<sup>RD</sup> EAHM GENERAL ASSEMBLY

28TH NOVEMBER 2013, LUXEMBOURG

The 43rd General Assembly of the EAHM took place on the morning of the first day of last year's successful congress in Luxembourg. President, Mr. Heinz Kolking welcomed the delegates and started the proceedings with his 2012-2013 activity report.



Reporting on the activities of the past year, the President highlighted the importance of the EU Directive on patient rights in cross-border healthcare and the successful joint seminar held in Düsseldorf. Once again the joint endeavour was well-attended and provided delegates an excellent opportunity to share their experiences on implementing the Directive.

2012-2013 was a busy year for the EAHM in terms of congress organisation. Luxembourg 2013 was organised within an extremely tight timeframe, much to the credit of Marc Hastert and his team and preparations for Berlin 2014 are already underway. The Luxembourg congress theme of hospital management in times of crisis is of particular importance in our current situation and it will also be a key feature of the Berlin congress.

In other activities over the course of the year, members of the Board have made visits to Italy for the AMNDO annual conference, to Krakow in Poland for the 25th anniversary of the Polish Association of Hospital Managers and also to Belfast in Northern Ireland to make contact with our newest member IHM NI. These visits have highlighted the many similarities in terms of situations and challenges facing hospitals and healthcare across Europe and the important role that EAHM plays in Europe.

HK concluded his activity report reminding members that our focus must be on Europe. Currently there is more rejection than acceptance of Europe. But Europe has a

large role to play in health, particularly in terms of welfare. Therefore it is important for the EAHM to meet and build a solid platform. This is one of the objectives of the EAHM and must not be forgotten.



### Accounts

Secretary General Willy Heuschen presented the 2012 accounts with both good and bad news. He reported that despite a decrease in revenue the accounts are in balance with a small surplus. Mr. Heuschen explained that in order to balance the accounts, spending had to be restricted in terms of travel and reception costs. Despite these restrictions the EAHM work programme was still successfully carried out and Mr. Heuschen thanked members of the Board, Executive Committee and the Subcommittees for their personal contributions over the past year. He added that reducing expenditure may be a good short-term solution but in the mid- to long-term it will be challenging and more resources are needed.

The 2012 accounts have been audited and all is in order so the General Assembly accepted the accounts and the Secretary General moved on to the proposed budget and economic plan for 2014.

### Budget 2014

Mr. Heuschen believes that 2014 and the upcoming years will be a real challenge and if we want the EAHM to be a real player in Europe we have to do more. This includes increasing our activities and manpower. For this reason the Executive Committee agreed on a 5% increase in membership fees for 2014. The General Assembly voted and approved this increase. Heuschen stated he was confident that increased revenue will come from our congresses; Luxembourg was a success and Berlin will be the same. Industry partnerships will also play a key role.

### Solidarity and New Members

One new expenditure in the budget is the Greek solidarity fund to support our Greek colleagues after the congress cancellation and ensure they remain active on both a national and European level. The fund will run for three years and the Secretary General took the opportunity to thank members for their support.

Two new members were officially admitted to the EAHM. The Institute of Health Management Northern Ireland Division (IHM NI) was proposed and accepted as a full member. Mr. Kolking and Mr. Heuschen travelled to Belfast last year and believe IHM NI and EAHM will have a successful partnership. Louise McMahon, Chair of HMI NI thanked the EAHM on behalf of her association and expressed hope that her association can contribute to and enhance the EAHM.

A new associate member was also admitted into the EAHM. The Akademie Leipzig Germany is an institute acting on behalf of the Deutscher Städtetag (the association of German cities and communes). Their great work in organising training in hospital management will ensure a fruitful partnership with the EAHM.

For photos and videos of recent events please visit [myhospital.eu](http://myhospital.eu)

## 2<sup>ND</sup> JOINT EUROPEAN HOSPITAL CONFERENCE

November was a busy month for the EAHM. A week before the congress in Luxembourg members headed to Düsseldorf for the second Joint European Hospital Conference. Jointly organised by the EAHM, the European Hospital and Healthcare Federation (HOPE) and the European Association of Hospital Physicians (AEMH), the conference was another great success with informative presentations and inspiring roundtable discussions.

### Implementing the Directive

Picking up from the last joint conference, the theme was implementing the European Directive on Patients' Rights. Andrzej Rys, Director of Health Systems and Products in the European Commission gave an interesting presentation on the Directive and the progress made so far.

He explained the various provisions of the Directive including patient entitlements, prior authorisation, national contact points (NCP), prices, access, information and prescriptions. Rys stressed the importance of cooperation from Member States, especially in terms of HTA and the EU Reference Networks, which will be finalised in early 2014.

Clearly there are still many issues to resolve. Rys stressed the importance of the Directive and that it is an extremely difficult piece of legislation to implement within the EU. He reminded delegates that the EU is still welcoming opinions and information regarding the Directive.

Next steps include a transposition check of national laws and reflection between the Commission and the NCPs on the functioning of the NCPs. The EU Commission will report regularly on the status of the Directive and transposition will also be monitored by individuals and stakeholders.

After hearing the Commission's perspective, delegates had the opportunity to learn about the practicalities of im-

plementing the Directive and establishing the national contact points from representatives from Sweden, Hungary, Spain, Germany, Portugal and Poland. These presentations often told a different story, highlighting the many obstacles and limitations of the NCPs in practice. It was widely noted that for many countries cross-border healthcare is already a reality. Questions raised included how to define international recognised good medical practice, the issue

mechanisms for financing and evaluation. Regulation is another key issue when talking about innovation.

Serge Bernasconi, CEO of European Medical Technology Industry Association (Eucomed) gave an interesting overview of innovation in medical technology in Europe stating that more than 500,000 medical technologies are currently registered. Medical technologies can have positive financial impacts and contribute to making health-



of continuity of care and whether the Directive will create a new medical tourism market. A lively roundtable followed the first session, highlighting that the Directive will have a profound effect on health systems across Europe. It also illustrated the fact that different countries are at very different stages in implementation and that there is a lot of work still to be done, especially in terms of quality.

### Innovation Access in Europe's Hospitals

The second session of the conference moved from the Directive to innovation in European hospitals. President of the EAHM, Heinz Kolking opened the session and stressed that innovation is a necessity in terms of patient care. He also warned against innovations being implemented too early without clear

care more sustainable. For Bernasconi, successful medtech projects focus on the individualised patient and he believes patient expectation can be directly tied to innovation. Bernasconi also warned of over-reliance on HTA, highlighting that there are over 100 HTA agencies in Europe with very little coordination between them. Health Technology Assessment (HTA) can provide recommendations and look into cost-effectiveness but currently, we are not performing HTA with medtech in mind. Hospital-based HTA is the next step, assessing whether technologies bring value to the hospital in terms of quality of care and economic value. Following this presentation, representatives from the UK, France and Italy presented their views on the benefits of innovation in practice.

For photos and videos of recent events please visit [myhospital.eu](http://myhospital.eu)



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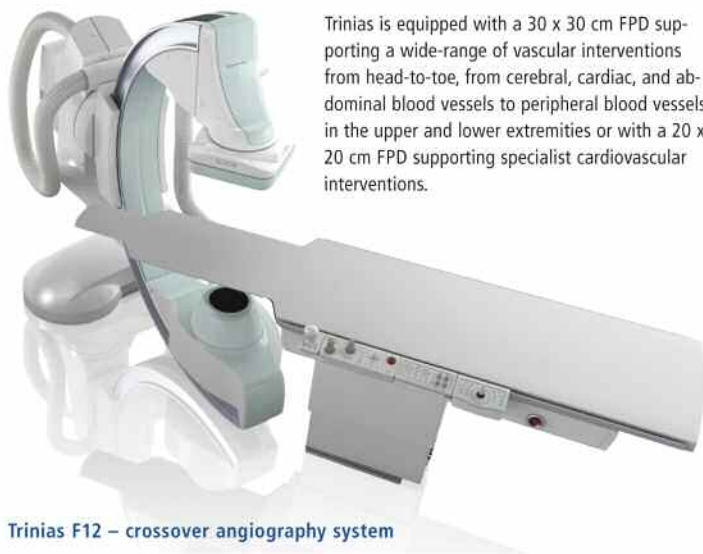


# Deep insights meet new medical applications

As one of the world's leading manufacturers of advanced imaging systems and equipment for medical diagnosis and treatment, Shimadzu has remained a pioneer of technology and design for more than 100 years since the company had produced Japan's first X-ray apparatus for medical use in 1909.

## Vascular interventions from head-to-toe: Trinius angiographic system series

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Trinius F12 – crossover angiography system

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- SMART design allows significant enhanced operability with fast response time while the SMILE concept provides a safe and comfortable environment for patients and medical staff alike
- SMILE concept is primarily about comprehensive X-ray dose management and comfort of patients and operators.

## Best-in-class: Sonialvision G4 multifunctional R/F system

The new Sonialvision G4 is a high performance R/F table which provides numerous best-in-class features improving the functionality and operability significantly.

The Sonialvision G4 covers the widest possible range of examinations with inter-departmental hospital capability. It is equipped with the largest available FPD at 43 x 43 cm and Shimadzu's next generation digital imaging platform. Combined with the large longitudinal stroke of Sonialvision G4, the FPD provides an extensive imaging area. In combination with an additional ceiling-mounted telescopic arm, a Bucky wall stand, and a second mobile FPD, the system easily extends to a sophisticated multifunctional R/F room.

In addition, advanced "SUREngine" technology contributes to creating excellent image quality. It enables the natural enhancement of the entire image for clearer revelation of all examination areas including small, faint targets.

Shimadzu's premium application software offers the most recent improvements for diagnostic imaging, such as tomosynthesis for general radiographic imaging and slot scanning.

## Opescope Acteno – C-arm with high operability and image quality

The new Opescope Acteno surgical C-arm system enables free and easy positioning and optimal performance to meet the demands of the operation and emergency rooms. The system combines high image quality with ease-of-use. The fully counter-balanced C-arm provides extra-light and quick C-arm movements and positioning. The exclusive manual C-arm vertical movements enable much quicker height adjustments in routine operation.



Opescope Acteno – surgical C-arm system

Shimadzu's unique C-arm lock/release button at the image intensifier allows the C-arm to be positioned from the clinician's side without going back to the cart unit. The enlarged 78 cm wide opening of the C-arm makes approaches to the patient easy, minimizing the risk of contact with the operating table.

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The MobileDaRt Evolution incorporates highly developed functions to improve the clinical workflow. A new FPD with a large field of view of 43 x 43 cm is available. Additionally detectors with a FOV of 35 x 43 cm and 27 x 35 cm allow operators to act even more independently when taking images in areas such as radiology, emergency rooms, traumatology, orthopaedics, paediatrics, or on the ward. The detectors combine high sensitivity with the lowest possible dose of radiation and provide sharp, high quality images. For hospitals, the choice of different detectors provides highest flexibility, like running two different detectors to enhance the range of applications, retrofitting the analogue MobileArt series or even sharing the detectors with compatible digital X-ray rooms.



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## UK REVIEWS HOW NHS CEOS CAN TRANSFORM FAILING HOSPITALS

Health Secretary Jeremy Hunt has announced that Sir Stuart Rose, who turned around the fortunes of Marks and Spencer, will advise how another British institution, the NHS, can attract and retain the very best leaders to help transform the culture in under-performing hospitals.

It will run alongside a separate review into how the NHS can make better use of its best existing leaders, so-called “superheads”, who could spread the highest standards for patients across the system by taking on struggling organisations or establishing national networks of NHS hospitals and services.

Sir Stuart, one of the most highly-regarded business leaders in the United Kingdom, will advise the Health Secretary on how the NHS can build on existing work to recruit top talent from within and outside the NHS.

Drawing on his experience as a former M&S chairman, he will also advise on how NHS trusts can improve organisational culture, through leaders being more visible and in touch with frontline patients, services and staff.

In a separate review, Salford Royal NHS Foundation Trust Chief Executive, Sir David Dalton, will look at how to end the isolation of failing hospitals from the best NHS management and practice – a key finding in the wake of the Mid-Staffs inquiry.

Sir David will investigate how to enable the best-performing NHS organisations and most successful chief executives to establish national groups of hospitals or services as beacons of excellence. This could include non-geographical networks of hospitals under one leadership team where one NHS trust has hospitals around the country.

Sir Stuart will particularly look at the problems faced by the 14 trusts

currently in “special measures”, the programme to turn-around failing hospitals introduced last year, where strong leadership was identified as key to improvement.

Through a series of hospital visits Sir Stuart will mentor NHS leaders and examine the challenges facing doctors, nurses and management boards. He will provide advice in an unpaid capacity until the end of the year when he will submit a short report to the department.

More than 1,300 people from out-

your postcode, which is why new Ofsted-style hospital inspections are so important. But the difference between good and bad care can often lie in leadership, which is why I am delighted that one of the country’s most inspirational leaders has agreed to advise me on how we can attract and retain the brightest and best managers into the NHS so we transform the culture in under-performing hospitals.

We can also do more to exploit the extraordinary leadership in our best hospitals by making it easy for NHS

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### He will also advise on how NHS trusts can improve organisational culture, through leaders being more visible and in touch with frontline patients, services and staff

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side the NHS have already applied for 50 places on the NHS fast-track leadership programme that involves study at Harvard, starting in June. This 10-month programme by the NHS Leadership Academy will include executive education by Harvard Kennedy School, an industry placement, and six months delivering a transformational change programme in a top NHS Trust under a Chief Executive mentor.

Health Secretary Jeremy Hunt said, “Everyone wants the peace of mind of knowing their local hospital offers good care – so turning round hospitals where this is not the case is a critical priority for me as Health Secretary.

Good care should never depend on

super-heads to take over struggling organisations. Sir David Dalton is one such leader, who with his team has turned the Salford Royal into one of the best hospitals in the country. He will advise me what more we need to do to enable our best hospital leaders to take over the running of hospitals in difficulty without compromising the success of their own Trusts.”

Sir Stuart Rose said, “Clearly the NHS is a very different institution from M&S, but leadership, motivating staff and creating a culture where people are empowered to do things differently are crucial to the success of any organisation, and I’m looking forward to helping in any way I can.”



# THE EUROPEAN CANCER PATIENT'S BILL OF RIGHTS

## A CATALYST FOR CHANGE ADDRESSING INEQUALITIES IN CANCER IN EUROPE

A unique group of patient advocacy organisations, healthcare leaders (including two former health ministers and a Nobel Laureate) and Members of the European Parliament against Cancer (MAC) came together to launch the European Cancer Patient's Bill of Rights to coincide with World Cancer Day, in the European Parliament in Strasbourg. The result of over two years of work and widespread engagement, the initiative is led by the European Cancer Concord (ECC) and is a call to action to address the significant disparities that exist for European cancer patients today.

not only on patients and their families, but will also be a significant issue for healthcare systems and for the future economic competitiveness of Europe," said Prof Patrick Johnston, Co-Chair of ECC and Dean of Medicine, Dentistry and Biomedical Sciences at Queen's University Belfast, UK.

"We are proud that this Bill of Rights represents the input of oncology and patient advocacy leaders from 17 European countries representing over 1,000 national organisations and many millions of cancer patients and survivors in Europe", added Prof Mark Lawler, ECC Project Lead, based

dition, the exponential ageing of the population means that unless effective preventive and treatment strategies are put in place, one person will die from cancer every 10 seconds. Significant differences in cancer incidences and mortalities are evident within Europe, reflecting inequalities in access to optimal cancer care between different national cancer healthcare systems. Cancer is cited as a prime example of increasing disparities between and within countries in Europe in the recent "Health in Europe" series in The Lancet.

One in three people die of this deadly disease. Cancer knows no boundaries, affecting all sectors of society. Thus, despite individual constituencies, the launch of the European Cancer Patient's Bill of Rights demonstrates that one must compete, not with each other, but against the common enemy: Cancer.

European Cancer Concord (ECC) is a patient-centred initiative, born out of the need to deliver an optimal standard of cancer care and research for Europe's citizens. Strengthening and upholding the rights of the individual cancer patient/cancer survivor are its guiding principles. ECC was formed 2 years ago under the stewardship of the Society for Translational Oncology (STO).

ECC involves oncology and patient advocacy leaders from 17 European countries, who have come together in a unique partnership to address the inequalities in cancer care and research and to help develop effective solutions for European citizens and societies. To date, over 20 European and pan-European cancer Patient Advocacy Organisations (PAO), representing over 1,000 national organisations and many millions of cancer patients and survivors in Europe have become active partners.

For more information, please visit: <http://sto-online.org/european-cancer-concord>

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### In Europe, in 2012, 3.45 million people were diagnosed with cancer with 1.75 million cancer deaths, representing 3 deaths every minute from this killer disease

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Three patient-centred principles (termed Articles) underpin the European Cancer Patient's Bill of Rights:

- Article 1: The right of every European citizen to receive the most accurate information and to be proactively involved in his/her care.
- Article 2: The right of every European citizen to optimal and timely access to appropriate specialised care, underpinned by research and innovation.
- Article 3: The right of every European citizen to receive care in health systems that ensure improved outcomes, patient rehabilitation, best quality of life and affordable healthcare.

"This increasing cancer burden will impact

at Queen's University Belfast. "Launching the Bill of Rights at the European Parliament on World Cancer Day represents a clear indication of our will to focus attention on the unequal nature of cancer care in Europe, to engage and influence political representatives and most crucially to empower every European citizen to use the Bill of Rights as a catalyst to achieve effective change in cancer care delivery in their own country/region" he added.

In Europe, in 2012, 3.45 million people were diagnosed with cancer with 1.75 million cancer deaths, representing 3 deaths every minute from this killer disease. In 28 of the 53 European countries, cancer has replaced cardiovascular disease as the leading cause of premature death. In ad-

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# HOSPITAL MANAGEMENT IN TIMES OF CRISIS

## Constraints, Challenges and Opportunities

Attended by over 450 delegates from 18 different countries, the 24th EAHM congress was a resounding success, packed with top quality speakers, inspiring roundtable discussions and a lively social programme. The two day congress was split into three sessions: Strategic Guidelines in Crisis, Business Process Re-Engineering and New Buildings, New Logistics, New Technologies. Topics ranged from change management to value-creating partnerships; from laboratory management to innovative hospital architecture.

Although speaking about their experiences from all over Europe, most of the congress speakers highlighted the same issues and challenges and time and time again they stressed the importance of the patient. President of the Luxembourg Scientific Committee, Prof. Schubert summarised the many synergies and lessons to be learned from the congress during his closing address and (E)Hospital spoke to him to find out more. You can read this interview on page 16.

### Technological Evolution, Economic Crisis and Hospital Management of the Future

Keynote speaker, Joel de Rosnay - Molecular Biologist, Science writer, President of Biotics International and Futurist, really set the tone for the congress, highlighting the world of possibilities that new technology is bringing to healthcare. His speech focused on the hospital of the future and he wowed delegates with exciting new technologies such as electronic tattoos, intelligent medicine and 3D printers.

De Rosnay believes that technologies are changing hospitals. We must go digital and be prepared to be more dynamic (e.g. using social networks to interact with patients). For future success doctors should be educated in management. He believes there are three conflicting logics in the hospital: administration, medical and care professionals and that co-education is key.

In order to better manage in times of crisis, de Rosnay recommends changing our rigid system to a more fluid system. Information exchange is key, as is keeping it 'human' and encouraging social links. Hospitals should embrace innovative systems and become transversal as opposed to pyramidal/vertical. Finally he emphasised that problems should be solved together.

### Strategic Guidelines in Crisis

The first session focused on strategic guidelines in crisis with interesting presentations from the



Photo 1. Joel de Rosnay

UK, Germany, Luxembourg and Switzerland. Andrew McCormick, Permanent Secretary for Health in Northern Ireland spoke about the transformation of care in Northern Ireland. He emphasised the importance of having a clear, strategic view on how to enable and promote change. In Northern Ireland they have developed roadmaps for doctors and recognise the need for innovative tools and practices in healthcare. Process changes must be supported and most of all, changes must be centred on individuals.

McCormick stressed the importance of European collaboration, citing e-health as an enabler for change and the EU Connected Health Alliance as good examples of such collaboration.

Moving across the Irish Sea, Peter Lachmann, Deputy Medical Director of Great Ormond Street Hospital focused on leadership and management in times of crisis and discussed how the system could change to better reflect the needs of the patients as well as to cope with the current economic situation. A medical doctor himself, Lachmann explained that doctors are taught to ask for more; more tests, more technologies etc. The question is whether we actually have to spend more.

Lachmann stressed that costs cannot be cut without reordering priorities. He believes that it is possible to take money out of the system and still make it better. But it is up to us, managers and practitioners, to decide. Real change should

come from the bottom up and ideally there should be a large system-wide transformation. His key methods are distributive leadership, real data in real time, honour the work of the front-line, physicians as partners and involved patients.

His six steps for successful change are:

1. Change the clinical paradigm;
2. Reduce variation as the main problem;
3. Address flow to improve safety;
4. Decrease per capita cost growth in spending;
5. Measure differently; and
6. Introduce value as the aim of management.

Irmaut Gurkan, Head of Administration of Heidelberg University Hospital gave the university hospital perspective. Describing the situation in Germany, she highlighted the fact that there is a lot of competition in Germany, with too many beds and too many hospitals. Like the speakers before her, she believes that a change in culture is needed with new strategies and objectives. However, she went on to suggest that hospitals should behave more like companies while remaining ethical and committed to quality care provision.

In order to grow, hospitals must be willing to create new networks. Advances in medical care need a balanced budget so that profit can be invested into new technologies. Her strategy for the future is reorganisation and increased cooperation with others. We can start new companies for innovation to achieve



Photo 2. EAHM President Heinz Kolking



Photo 3. Henny van Laarhoven

our clinical objectives and also secure our market share. She concluded emphasising that size is not important, but the speed of our response and that we must go back to our core business - quality patient care.

Simon Scrivens, Managing Director of Healthcare at Sodexo spoke about partnerships to create value. For him, partnerships have to be based on mutuality; all parties must be on board in order to make it work. For Scrivens, risk in healthcare must be managed by the organisations best placed to manage it. Core competences are used less in healthcare than other parts of the economy; we have to realise that sometimes, outside organisations are better placed to deliver a particular service. His top tips for these value-creating partnerships include thinking strategically, and focusing on the long term, not just short term fixes. Communication between partners is essential at all stages of the process as is transparency.

No congress dealing with management in times of crisis would be complete without a contribution from the finance industry. Yves Nosbusch, Chief Economist at BGL BNP Paribas gave us the insider knowledge on the macro-economic outlook and the implications for financing and investment. He was positive in his assessment, pointing to growth but also warned of the risk of falling back into recession.

Eric de Roodenbeke rounded off the first day of the congress with an exciting presentation on the joint project for an international competency framework for healthcare managers. This global project aims to strengthen health management as a profession and is something that the EAHM has been heavily



Photo 4. Heinz Kalking, Juraj Gemes and Jacques Scheres enjoying the Presidential dinner

involved with.

### Business Process Re-Engineering

The second day of the congress focused on practicalities with presenters talking about how they have improved processes within their hospitals. First up were Dr. Jens Peukert and Dr. Utiger who talked about their partnership involving a private hospital and a consultancy. The reasons behind such a partnership lie in the private hospital patients' demand for the best care



Photo 6. Louise McMahon, Andrew McCormick and Peter Lachmann take the front row for the next round of presentations

with top of the range technologies. Innovation was needed to reduce costs so together they analysed the data and used simulations to improve processes within the hospital.

Dr. Katarzyna Mazur-Hofsäss, President of EMEA Reconstructive at Zimmer continued the idea of value creating relationships with her presentation, "Medtech companies: Suppliers or Partners?" She described the current paradox that it is good for the economy if the population spend more money on



Photo 5. Prof. Schubert

homemade cars and junk food but a crisis if we spend more on healthcare.

Medtech companies are changing their business models to address current market challenges. Operational excellence in manufacturing, supply chain and sales execution is a key goal as is the need to adjust to growing demand for economic outcome data. Companies must eliminate non-value adding activities and cost centres and shift from selling products to selling services. This is a two way process: hospitals don't want to pay for com-

pany inefficiency but similarly, companies don't want to pay for hospital inefficiency either.

Moving to the laboratory, Friday morning's session featured two presentations that focused on laboratory management. Mads Nybo from Odense University Hospital in Denmark showed delegates some practical examples of lab optimisation. He emphasised that the lab reflects the hospital in terms of workload, increased demand and economy. Labs are under pressure with an increasing number of

Abbott is a global healthcare company devoted to improving life through the development of products and technologies that span the breadth of healthcare, with a portfolio of leading, science-based offerings in diagnostics, medical devices, nutritionals and branded generic pharmaceuticals.

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Photo 7. Helan Bevan

samples, increasing demands to the test menu, increasing demands on turnaround time and increasing quality demands. He argued that the laboratory is not the department in which to cut costs but to invest as increased lab efficiency equates to increased hospital efficiency. Opportunities lie in IT and new technologies and point of care testing.

Florian Kainzinger, CEO of Labor Berlin also stressed the importance of the lab. There is more to laboratory than test tubes, with patient data being a key feature of the department. Labs are integral to patient diagnosis and treatment and cannot be taken out of the patient record. For this reason he believes traditional outsourcing is not sufficient. The solution in Berlin was to create Labor Berlin, a company that combines the entire medical laboratory supply of the two hospital groups in Berlin. This equates to supplying over 10,000 hospital beds.

Rounding off the session on business process re-engineering, Prof. Peter Gausmann gave an overview of clinical risk management and the insurance industry. Our patients demand safety in diagnosis, treatment and care and clinical risk management ensures this is successfully delivered. A triad of insurance, claims and risk management suffices to cope with the outlined requirements. Networking these three elements creates a sustainable and effective safety concept.

### New Buildings, New Logistics, New Technologies

The final session of the congress focused on New Buildings, New Logistics, New Technologies. Keith Hamer from congress partner Sodexo spoke about business continuity in healthcare institutions and presented his case for asset lifecycle and maintenance services. For Hamer, the three essential elements for business continuity are people, processes and infrastructure/equipment and hospitals must take care to balance costs with performance and risk.

Rafael Sala López told delegates about the innovative Spanish Marina Salud hospital. 99.9% digital, the hospital uses state of the art technology and was designed to transmit a peaceful sensation to its patients. Creating a culture of impact assessments at Marina Salud ensures that the hospital focuses on its core value.

The last two speakers of the day energised the crowd with their innovative ideas. Dr. Helen Bevan, Chief of Service Transformation, NHS Institute for Innovation and Improvements spoke about the need for transformational change in our hospitals and offered some interesting methods. Most large-scale change initiatives fail to meet their objectives and so she believes big change must come



Photo 8. Vice President Gerry O'Dwyer presenting the poster session

from a different perspective and it must be "high energy" change. Bevan introduced delegates to Change Day, which took place on 03/03/14 and urged everyone to use the day to start a process for meaningful change in their hospitals, involving all level of staff.

Henny van Laarhoven, Director of Orbis Gruppe presented the Orbis Medisch Centrum, an innovatively designed hospital that puts patients at the centre- treating them as guests. Thanks to careful planning from the start, a high quality of care and maximum efficiency are not mutually exclusive concepts at the OMC. Innovation can also be seen behind the scenes where managers are not allocated their own offices, freeing up more time to interact with colleagues and keep an eye on processes how and when they happen.

### Conclusion

Each session ended with a roundtable discussion, which gave delegates the opportunity to actively participate in the congress and many lively debates were had on the topics of Financial Crisis and Efficient Communication, Manage the Change... Change the Management, and Steering Innovation. These discussions continued during the networking sessions, with delegates sharing their experiences and learning from each other.

The 24th Congress of the EAHM certainly fulfilled its mandate of educating delegates on hospital management in times of crisis. Organised at short notice due to the effects of the financial crisis on our Greek colleagues, the event itself is a testament to European solidarity, to facing challenges head on and achieving quality results. EAHM President Heinz Kolking closed the congress with the exciting news that IMPO, the new working model for the EAHM, has been formally accepted by the Board and Executive Committee in the Luxembourg Declaration.



Photo 9. Roundtable



# THE EUROPEAN PATIENTS' FORUM

## MANIFESTO FOR THE 2014 EUROPEAN ELECTIONS

# PATIENTS + PARTICIPATION = OUR VOTE FOR A HEALTHIER EUROPE

### PATIENTS' VIEWS MATTER

We, patients of all ages and conditions, live with our chronic disease every day and regularly use health services. We have a **unique perspective** on healthcare. We are experts on what works for us and what does not. We can therefore **guide decision-makers** on how to offer good quality care that is also cost-effective.

- ➔ **ENGAGE PATIENTS COLLECTIVELY AND PRO-ACTIVELY THROUGH PATIENT ORGANISATIONS IN POLICY DECISION-MAKING TO ENSURE THAT ALL POLICIES AND PRACTICES REFLECT PATIENTS' REAL-LIFE NEEDS, PREFERENCES AND CAPABILITIES.**

### EMPOWERED PATIENTS ARE AN ASSET TO SOCIETY

We want to be **full partners** in the management of our conditions according to our individual capacities and situation. We need to be empowered to do so. Empowerment starts with **tailored high-quality information** and **health literacy**, to enable us to make **informed choices** about our treatment and care. Empowered patients are good for health systems. We take responsibility for our care in **equal partnership** with health professionals. We also take preventive measures, seek earlier diagnosis and adhere to treatment, which can **reduce healthcare costs** in the long run.

- ➔ **ADOPT AN EU STRATEGY ON PATIENT EMPOWERMENT, INCLUDING AN ACTION PLAN ON HEALTH LITERACY AND HIGH-QUALITY INFORMATION FOR PATIENTS ON ALL ASPECTS OF OUR CARE.**

### BREAKING DOWN ACCESS BARRIERS

Access to quality healthcare is a **basic EU citizens' right**. Yet it is still not a reality for many of us – a situation made worse by the economic crisis. Access means the **availability** of treatment, but also its **affordability**. Access also means **non-discrimination**. All patients in the EU deserve equitable access to care. Breaking down health inequalities is also good for health systems. If we do not get the care we need at the right time, we may develop more severe illness, reducing our capacity to live a full and productive life and increasing health, social and economic costs. All of us deserve a chance to contribute to society.

- ➔ **SUPPORT AN EU INITIATIVE ON EQUITABLE ACCESS TO HEALTHCARE FOR ALL EUROPEAN CITIZENS, THROUGH A MULTI-STAKEHOLDER PLATFORM.**

### PATIENT INVOLVEMENT = HEALTHIER EUROPE

We, patients, as healthcare users, need to be **involved in designing** more effective healthcare and in **research** to deliver new and better treatments. **Meaningful** patient involvement in research will lead to treatments that provide real value. Patient-centred, integrated healthcare will lead to better quality of life for us and our carers, and more cost-effective, equitable and sustainable health systems for all. In other words, a **healthier Europe**.

- ➔ **DEVELOP A CLEAR FRAMEWORK FOR PATIENT INVOLVEMENT ACROSS THE SPECTRUM OF HEALTH RESEARCH, THROUGH THE ENTIRE CYCLE OF THE INNOVATION CHAIN.**

- ➔ **ENSURE THAT PATIENTS' RIGHTS IS PART OF THE NEXT HEALTH COMMISSIONER'S PORTFOLIO.**



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# INTERVIEW

## Prof. Hans-Joachim Schubert

Prof. Hans-Joachim Schubert, General Director of Centre Hospitalier du Nord and President of the Luxembourg Scientific Committee played a key role in the development of the 2013 congress programme. He also very aptly summed up the main points from the congress in his closing remarks. Managing Editor Lee Campbell spoke to Prof. Schubert to delve a little further into his insights.



### Was “Hospital Management in Times of Crisis: Constraints, Challenges and Opportunities” a difficult theme to develop?

No, absolutely not. It was a natural theme to develop because we have been faced with these issues and necessary changes for many years now. In my opinion, the financial crisis has only accelerated the change in dynamics and the pressure to innovate.

### You mentioned in your closing remarks that you were inspired by the congress. What did you find the most inspiring and why?

It was inspiring for me to hear and to experience that the situations in many European countries are quite similar. It was an opportunity to learn from those countries that have already finished the first enormous steps in reorganising their healthcare system and especially their concepts of the hospital and medicine. It was also inspiring to hear about the huge potential of innovative cooperation solutions between different “players” in the healthcare system and the opportunities for new information-, pharmaceutical- and medico-technological solutions.

### Could you summarise the main constraints, challenges and opportunities for hospital management highlighted during the congress?

In terms of constraints, it is clear that current financial resources and the rigidity or resistance of established systems are affecting healthcare and hospital management in particular. There is also an issue with the power of those who profit most from the traditional system.

The main challenges highlighted during the congress were the ageing population with multiple and chronic diseases; better informed patients with higher expectations; and intense competition between hospitals in some countries.

Opportunities are arising in terms of innovations in information technology. There are also new diagnostic and therapeutic options as a consequence of pharmacological and medico-technological innovations.

### Advances in medical technology and other innovations hold many attractive opportunities for hospitals. However, do you think there is a danger that we are rushing in to new technologies and innovations without being aware of the long-term effects?

On the whole I am more optimistic about innovations and the opportunities they can bring in terms of efficiency, safety and quality in healthcare. However, there are definitely risks in terms of the security of patient related information and data. I do think we should be aware of profit-driven pseudo-innovations that provide little or no patient-value.

### It was clear from many of the presentations that flexibility is becoming more and more important. How can hospitals and hospital managers become more flexible in their approach?

This is a difficult question and I don't think there is a fast and general “one-size-fits-all” solution. Flexibility as characteristic of

an organisation or a person depends on security and self-awareness. It takes time to make changes in an organisational culture and this must start from the top with its most prominent members. An important prerequisite is the right incentives for change and also the necessary political and institutional support.

### One key theme from the congress was the importance of putting patients at the centre of healthcare. You talked about living up to the expectations and challenges of our patients. Could you expand on this?

Limited public resources, a growing competitiveness and better-informed patients with higher expectations force us to become more patient-oriented. As patients become more informed and demand more from their care providers we have no choice but to transform into patient-oriented and effective care environments without compromises. This patient-focused approach is underlined in the new EAHM work model IMPO, which was formally accepted at the congress.

### You mentioned that in the past, when hospital managers got together they asked each other how many beds they had. Is this changing and why?

Yes it is changing. I think this change is happening for two reasons. The first is the change in paying systems and the second is the increased possibility to treat patients outside of the hospital in other care environments.

The next step will be to focus on how many patients are treated and the mean case-mix index. My vision for the future is that we will focus on how many patients are treated and the mean patient-value-index.

### Interviewee

#### Prof. Hans-Joachim Schubert

General Director  
Centre Hospitalier du Nord  
Luxembourg

# BUILDING A CULTURE OF EXCELLENCE FROM THE GROUND UP

Alicia R. Campbell

**This article discusses the key steps taken to hire and create a team at a new facility and details the education and onboarding that was used, as well as the foundations required to create a culture of excellence. Each new team member hired was considered an investment in the future success of the group. Each leader was committed to finding the right people for the new team even if that meant opening the facility with vacancies.**

For the last 13 years my world has been imaging. Eight of those years I was mentored by a great director who taught me about dedication, accountability, and what leadership truly means. In 2011, I was given the opportunity to step out of the imaging world and take a director position at a brand new freestanding healthcare pavilion. I took the position at the new facility because it gave me the opportunity to apply many of the lessons I had learned from my imaging director, work with a true multidisciplinary team, and build a culture of excellence from the ground up. This was a once in a lifetime chance that took me and our team on an amazing journey.

A healthcare pavilion is a relatively new concept in healthcare. CMC-Waxhaw healthcare pavilion was only the second of its kind in the Charlotte, NC area. It houses a freestanding emergency department (ED); outpatient CT, X-ray, and ultrasound; outpatient laboratory services; and physician practices. The ED is comprised of 10 beds—seven general ED beds, two observation beds, and one resuscitation room. Part of my new position involved educating the public on what services we had as well as what a freestanding ED was. For the majority of the public, this is a foreign concept. Most people think of the centre as an urgent care or a hospital. In truth, it is neither. The facility is licensed through a main hospital, part of the Carolinas HealthCare System, about 18 miles away and acts as a department of the hospital located off the main campus. Patients can be held up to 24 hours, but patients who need to be admitted are transferred to the appropriate facility depending on their needs or choice.

## Breaking down the Silos

Seven areas make up the team at the pavilion: nursing, respiratory therapy, security, laboratory, imaging, environmental services (EVS), and registration. In a hospital environment, people tend to function in their own silos. In the pavilion setting, the team could not be successful

working from this same model. Our team was expected to be efficient, self-sufficient, and patient focused. The leadership team understood that there could not be silos or the team would fail. Working with the directors and managers of the primary areas, the goal was to create one team solely focused on creating an exceptional experience for every visitor, every time. A culture centred on the patient was a necessity.

To start the hiring process, the leadership team looked at the job descriptions of each area. It was quickly realised that the traditional model would not work in the new centre. The scope of practice for each area was evaluated and the team worked together to determine how each area could do things that were not “typical” in a hospital environment, but were within the team members’ scope of practice. Registrars were cross trained as unit secretaries and patient representatives. Registrars were also sent to notary classes, as well as additional computer classes to assist with imaging registration. Security officers were trained to do some light maintenance work and learned how to do monthly checks on fire extinguishers and other items.

on site at a time and if a code blue (CPR) is called, all team members must respond and may have to assist with compressions.

## Creating the Foundation

The leadership team wanted to ensure that the right people were in the right positions from the start. Before posting any positions, meetings were held with the service excellence coordinator and human resources (HR) director. The key qualities to look for when hiring team members were discussed and a list of desirable characteristics for team members, as well as leaders, was created. The ideal team member characteristics were: customer focus, self reliance, adaptability, teamwork, collaboration, ownership, and time management. From these characteristics, books on behavioural based interviewing were reviewed. Seven sets of behavioural interview questions were developed—three sets for team level positions and four for leadership positions. A process was then developed that each candidate would follow.

Each new team member hired was considered an investment in the future success of the group.

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The leadership team understood that there could not be silos or the team would fail

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Respiratory therapists and imaging technologists were likely the most hybrid positions. Therapists and technologists were trained to take vitals, do phlebotomy, and perform EKGs. Imaging technologists were sent to ACLS classes to assist them when performing EKGs and help them feel more comfortable with being involved in a code. All team members, including non-clinical areas, were trained in BCLS. This was important as there are only 10–15 team members

Each leader was committed to finding the right people for the new team even if that meant opening the facility with vacancies.

Directors, managers, and HR recruiters were educated on the hiring process prior to posting positions. Each of the respective directors came up with hiring requirements for their areas (e.g. imaging would require two years of experience and certification by the ARRT). HR set up screening of applications based on the cri-

teria developed by the director. Figure 1 is a flow chart of the hiring process for team members.

The applications were screened by HR based on the manager/director's criteria and then sent to the hiring manager. The hiring manager conducted a phone interview of candidates who were qualified. If the candidate passed the initial phone interview he or she was scheduled for a peer interview.

Candidates were told to plan to be at the facility for 1–1.5 hours. They would interview with the peer teams and then with me, the service excellence coordinator, and/or the director of HR. If candidates passed both the peer team and the second interview then they were set up for final interviews with the leader of the respective modality (e.g. imaging, nursing, respiratory, etc). For staff level team members, that was the final step and the respective leader decided whether to make an offer. If the candidate was interviewing for a leadership position, there was one more interview. The final leadership interview was conducted by the directors and managers who would have areas at the new facility. This made the hiring of the on-site leaders truly a team decision. It was essential that directors and managers had input into the on-site leads as this was the first step in ensuring this was one team with one focus.

The current hiring process is similar to what was done during the opening with the exception that the team members from the center conduct the peer interviews instead of those that were originally used from the hospital.

### The Peer Interview Team

A peer interviewing team was developed across the seven disciplines. This team consisted of high performers that currently worked at the hospital and demonstrated many of the behaviours we were looking to have in the new team. Peer interviewing training was conducted and the team was taught how to look for the desired characteristics. The peer team solely focused on behaviours. The managers/directors scrutinised qualifications and each candidate was interviewed by the peer team. Imaging techs did not interview imaging candidates. The peer team was a multidisciplinary team interviewing all candidates. Each peer team member was taught how to score someone based on the STAR technique developed by Development Dimensions International. STAR stands for: situation, task, action, and result (<http://www.ddiworld.com/>). For each question the peer team asked they were looking to see if candidates answered the following:

- What was the situation or task?
- What action did the candidate take?
- What were the results of the actions taken?

### Education

Once the initial candidates were hired they attended a general hospital orientation. All training was done at the hospital for about 6–7 weeks prior to the opening of the pavilion. In addition, a two-day team orientation specific for the facility was conducted, which took place about two weeks prior to opening. For much of the team, this was the first time they met so orientation was done as one large group. This orientation not only reviewed items such as life safety, facility layout, and parking, but a number of team building exercises were also held. Team members were divided out by shifts, not specialties. This was very purposeful, as it was a key step in ensuring leaders were not enabling the silo effect.

Emphasis was placed on Studer's AIDET concept, which stands for acknowledge, introduce, duration, explanation and thank.<sup>1</sup> Team members were taught how to develop their own AIDET and how to utilise "key words at key times." The expectation was set that AIDET would be used for "every patient every time." Additionally, there was a four hour class focused solely on the patient experience and on how to communicate with the patient, actions that could be taken to provide a higher level of care, and how to perform service recovery if the patient's expectations are not being met.

Team members were taught about the expectations for being a part of the team. The expectations are similar to what Studer calls "standards of behaviour" or Michael Cohen calls "conditions of employment."<sup>2</sup> They include items such as:

- Refrain from negative/disruptive behaviour (e.g., complaining, gossiping, communicating in an inappropriate manner, etc);
- Everyone is required to work as a team with specialty team members as well as the rest of the healthcare team;
- Use respectful tone of voice;
- Be aware of body language and how it affects the message being conveyed;
- Refrain from using/making inappropriate comments; and
- Collaborate with the healthcare team regarding the care of the patient.

All team members signed these expectations during orientation with the understanding they were accountable for them and failure to fol-

low these expectations would result in progressive discipline. A large portion of the orientation focused on patient and team centred culture. Ownership was emphasised and there was a tremendous amount of buy-in as this initial team knew they would set the stage and create the culture through their daily behaviours.

### Accountability and Sustaining the Culture

Merely selecting and educating a team was not enough to create a culture of excellence. After all the selection and training came the hardest part for the leaders. Leaders had to ensure that what was taught in orientation was implemented. For many teams, this is where failure occurs. With opening a new centre there was a lot of excitement and energy, but eventually people got comfortable and lost some focus and energy. The leaders had to keep that focus and make sure the mission and vision of the team were at the forefront.

To help ensure team members stay focused, leaders rounded on patients daily. Outpatient imaging patients and ED patients were rounded on by leaders. During patient rounding leaders talked with patients about their services. The following questions are asked during patient rounding:

- Have you been receiving excellent care?
- Have you had any delays?
- Is there anyone you would like to recognise?

After rounding with the patient, the leader provides feedback to the team member caring for the patient. If an issue is identified the leader will perform service recovery immediately. The nurse manager of the ED rounds on outpatient imaging exams, as well as ED patients. The imaging lead does the same. The expectation is that all leaders are responsible for all patients.

Leaders are expected to round with team members every 4–6 weeks. Team members can be rounded on by any leader, not necessarily who they report to directly. Team members are asked what is going well, who they would like to recognise, and what process may not be working (and suggestions to improve that process). Leaders are expected to "manage up" wins as taught by the Studer group. If a team member asks that someone be recognised, the leader sends the team member a thank you note or uses another form of recognition to let that person know another team member appreciates him or her. This has helped to create bonds across the team

*continues on page 39*

(E)Hospital knows that hospital managers need to keep up to date with the latest innovations and news across all medical specialities to better understand the needs and challenges of each hospital department. For this reason we have been publishing specialist supplements with each issue. Two copies are included: An insert for your own use and a pull out to pass on to a relevant colleague.

This issue the focus is on pharmaceuticals. We spoke to Dr. Roberto Frontini, the President of the European Association of Hospital Pharmacists, to find out more about innovation in hospital pharmacy and the future of the discipline. Anita R. Vila-Parrish introduces us to data-driven hospital supply chains for intelligent pharmaceutical inventory management strategies. The news section covers the Field Administration of Stroke Therapy—Magnesium (FAST—MAG) trial and a breakthrough approach to identify new drug candidates through genome sequencing.



# THE INNOVATIVE HOSPITAL PHARMACIST

## Imagination, Skills and Organisation

Interview by Lee Campbell

The 2014 annual congress of the European Association of Hospital Pharmacists (EAHP) takes place in Barcelona and this year's theme is the innovative hospital pharmacist. Dr. Roberto Frontini, President of the EAHP took some time out of his busy schedule to talk to (E)Hospital about the congress, innovation in hospital pharmacy and the increasing importance of collaborative care.

**The upcoming EAHP congress will focus on the “Innovative Hospital Pharmacist”. How would you describe an innovative hospital pharmacist and what can attendees expect at the congress?**

I think innovation is relative to your environment. For some countries it is common practice to have a pharmacist working on the wards together with nurses and doctors but in other countries this is an innovation. We have to understand that innovation is about taking the next step and improving the situation and outcomes.

Innovation is a step in the right direction and each step towards innovation is important. This is why at the congress we will also have a session dedicated to best practices. Best practices are also part of innovation and we will not just be showcasing the latest high-tech and organi-

sation-changing innovations but also the smaller steps you can take on middle and lower levels. These innovations are just as important.

**The congress subtitle “imagination, skills and organisation” are three essential management traits. How are hospital pharmacists putting them into practice?**

The first point, imagination is very important. Without setting goals we cannot progress in our professions and work towards the future. For this reason we have as a basis, the Basel statement from the International Pharmaceutical Federation (FIP). And we are actually reviewing this statement to create a vision of what hospital pharmacists will have as a goal. This is what pharmacists have to imagine and to adapt to their local situation to fulfil their goals.

In terms of skills, we have to learn a lot. I am not worried about learning in terms of pharmaceutical science because we have literature and every pharmacist has opportunities to go to seminars, to continue education and to read articles. I am much more worried about what we have never learnt: communication and the transfer of our knowledge to our colleagues (doctors, nurses, administrators). We need to be able to explain why we are doing something and why it is important. Communication skills are even more important when it comes to dealing with patients. When communicating with patients we need to change our perspective. Pharmacists as well as doctors are used to talking about diseases and treatments but the patient does not think in scientific terms. We need to transfer our knowledge of the disease to the ac-

tual situation of the patient and this needs skills that we are not trained in at all. This is something that worries me and must change.

Organisation is also important. We have limited resources, which means organisations need to make the right priorities. We must start with projects that are really important and not waste a lot of time and energy and resources on projects which only benefit a small number of people or projects without positive outcomes.

**Innovation in healthcare is a key current trend, mainly in terms of new technologies. Do you think there is a danger that too many innovative ideas are implemented without thorough research and testing?**

Yes, yes and yes! There are a lot of pseudo-innovative medicines, especially if you look at how fast the FDA and EMA approve new drugs and the pressure of the industry to authorise drugs. If you look

introduction of CPOE (Computerized Physician Order Entry). We introduced this technology without training and we had more errors than before. So it is very dangerous, you need training because neither you nor I can sit in a cockpit of an aeroplane and start the plane! Even if the technology of the plane is fantastic.

**What are the main barriers to innovation in hospital pharmacy?**

There are a lot of barriers to innovation in hospital pharmacy. First of all, I must unfortunately say that money is a key barrier because really, innovations start with an investment. I say investment because innovation is not just an increase in costs, if successful it will bring improvements and hopefully value for money. Currently, in order to be successful you have to first make your project visible and create awareness. This includes explaining your motivations and why such an innovation is necessary.

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Technology is wonderful. I like my iPhone, I like my computer, I like my navigation system but technology without proper user-training is very, very dangerous

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at the current situation, the general idea is not to approve a new drug because it is better than another one, just because it works, which could mean it is no better than other drugs on the market. The quality of the data used is also a key issue. We have a lot, and I mean a lot, of manipulated data used in the approval of new drugs. If you take a more detailed look at the research you will discover that industry research is often manipulated, looking at a very specific condition or choosing a very specific type of patient to demonstrate a particular outcome that is in the interest of the agency.

Secondly, technology is wonderful. I like my iPhone, I like my computer, I like my navigation system but technology without proper user-training is very, very dangerous. We had some very good examples of this situation. For example the

The second important barrier is that we as pharmacists have a lack of time and personnel to dedicate to evaluation. We start projects and we know they are good but we need to evaluate these projects and share the results with the hospital administration and doctors and nurses. We have to explain the situation before, the steps we have taken and the improvements that have been made. This is an important process but it takes time and currently we have a lack of time.

The third major barrier is mentality. Unfortunately a lot of pharmacists are very conservative. In many respects this is a good thing: I am also very conservative when it comes to medicine, we use the medicine we are familiar with. However, many hospital pharmacists are too afraid to innovate and look to the future. For me, this is a major barrier to overcome.

**We often equate innovation with expense, particularly in the current economic climate. How can we be innovative without breaking the budget?**

I think that this is something the industry is telling us. They are telling us they need a lot of money for investment purposes and how expensive the cost of research is. However, this is not true. If you look at the data, even published in the New England Journal of Medicine, it is clear the industry is making a 25% profit by putting only 15% in to research. There is clearly a misbalance.

I really believe that real innovations don't cost so much. They need an investment but this is true of many things, for example, if you invest in a house you are not spending more than you would to rent an apartment. Just the opposite, you are creating value and true innovations create value. They are not costs, they are investments, and if we look at the general ideas of 50% adherence worldwide. We are wasting 50% of our expenditure in medicine and that is an enormous amount of money we can save. If we are innovative we can improve this, we can reduce waste and make systems more efficient. If there are drugs that reduce the length of stay in the hospital then you are not actually paying more. What I am disappointed in the pricing policies of the pharmaceutical industry because they are telling us something that is absolutely not true.

**What have been the three most important innovations in hospital pharmacy in recent years?**

I will start with a technological innovation because I think that it is very important. In recent years more and more hospitals have started to use barcoding in hospital pharmacy. Single units have barcodes and these are scanned at the point of care along with the patient bracelet to ensure we are giving the right medication to the right patient at the right time. I think this is a very significant innovation, it is a technology that is a really good investment and we are supporting it as an association (EAHP).

My second innovation is not technological but it is very important. It is the fact that in the last three years the awareness of the pharmacist has changed from a medication-oriented mentality to a patient-oriented mentality. We have

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switched our perspective to focus on the fact that we are serving patients. This is one of the biggest steps we have taken in the last years.

The third most important innovation concerns education, namely the new EU Directive of Mutual Recognition of Professionals. The law was approved in 2013 and it has opened the door for specialisation in pharmacy on the European level. I think this is a big step forward for hospital pharmacists to create a new harmonisation of skills and competencies for hospital pharmacists in Europe.

**Moving to the future, your keynote speech is entitled “The Hospital Pharmacist 2020: A Changed Profile”. Could you give us a preview of what this profile will be like?**

Well I cannot tell you the whole speech before the congress but I can tell you a few things! I put an additional question mark in the title: a changed profile? Why? Well because when I was preparing the keynote I went through the history of pharmacy and I discovered that our profile, which is now believed to be very modern and the future of pharmacy, was already in the 18th century very well described in contracts, etc. But we seem to have forgotten this so I think it is not so much the profile but the environment that has changed.

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## True innovations create value

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I will focus on two aspects. The first is the informed patient. It is very different to the past when patients had little opportunity to be informed about their condition and the different treatment possibilities. Now it is exactly the opposite, indeed sometimes our patients are more informed than we are! The only problem is the source of this information...

The second aspect I will focus on is communication. Communication has become much more complicated. Previously communication was simple; it was local and face-to-face but now we are work-

ing in very complex systems with lots of different technologies. Communication is now a crucial point in keeping these systems running.

**Many hospitals and managers are looking to break down the traditional silos within the hospital and focus more on cross-departmental cooperation and multidisciplinary teamwork. Hospital pharmacists are a good example of this cooperation, what advice could you give to managers on this topic?**

I would say continue, continue, continue! I believe that collaborative care is the only way to provide care in an economic and cost-effective fashion. There is a lot of evidence in terms of literature, which indicates that collaborative care is a key point for the future. We must continue to break down all the barriers between health professional groups; between doctors and nurses, between pharmacists and doctors, between administrators and pharmacists, etc. We have to work together, to accept the point of view of others and to integrate these into our care.

I think in many countries in Europe, including Germany, but especially in the eastern regions of Europe, we need more visibility as pharmacists. We need to convince the administration to support pharmacy with staff and technology because the perception is still that pharmacy is just supplying drugs but this is not true. It is an important part of our job but not the only part. If you want to have pharmacists on the ward you need staff and investment. There is evidence that pharmacists on the ward save money and improve patient outcomes. It is helping doctors and nurses to provide better quality care. This is what we need in our complex system: to have all healthcare professionals involved together in collaborative care.

**Finally can you tell us more about the European Summit on Hospital Pharmacy? What was the idea behind this event and what does it hope to achieve?**

This is a very ambitious summit and I am proud to say that it is the first worldwide initiative to bring together not only pharmacists but also patient groups and healthcare professionals to decide about the future of our profession.

In terms of background to this summit,

in 2008 the International Pharmaceutical Federation (FIP) organised a global congress in Basel where hospital pharmacists got together and created a statement on the future of hospital pharmacy. As little as six years later, the FIP is already reviewing the statement. But the EAHP began to review this statement some years within our working group as there have already been significant changes in our profession. During this review we realised that we needed the opinions of our other stakeholders: patients, doctors and nurses.

The summit will put the statements to a vote, like FIP did in Basel but with a very big difference: this time it will not just be pharmacists that vote but also groups of healthcare professionals (doctors and nurses) and patients. Half of the votes will come from pharmacists and one quarter patient groups and the other quarter professional groups. This means the pharmacists will never have a clear majority over the other stakeholders. We will achieve an agreement on the future of hospital pharmacy between pharmacists and the key stakeholders, which is both unique and risky for pharmacists as the future of the profession depends on all three groups.

We have already internally reviewed the Basel statements and made a proposal. There were 75 Basel statements and we have reduced this to 48 statements in six different fields of activity. Now we have moved on to the next step, the external facilitated Delphi process. We sent out the statements to the stakeholders and our members and through the Delphi process we are updating the statements. We will present some of them at the congress and the summit will be the final vote on the statements.

I am very happy because some of the input that came from patient groups and medical professionals is very interesting. So in the end I think we will not only have the future of hospital pharmacy but also the future of the role of hospital pharmacy in the acute team, in a collaborative care team. That is the real goal of the summit.

**Interviewee:**

**Dr. Roberto Frontini**  
*President*  
*EAHP*



# FROM EVIDENCE-BASED MEDICINE TO DATA-DRIVEN HOSPITAL SUPPLY CHAINS

## A Look To The Future

### The Challenge of Managing Hospital Supply Chains

Inventory management of medications and supplies within the hospital pharmacy is a complex task. There may be thousands of medications inventoried, the medications have varying shelf lives, and demand changes frequently – daily, even hourly. Medication and supply availability is a critical factor in a hospital's ability to ensure effective, timely, and safe patient outcomes. Ac-

Inventory issues are so pervasive that in a survey of 374 U.S. pharmacy directors 75% of respondents indicated they were forced to purchase drugs off-contract from their current vendor, borrow drugs from other institutions, or purchase the drug from an alternative vendor at an increased price when confronted with a drug shortage (Baumer et al. 2004). In addition to the increase in purchasing costs, two-thirds reported delayed or cancelled medical procedures due to drug shortages resulting in

ing allocated and/or diverted away from patient care responsibilities toward the management of drug shortages (McLaughlin et al. 2013). According to the American Hospital Association 2011 Survey, hospitals are interested in taking measures to reduce the impact of drug shortages by increasing inventory and training staff to manage shortages but may lack the guidance regarding how to do this well (American Hospital Association 2011).

### Towards Continuous Improvement: Embracing the DMAIC (Define, Measure, Analyse, Improve and Control) Process for the Hospital Supply Chain

A challenge in the healthcare environment is to determine ways to develop efficient methods for implementing inventory and supply chain strategies based on characteristics of the "products". While this is not a new concept in other industries, there are unique complexities in managing medications and supplies that provide direct patient care. Unlike other types of products, it is not possible to have a "lost sale" or postpone fulfillment of demand when the product is unavailable without significant consequences to the patient. Despite its unique challenges there is much that can be learned from the advances in supply chain management realised in other industries. In 2001, Virginia Mason Medical Center (Seattle, WA, USA) documented one of the first wide scale applications of lean and six-sigma (LSS) implementations in healthcare. The last decade has brought further awareness and implementation of these methods in healthcare and inventory management is no exception. LSS improvements are data-driven just as the practice of medicine is evidence-based. With the wealth of data captured by technologies such as Automated Dispensing Cabinets (ADCs), there is an opportunity to minimise waste and non-value added times by optimising inventory (both in quantity and location).

#### DEFINE:

##### Identifying the Problem

Suboptimal inventory systems cause hospital pharmacies to average a low 10.2 inventory turns per year, lose con-

LSS improvements are data-driven just as the practice of medicine is evidence-based

**Table 1:** Implications of supply chain inefficiencies on the hospital supply chain

Supply Chain Impact	Practical Relevance
Supply chain costs account for 25 – 30% of hospital expenses (Kamani 2004)	Small improvements can make a large impact on a hospital's bottom line
Processing and handling these materials are 35 – 40% of the total supply chain costs (Grossman 2000)	The system is not lean – this figure is 3.5 to 4 times greater than other industries
Low average inventory turn (9.5 – 10.2 turns per year) (McKone-Sweet 2005)	A significant amount of money is tied up in inventory as a result exposure to expiration/waste increases
The number of medication shortages has been increasing	Shortages are costly and the system is not robust (or is particularly vulnerable to) the impacts of drug shortages due to poor inventory policies. Shortages drive hospitals to purchase drugs off-contract from their current vendor, borrow drugs from other institutions, or purchase drugs from an alternative vendor at an increased price

According to the 2011 American Hospital Association's large-scale survey, the impact of mismanagement extends beyond healthcare costs (due to waste and shortages) to patient care and utilisation of resources. Clinical staff often spend too much time on the inventory and procurement process at the expense of time for patient care. As shown in Table 1, the financial impact of the supply chain is staggering.

an interquartile range of \$33,169,600 – \$300,763,837 in additional costs to the U.S. healthcare system.

In the close to ten years since this survey was conducted, little improvement has occurred in hospitals' ability to respond to drug shortages. Two recent studies identify the same negative impacts associated with drug shortages, further these surveys indicate resources are be-

# UZ Leuven improves patient safety with bedside terminals and 2D scanning of medicines

## Largest University Hospital in Belgium

Founded 75 years ago, UZ Leuven is the largest hospital in Belgium with some 2,035 beds. It provides high quality medical and paramedical services to ambulant and hospitalized patients in five campuses in the Leuven area. Every day over 8,800 employees and medical professionals provide diverse and specialized patient care. As a leading university medical centre UZ Leuven seeks to maintain and further develop its dominant position by continually improving its quality of care. The essence of the hospital's philosophy is always to work for better and safer patient care. UZ Leuven has put this into practice by gaining accreditation from the internationally recognized Joint Commission International (JCI).

## The Business Challenge

Optimizing patient care and patient safety are at the heart of the hospital's mission. Considering the scale its operation, this requires not only advanced medical practice, but also accurate logistics and foolproof systems to ensure that the right information, resources and people are in the right place at the right time. The hospital's IT-department deploys over a 100 IT specialists, of whom 50 are developers working on its proprietary Hospital Information System. When the nurse call system needed replacing some years ago, it prompted the IT department to seek a single technology platform that would enhance patient care and safety. After extensive investigation and evaluation, UZ Leuven decided in 2010 to equip all 2,035 beds with multifunctional bedside terminals. These touch screen terminals give staff access to the Hospital Information System and offer communication and infotainment to each patient. The system also allows for real time tracking of medicines by using a 2D scanner. This innovative concept and the quality-driven culture of UZ Leuven were key to its attaining the internationally acknowledged JCI accreditation in July 2012.



### Overview:

**Client:** UZ Leuven

**Country:** Belgium

**Market:** Healthcare

**Partner:** Nextel

**Product Solutions:** Honeywell Xenon tm 1900 2D Healthcare version

## Greater Personal Care with Reduced Workload

Making sure that each patient receives care and attention is the core objective for nursing staff at the hospital. However, this can be a challenge to deliver while also having to run tight schedules and maintain correct protocols and procedures. Now more personal care can be given to each patient because the tracking of medicines is handled simply by scanning the barcode on the patient's bracelet and a 2D label on their medicine. The Hospital Information System processes the data in real time and an audio alert will automatically warn if an incorrect dose or the wrong medicine is dispensed. This prevents mistakes and ensures seamless and efficient administration. With 2,000 patients receiving multiple medicines three times a day, the system handles an average of 20,000 scans every day.

### Seamless Integration

The bedside terminal system was developed and implemented by the Belgian Telecom integrator Nextel. Together with Televic, who developed high-tech communication systems for niche markets like conference systems, nurse call systems or on-board passenger systems, and Lincor, which offers the MEDivista bedside terminal solution, they tailored the solution to UZ Leuven's needs. The seamless integration of the Honeywell Xenon™ 1900h into their solution made the IT department of UZ Leuven's choice a simple one.

### Patient Safety

The Xenon™ 1900h used at UZ Leuven is specifically designed for healthcare environments. The dense population of hospitals and the concentration of infectious diseases, require a strict hospital cleaning policy. Therefore, the scanners come with a disinfectant-ready housing that is resistant to the harsh cleaning chemicals that are applied to it several times a day. This ensures a prolonged product lifecycle despite the demanding environment. These 2D bar code scanners are aimed at the point-of-care, helping healthcare professionals to reduce errors related to bedside medication administration. The limited space on the label of medicines requires 2D scanning as this technology can include much more information than 1D scanning. In the near future, new applications for colour scanning will also be explored at UZ Leuven. With the ability to capture colour images, the Xenon 1900h Color can also support applications such as wound management and patient identification.

#### For more information on our products:

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### Key Benefits

- Effective contribution to patient safety
- Fast and accurate scanning of 1D, 2D, image and colour for future development
- Minimized risk of errors, while reducing the workload of the nursing staff
- Easy wireless handling of 20,000 scans per day
- Disinfectant-ready housing to prevent spreading of infectious diseases

### Conclusion

"We are confident that the bedside terminals and the hand-held barcode scanners will drastically improve our patient care and patient safety. To implement this in a fully operational hospital without disrupting key processes or inconveniencing our staff and patients takes several months. Eventually we plan to have all the beds equipped with the new solution", says Reinoud Reynders, IT-manager infrastructure & operations of UZ Leuven. "As we have pioneered and developed the complete information system (KWS) of the electronic patient files that is now being used by a group of hospitals called Nexuz Health, this information-based solution might spread to a total of 6,000 beds in the years to come", concludes André de Deurwaarder, Senior IT Architect of UZ Leuven.

**Honeywell**

tract compliance opportunities, and continue costly process inefficiencies (Alverson 2003). In an attempt to improve their drug delivery system, many hospitals have implemented automated systems but have not experienced success due to their labour intensiveness, inefficiencies, and improper inventory management policies (Handfield 2007). An increasing amount of attention and research has recently been focused on developing better management policies and investigating alternative supply chain structures for hospital supplies and medications. The first step is to identify the problem: does your system yield too many medications that expire? Are staff spending too much time locating medications? Are there too many stockouts in the ADC? The problem should be articulated in the form of a problem statement as the remainder of the six sigma phases will rely on this. Once the problem is determined, the focus shifts to the measurement phase, which means collecting data.

#### MEASURE:

##### Taking Advantage of Data

Data, representative of patient demand, is often captured automatically through the use of barcode scanning and ADC technologies. It is easy to dive into data analysis when it is readily available but a thorough understanding of the current process (using process mapping tools) is critical to put the data into context.

#### ANALYSE: Pareto Analysis: The 80/20 Rule and What it Means to Pharmaceutical Inventory

Pareto Analysis is based on the idea that in many settings 80% of problems can be solved by addressing 20% of causes. In the context of inventory management, it means that 80% of drug demand (in terms of volume or spend) is often attributable to only 20% of the drugs. This means that a hospital may make a significant impact on their bottom line by focusing on managing those drugs that are critical to the total spend. Further, it is very likely that the critical drugs will consist of only 20% of the total drug inventory. All drugs do not need to be managed the same way - the potentially overwhelming task of managing the inventory of thousands of drugs may be

**Table 2:** Relationship between ABC classification category and levels of hospital supply inventory management control and effort (adapted from Vila-Parrish and Ivy 2013)

Control Procedure	A Items: High Consumption Value	B items: Moderate Consumption Value	C items: Low Consumption Value
Degree of Safety Stock	Very low or stockless strategy, combined with frequent ordering	Low, ordering done on a less frequent basis	High, bulk ordering on an infrequent basis
Demand	Should be regularly occurring (e.g., daily)	Monthly	Quarterly
Material Planning	Accurate and updated regularly	Can rely on historical data	Estimates are sufficient
Optimisation effort	High, focus on reducing waste, obsolescence, and surplus	Moderate	Review policies annually
# of suppliers	High, short lead times required, centralised control	2-4 sources, shorter lead time preferred	1-2 sources, decentralised control

streamlined by identifying those drugs that are critical and managing this much smaller subset of drugs.

#### IMPROVE:

##### Product Classification Strategies

Expanding upon traditional ABC analysis (where products are ranked in terms of their total spend and then managed accordingly), researchers and practitioners are attempting to develop more appropriate classification schedules. The ability to classify products, and map

#### CONTROL:

##### Developing Sustainable Solutions

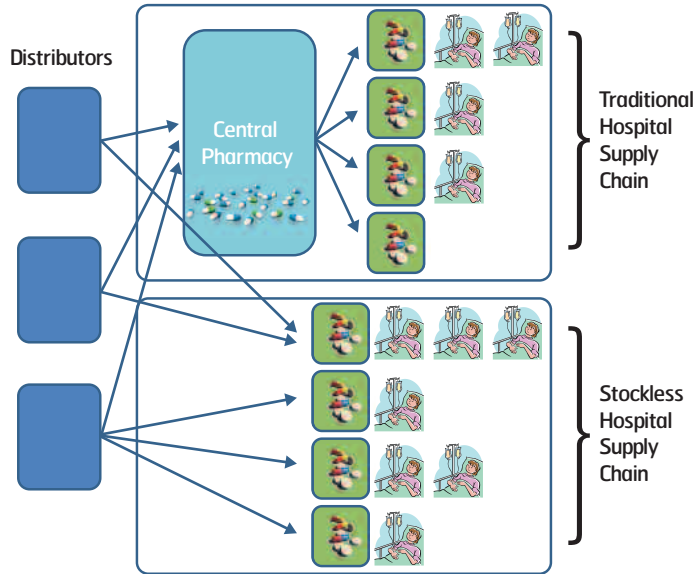
Virtual and stockless inventory systems imply that inventories are not kept at a central pharmacy but instead are managed by a supplier and delivered directly to their point-of-use. The objective of these strategies is to enjoy the benefits of Just-in-Time (JIT) inventory management, which results in lower inventory costs. The feasibility of implementing such strategies is highly dependent on the degree of sophistication of the hos-

## Medication and supply availability is a critical factor in a hospital's ability to ensure effective, timely, and safe patient outcomes

these classifications to various types of inventory control and supply chain structures, simplify the management process significantly, especially when there are thousands of products spread throughout multiple locations. Reddy (2008) defined ABC categories for medications as supplies using multiple dimensions beyond cost. An adapted version of this methodology is presented in Vila-Parrish and Ivy (2013) and shown in Table 2.

hospital and supplier's information system. Visibility to information such as inventory levels at all stages of the supply chain through electronic data interchanges (EDI) is necessary in order to manage the ordering and fulfillment process efficiently. While this supply chain structure is fairly common in other industries (such as the electronics industry) it has not fully matured in healthcare.

Figure 1: Comparison of traditional versus stockless hospital supply chain



**Future of Hospital Supply Chains: Data Driven Decision Making**

There are rich sources of data available to inform more intelligent inventory management strategies. The challenge is to take large quantities of transactional data and transform them

into useable information in order to understand and predict demand patterns and behaviours. Further, it is necessary to establish performance measures for the supply chain, including inventory metrics. By instituting a culture of regular reviews you will enable the potential for continuous improvement. A true understanding of the process of order fulfill-

ment is required to develop processes that are lean and proactive – not reactive. With data available at your fingertips the question is not “what data?” but “how do we use this data for decision making?”

Many considerations should be made in this analysis: What is the current versus desired restocking policy? How many local versus global stockouts have occurred and what was the root cause? Are there alternative stocking strategies that may be employed, e.g., is a stockless system feasible? The key to developing a robust hospital supply chain is to utilise the vast amounts of data available to answer questions like those posed above in order to develop responsive pharmaceutical and medical supply inventory management systems. It is time to go beyond using patient data simply for census planning and instead, apply this information to better predict demand for drug and supply management.

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## STUDY FINDS TREATING STROKE PATIENTS WITH INTRAVENOUS MAGNESIUM FAILS TO IMPROVE OUTCOME

In the first study of its kind, a consortium led by UCLA physicians found that giving stroke patients intravenous magnesium within an hour of the onset of symptoms does not improve stroke outcomes.



"Stroke is a true emergency condition. For every minute that goes by without restoration of blood flow, 2 million nerve cells are lost," Saver said. "Since time lost is brain lost, we wanted to develop a method that let us get potentially brain-saving drugs to the patient in the earliest moments of onset of the stroke. If these patients don't get protective drugs until two, three or four hours later, irreversible brain damage has already occurred."

While the Phase 3 clinical trial found that magnesium does not improve stroke-related disability, the search is now on for new drugs and treatments that can be administered in the field to improve long-term outcomes. The infrastructure to treat patients quickly that was created by this study is in place, and that is a major accomplishment, Saver said.

The trial, called Field Administration of

medicine and neurology at the Geffen School. "The study has really opened up opportunities to treat patients in the pre-hospital setting in the earliest minutes after symptoms appear."

Today, the only immediate treatment for strokes caused by blockage of blood vessels is the clot-busting drug tissue plasminogen activator (tPA). But tPA cannot be given until the patients arrive at the hospital and undergo a CT scan to rule out bleeding in the brain. Giving tPA in an ambulance without a CT scan first is not an option because it could harm patients whose strokes are caused by brain bleeds, Saver said. However, neuroprotective drugs can be administered in the field because they're safe for both blockage and the bleeding strokes.

For the FAST-MAG trial, magnesium was chosen because it was shown to dilate blood vessels in the brain in animal studies, increasing blood flow. It also countered the damaging calcium build up that occurs in cells deprived of oxygen. It was already approved to treat medical conditions in people, and it was known to have a good safety profile.

Saver said FAST-MAG researchers are extremely indebted to the nearly 3,000 paramedics involved in the study, as well as the emergency medicine physicians, neurologists, neurosurgeons and nurses who participated.

"Now we are tasked with finding a different agent or combination of agents that can improve stroke outcomes within that golden hour," Saver said. "We developed a treatment platform that works and can be used around the world to test promising agents. FAST-MAG has opened a new, earlier-than-ever window for treatment that has the potential to significantly improve outcomes for the hundreds of thousands of people each year who suffer a stroke."

**For more information, please visit:**  
[www.uclahealth.org](http://www.uclahealth.org)

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Since time lost is brain lost, we wanted to develop a method that let us get potentially brain-saving drugs to the patient in the earliest moments of onset of the stroke

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However, the 8-year trial did find that with the help of paramedics in the field, intravenous medications can frequently be administered to stroke victims within that so-called "golden hour," during which they have the best chance to survive and avoid debilitating, long-term neurological damage.

The latter finding is a "game-changer," said Dr. Jeffrey Saver, director of the UCLA Stroke Center and a professor of neurology at the David Geffen School of Medicine at UCLA. Saver served as co-principal investigator on the research, which was presented Feb. 13 at the American Stroke Association's International Stroke Conference.

Stroke Therapy-Magnesium, or FAST-MAG, involved collaboration among 315 ambulances, 40 emergency medical-service agencies, 60 receiving hospitals and 2,988 paramedics in Los Angeles and Orange counties. Conducted between 2005 and 2013, the study showed that 74 percent of the 1,700 study patients were treated in the first hour, with the magnesium administered within a median time of 45 minutes.

"With this study, we were able to reach the threatened brain faster than ever before," said co-principal investigator Dr. Sidney Starkman, co-director of the UCLA Stroke Center and professor of emergency



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# BREAKTHROUGH APPROACH TO QUICKLY IDENTIFY NEW DRUG CANDIDATES FROM GENOME SEQUENCE

In research that could ultimately lead to many new medicines, scientists from the Florida campus of The Scripps Research Institute (TSRI) have developed a potentially general approach to design drugs from genome sequence. As a proof of principle, they identified a highly potent compound that causes cancer cells to attack themselves and die.

"This is the first time therapeutic small molecules have been rationally designed from only an RNA sequence—something many doubted could be done," said Matthew Disney, PhD, an associate professor at TSRI who led the study. "In this case, we have shown that that approach allows for specific and unprecedented targeting of an RNA that causes cancer."

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In the future, we hope we can design drug candidates for other cancers or for any pathological RNA

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The technique, described in the journal *Nature Chemical Biology* online ahead of print on February 9, 2014, was dubbed Inforna.

"With our program, we can identify compounds with high specificity," said Sai Pradeep Velagapudi, the first author of the study and a graduate student working in the Disney lab. "In the future, we hope we can design drug candidates for other cancers or for any pathological RNA."

## In Search of New Approaches

In their research programme, Disney and his team have been developing approaches to understand the binding of

drugs to RNA folds. In particular, the lab is interested in manipulating microRNAs.

Discovered only in the 1990s, microRNAs are short molecules that work within virtually all animal and plant cells. Typically each one functions as a "dimmer switch" for one or more genes; it binds to the transcripts of those genes and effectively keeps them from being translated into proteins. In this way microRNAs can regulate a wide variety of cellular processes.

Some microRNAs have been associated with diseases. MiR-96 microRNA, for example, is thought to promote cancer by discouraging a process called apoptosis or programmed cell death that can rid the body of cells that begin to grow out of control.

As part of its long-term programme, the Disney lab developed computational approaches that can mine information against such genome sequences and all cellular RNAs with the goal of identifying drugs that target such disease-associated RNAs while leaving others unaffected.

"In recent years we've seen an explosion of information about the many roles of RNA in biology and medicine," said Peter Preusch, PhD, of the National Institute of Health's National Institute of General Medical Sciences, which partially funded the research. "This new work is another example of how Dr. Disney is pioneering the use of small molecules to manipulate disease-causing RNAs, which have been underexplored as potential drug targets."

## 'Unprecedented' Findings

In the new study, Disney and colleagues describe their computational technique, which identifies optimal drug targets by mining a database of drug-RNA sequence ("motif") interactions against thousands of cellular RNA sequences.

Using Inforna, the team identified compounds that can target microRNA-96, as well as additional compounds that target nearly two dozen other disease-associated microRNAs.

The researchers showed that the drug

candidate that inhibited microRNA-96 inhibited cancer cell growth. Importantly, they also showed that cells without functioning microRNA-96 were unaffected by the drug.

"This illustrates an unparalleled selectivity for the compound," Disney noted. "In contrast, typical cancer therapeutics target cells indiscriminately, often leading to side effects that can make these drugs difficult for patients to tolerate."

Disney added that the new drug candidate, which is easy to produce and cell permeable, targets microRNA-96 far more specifically than the state-of-the-art method to target RNA (using oligonucleotides) currently in use. "That's unprecedented and provides great excitement for future developments."

In addition to Disney and Velagapudi, Steven M. Gallo of the University of Buffalo was an author of the study, "Sequence-Based Design of Bioactive Small Molecules That Target Precursor MicroRNAs."

**For more information, please visit:**  
[www.scripps.edu](http://www.scripps.edu)



# THE PATIENT ROOM 2020

## Next Generation In-Patient Care

By Lee Campbell

We are moving towards patient-centred healthcare, and where better to make some positive changes but the patient room. Patients are increasingly demanding more from their healthcare providers. They are better informed and willing to speak their mind. This new situation calls for improved patient rooms; rooms that improve patient experience and even improve the quality of care. The NXT Health Patient Room 2020 is a collaborative design project which aims to both improve patient experience and optimise caregiver performance.

The project was developed in NXT Health's multidisciplinary Fellowship Programme, and expands upon the more than 6 years of design and research into inpatient care environments sponsored by the organisation. The main idea is to foster collaboration to drive innovation. It is a platform for design professionals to collaborate with industry partners, healthcare providers and thought leaders to create solutions.

So why is this innovation needed? Well, the project addresses some of the current challenges faced by patients and caregivers in healthcare institutions including unsafe surroundings, misunderstanding of care and inefficient work processes.

Unsafe surroundings are a major issue for healthcare institutions. In the U.S. an estimated 1.7 million Hospital Acquired Infections (HAIs) occur each year in hospitals, leading to about 100,000 deaths and \$28-\$33 billion in excess costs. Many of these infections are preventable, and the new patient room design could have a positive effect on hygiene and infection control. Misunderstanding of care is another obstacle to overcome. High readmissions rates occur in healthcare due to lack of comprehension and fragmentation of the care process, resulting in unnecessary cost burdens.

The project also addresses unsafe work envi-

ronments. Clinical caregivers work in an extremely stressful and sometimes harmful environment, resulting in high incidences of musculoskeletal disease (41%) and burn-out rates. Inefficient work processes are also targeted as caregivers spend approximately 7% of their time on 'wasted activities' such as hunting and gathering supplies.

### The Concept

NXT Health assembled a diverse team of more than 40 industry partners around the concept in order to execute a full-scale installation. These industry partners provided product contributions, services and technical assistance to the design and fabrication team. The 400 square feet, full-scale prototype of the concept was constructed and tested at the DuPont™ Corian® Design Studio in New York City, a hybrid idea incubation/showroom space that aligns with the experimental and forward-thinking nature of the installation. The studio is a three way partnership between DuPont™, Solid surface fabricator Evans & Paul and distributor Dolan & Traynor.

There are five key components to the Patient Room 2020:

- **The Patient Ribbon** collects many of the dis-

parate elements commonly found in healthcare environments into a single, streamlined, patient-centred design response that encompasses headwall to footwall.

- **The Patient Companion** combines two ubiquitous elements: an over-bed table and a touchscreen tablet, to form a single piece of mobile furniture that can be utilised in a wide range of healthcare settings.
- **The Open Bathroom** is an adaptable bathroom concept that features a sliding door system which can be reconfigured based on care needs.
- **The Caregiver Station** is an entry workstation featuring integrated hand-washing indicator lights, concealed accessories and RFID enclosure.
- **The Caregiver Hub** is a deployable bedside work area with embedded technology, simulated UV light sanitisation and wireless device charging stations.

### Enhancing Patient Experiences

Many elements of the Patient Room 2020 aim to enhance patient experience in terms of safety, comfort and control and promoting patient/family engagement.

Figure 1. An evolution of design and research

## AN EVOLUTION OF DESIGN + RESEARCH

The *Patient Room 2020* project is the result of more than 8 years of design and research into single occupancy medical/surgical inpatient care environments.



VILLAGE AT PELHAM PATIENT ROOM

PATIENT ROOM 2020



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OPEN BATHROOM CONFIGURATIONS



Figure 2. The Open Bathroom configuration

**Safety**

In terms of safety, the Patient Room 2020 design features improved “cleanability” in a bid to reduce HAIs. The DuPont Corian solid surface is non-porous and this is optimised via architectural casework and fixture details such as clean cove wall base detail. There is a seamless transition from solid surface walls to the floor and corners are minimised to improve the cleaning process. Anti-microbial fabric solutions that eliminate germs on contact, such as Milliken Biosmart, were used to combat infection on soft surfaces.

Fall prevention and injury reduction are also addressed. A direct path of travel was created between the patient bed and the bathroom, minimising transfer distance and obstructions. In order to provide safe passage, continuous grab bars extend from the bedside to the toilet and shower, with potential obstructions (such as charting equipment) embedded into wall surfaces to clear the pathway. Other elements include rubber flooring to cushion patient falls, ambient lighting, a patient lift system and a shower tray with a special drain to reduce slippage.

**Comfort and Control**

The bedside control centre is designed to improve patient comfort and control. The Patient Companion with hybrid table top provides a traditional eating surface on one side and rotates to reveal an integrated tablet on the other.

er. The touchscreen facility empowers the patient to adjust lighting and temperature and a power mat is available so patients can charge their personal devices.

The design allows for an immersive therapeutic experience for patients. The Patient Ribbon, which encompasses the headwall, ceiling and footwall surrounding the patient, contains audio and visual elements organised to create an immersive, therapeutic experience for patients. They can avail of light therapy and an audio cocoon is created around the patient’s head, which can block out unwanted noise and minimise noise transmission to other spaces.

The Patient Room 2020 features a streamlined, minimalist environment for the comfort of the patient. The Patient Ribbon collects disparate elements commonly found in healthcare environments, including glove boxes, trash, sharps container, headwall gases, electrical outlets, supply storage, patient lift system, lighting, diffusers, audio/visual equipment and sprinklers, into one unified element in order to provide a clutter free, organised environment.

**Promoting Patient/Family Engagement in Care Delivery**

The design supports collaborative medicine. The Patient Companion provides access to information on telemedicine and apps for use after discharge and also facilitates collaborative medicine presentations via a footwall smart display. Medical peripherals can be plugged into the Patient Companion for assessment and training during the hospital stay, and then sent home with patients upon discharge to promote ongoing wellness monitoring.

**Heightening Caregiver Performance**

The Patient Room 2020 also features design elements to improve caregiver performance. Safety is improved, operational costs can be lowered and workflow is optimised.

**Safety**

Safety in the hospital does not stop at the pa-

tient, indeed safety is of paramount importance for caregivers. The Patient Room 2020 design concept aims to prevent workplace related injuries. The Patient Ribbon features an integrated lift system to minimise physical exertion and the headwall provides mounting locations for medical tube organisers to minimise trip hazards. The rubber flooring increases staff comfort during periods of extensive standing.

Smart awareness systems are integrated into the Caregiver Station, including sensors to ensure proper hand-washing and a personal dashboard assesses staff hand-washing practice, displaying data such as sanitisation efficacy, steps taken and distances travelled. Intelligent bed technology communicates wirelessly with the bedside charting station to display key diagnostics.

Adaptable environments such as the sliding doors in the Open Bathroom allow for different configurations dependent on the number of staff needed. There is also an override button to immediately convert the room back to a clinical setting if need be.

**Lower Operational Costs**

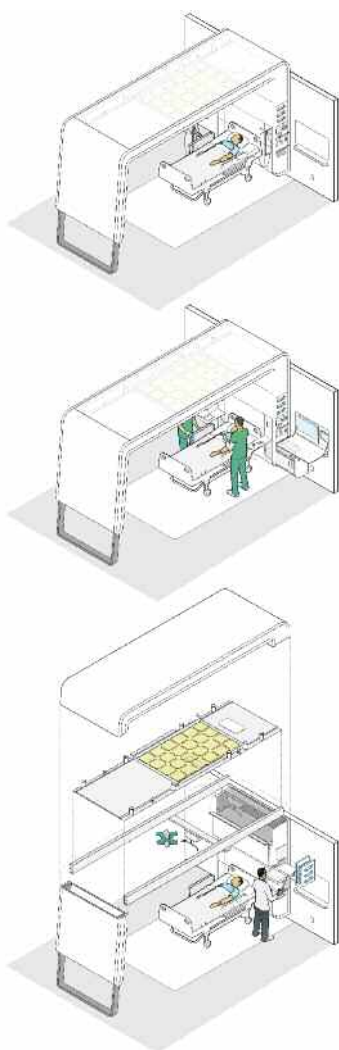
Patient Room 2020 designers claim that their concept can actually lower operational costs in the hospital. The prototype has been designed for ease of maintenance and durability. This includes the use of solid surface material in high traffic areas that can be easily renewed and LED light fixtures provide long lamp life. The Patient Ribbon is designed to provide convenient access to electrical, technology and medical gas components that may require maintenance over the life of the room.

The concept is also sustainable. Materials with no off-gassing are used to eliminate volatile organic compounds (VOCs) and fixtures with lower energy requirements are used if available. Energy usage is reduced via sensors for lights and technologies and naturally based materials which require less embodied energy to produce were used to minimise the concept’s carbon footprint.

Figure 3. The full-scale Patient Room 2020 prototype



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PATIENT RIBBON CONFIGURATIONS

Figure 4. The Patient Ribbon

### Optimising Workflow

Workflow is optimised with an emphasis on the point of care. When used together the Patient Ribbon and the Caregiver Hub create a point of care triangle between patients, charting technology and support infrastructure. The Patient Ribbon features integrated storage for quick access to supplies, such as lift harnesses and headwall accessories, to minimise caregiver time spent seeking materials. The Patient Ribbon includes a deployable waste management compartment embedded in the base of the headwall, complete with sharps container and trash can. The Patient Ribbon also has deployable 'wings' for staging medical supplies directly at the bedside, providing an alternative to discourage misappropriate use of the over-bed table or patient bed.



Figure 5. The Caregiver Hub

The inclusion of technology touch points are another key facet of workflow optimisation. The wall mounted tablet at entry Caregiver Station allows for rapid personal data assessment and tracking while the demountable tablet station at the bedside Caregiver Hub facilitates mobile workflow within the entire space. The touch points also allow for the remote operation of the toilet and shower and the wall mounted articulating all in one computer display facilitates in place bedside charting and assessment with concealed storage in the Caregiver Hub. Finally the concept features an interoperable digital platform with a common operating system for universal control of systems.

### Conclusion

The Patient Room 2020 concept is an inspiring project, which seems to improve patient experience while also optimising caregiver performance. Whether the concept is a viable option in terms of costs remains to be seen but it definitely gives food for thought as a truly patient-centred environment. In the meantime hospitals could endeavour to implement some of the key features of the project to improve safety, patient satisfaction or indeed workflow.

NXT Health has partnered with the Center for Health Design, a non-profit research organisation, to evaluate, test and refine prototype concepts post-construction, with the ultimate goal of adoption in a live hospital setting.

To learn more about the project, please visit: <http://nxthealth.org>

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Managing Editor

### A European Perspective on the Patient Room of the Future

*(E)Hospital* asked regular hospital design contributor and CEO of ArchiMed, Pernille Weiss Terkildsen, for her thoughts on the evolution of the patient room and outlook for the future.

#### How has the patient room changed in design terms over the years?

The patient room is being increasingly viewed as the room of the patient and relatives. It is no longer a place where it is the staff who decides what goes on. But the balance is delicate and it must be as the purpose of the stay is for the patient to get treatment and leave the room as soon as possible.

#### Does the design of the patient room really affect patient outcomes?

Yes, most certainly. The view from the window is a valuable visual vitamin. A dedicated zone for family and visitors supports the social and psychological needs of the patient. A private bathroom secures the patient safety. The interior and decoration calms nerves and supports patient dignity. The view and relation of the patient bed position to the rest of the ward, and especially the staff, is important for patient safety, social interaction and rehabilitation.

#### In your opinion, what will the patient room of the future look like?

It will continue to be more and more multifunctional, but without losing the atmosphere of privacy. The possibility for the patient and relatives to customise the room through easy technologies regarding wall, curtains, light systems etc. will increase. The opportunity for the patient to link from the bed to multiple social networks will also increase.

#### How can design/architecture keep up with/accommodate rapidly changing health technologies?

Flexibility and elasticity is key. The latter is the new 'black' – the physical environment has to be easy adjustable for the staff to do low cost changes almost 'overnight' to meet the needs of the patient and the ever changing possibilities of medico-technologies.

# MONITORING EQUIPMENT TO REDUCE ENERGY CONSUMPTION IN HOSPITALS

## Ongoing Research by the Low Energy Hospital Project

The Low Energy Hospital research project started in 2010 and will end in April 2014. It is funded by the Norwegian Research Council and public and private sector partners. The project goal is to describe the ways in which new Norwegian hospitals could be designed for half the energy consumption compared to the situation in 2010. There are several ongoing Norwegian research projects studying how to make buildings more energy-effective. The Low Energy Hospital project concentrates on hospitals; what are the specific characteristics of hospitals that designers should take into account when aiming for low energy consumption?

One of the many topics studied during the project is the role of user activity and the use of hospital equipment. It has proven to be a difficult task to get an overview of all equipment in a hospital and how this equipment is used. This effort will hopefully fill the gaps in our understanding of how users and their equipment affect the energy balance in hospitals, and make it possible to suggest ways in which designers and equipment suppliers can help optimise energy performance, while maintaining quality in the delivery of health services.

### Why Study Equipment Energy Consumption?

Hospital designers and engineers are typically not aware of the energy demands and usage patterns related to most hospital equipment, with the exception of only a few large imaging units. The majority of hospital-specific equipment is the domain of medical professionals, not engineers or architects. In large and complex hospitals, this lack of awareness leads to problems with sizing the electrical, heating and cooling needs, and missed opportunities for storing and recycling of waste heat. A literature survey in the first phase of the research project showed a large variation in assumptions about energy and power to lighting and equipment, and that many engineers were using standard values similar to other building types.

Analysis of energy consumption data from the country's newest, large university teaching hospital showed that electricity accounted for almost 40% of the whole building energy use. In this case, it was 163 kWh/m<sup>2</sup>. Splitting up the electrical energy in one of the studied hospitals revealed that 35% of this electrical energy went to lighting, 20% went to pumps and fans, and the remainder 45% to all equipment, including 8% exclusively to power ICT equipment in the

large server-rooms. Waste heat from the use of electrical energy must be removed, leading to a large secondary consumption of cooling energy, even in the cold Norwegian climate.

We found relatively few published articles dealing with electrical energy to hospital equipment. Some of our many questions were: how much equipment is present in a hospital, how energy-intensive is it? Is the equipment being used in an energy-efficient way, and to what extent has the equipment been designed to be used in this way?

### Data Collection and Analysis Methods

Questionnaires were distributed to key personnel at the hospitals involved in the study, and their response was very valuable to the project. The main source of energy consumption data came from Akershus university hospital (Ahus) on the outskirts of Oslo. Detailed room-level equipment inventory and usage pattern data came from the country's 500 bed national hospital (Rikshospitalet), now part of Oslo University hospital.

Ideally, we would have preferred to have had both energy data and the equipment details from the same hospital but the older Rikshospitalet did not have detailed energy metering. To compensate and correct for this, we measured actual daytime electrical power levels in many of the treatment areas at Rikshospitalet. Power levels to that hospital's ICT rooms were not available for measurement.

Analysis started with a database of all purchased medical-technical equipment (MTE), autoclaves/decontaminators/ventilated benches (BE, so-called 'building equipment'), and desktop ICT equipment. A total of 18 700 electrical medical technical equipment (MTE) units were registered. ICT desktop and portable units, including screens, were 11 400. In the category of building equipment (BE) there were 46 biolog-

ical safety cabinets, 85 decontaminators and 17 autoclaves.

This database showed the rooms where each item was located, and the room areas were also available. Excluded from the analysis due to lack of data were 'household equipment' like refrigerators and dishwashers. Ultra freezers are also not included. For each equipment type, the average power level in continuous use and in standby (where available) was determined based on the supplier's information. This analysis provided a picture of installed electrical equipment power, but we lacked usage data to calculate detailed energy consumption. Due to the size and complexity of a large university hospital, it was decided to focus our efforts on the following areas:

- The radiology department;
- Operation 1 with 8 surgical units;
- The ICU for the thorax department, 11 beds including one isolation unit;
- One bed ward, the heart medicine department;
- The laboratory of biomedical chemistry;
- The surgical outpatient and day treatment department.

Questionnaire answers from these departments helped to determine the actual inventory of medical equipment, how it is used and when it is used.

We also measured electrical power to each of these departments during a weekday morning. For the laboratory of biomedical chemistry we registered the use during a week, but these results have not yet been analysed.

### Preliminary Results from Activity Study

The study is not completed; this article describes what we have discovered so far and what answers we hope to have at the end of the day, but is not yet fully analysed. The results relating to equip-

ment usage patterns apply to Rikshospitalet.

Results showed a large variation in the percentage of MTE inventory that were in use at some point during a typical week and weekend. This figure was almost 100% for radiology, operation and the bed ward, but was only 50% for the outpatient unit and for the biomedical laboratory. The database was, for some of the equipment, outdated, so therefore our analysis included only equipment that was actively used in departmental procedures. On a normal weekday, 76% of the equipment at the biomedical laboratory was in use. The percentage for radiology was 52%, for the outpatient clinic it was 25% and for the bed wards only 2%. However, when an equipment item in the bed wards was in fact used, this was around the clock.

Only a small percentage (from 0 to 7%) of the MTE had functionality for automatic power-down after some time of non-use and such equipment was only found in the radiology department. In the biomedical laboratory about 15% of equipment had a standby function; this shows that by far the largest portion of the MTE in a hospital must be turned off manually by the staff.

Testing by one of the partners, a medical equipment supplier themselves, of radiology imaging equipment, showed that peak power use was of short duration, and that standby levels were high but varied a great deal. For MRI it was 40% of peak effect, it was 25% for PET/CT and 10-15% for CT and angiography.

Another interesting result is that close to 40% of the MTE in the biomedical laboratory are said to require full power 24 hours 7 days a week, with long periods when no personnel or patients are present. Some equipment in radiology may be turned off on weekends, but due to long start-up time the users choose to keep the equipment powered up throughout the week. Of the MTE not running continuously (24/7) in the biomedical laboratory close to 40% is running only in daytime, while 10% is running evenings and 10% is running during the night.

With the exception of the laboratory area, the results show a general pattern of very low activity during the nights and weekends. The activity in the weekends is very low, only 2-3% usage in daytime. The activity profile for the radiology department showed that 94% of the laboratory area is active during daytime, while 20-25% is in use during evenings and nights. In the weekends close to 40% is active in daytime, 25% in the evening and almost no activity during the night. The bed wards are either in full use, or zero usage, while the outpatient clinic starts about 9 AM and closes down around 3 PM. The ICU runs continuously. Around 70% of the eight

surgeries are in activity day and evenings while 20% are active during the night.

### Preliminary Results from Power Measurement

Power measurements from a weekday for a time period around 10AM showed that, in these areas, lighting consumes only 20% of the momentary power to all equipment, excluding pumps and fans. When large imaging equipment is excluded, then the percentage for lighting is 30%. Large imaging equipment in this intensive area accounted for 28% of the total power.

Logging of power measurement in the laboratory area over a period of one typical week showed a relatively high baseload of about 70% of the peak load. This high baseload supports the result from the activity questionnaire for this area, with 40% of all equipment at continuous full power. The peak loads occurred only during 6-hour intervals and only on weekdays. Another interesting observation is that the baseload remained the same throughout the entire weekend, with no change from baseload during the week.

### Future Work on Data Collection and Analysis

We are still working on the analysis that connects usage data from the questionnaires with the supplier's power information for each equipment type. There is still more critical data to collect; we hope to collect energy consumption data on biological safety cabinets, autoclaves and decontaminators from the technical division's central building control system (BCS). Other data from the BCS will also allow us to calculate fan and pump electricity consumption by hospital area, thus completing a detailed picture of all electrical consumption by hospital area.

The power measurements have yet to be analysed to show energy intensity per square metre of floor space. This will allow us to generalise about which ICT units use most electrical power. Presentation of final results in form of tables and graphs is also planned.

### Recommendations for Hospital Designers and Equipment Suppliers

In an earlier scientific paper of this research programme it was described how changing energy delivery systems to an "on-demand" model could dramatically reduce energy consumption

in hospitals. This design applies mainly to ventilation energies (electrical and thermal), but our results suggest that it has theoretical potential also in the area of hospital equipment. Putting this into practice, however, will require suppliers to build in functions which allow their equipment to safely enter a low-power standby mode and to power up quickly when needed. Automatic power-down functions need to be equipment-specific; for example, if a piece of lab equipment has no sample loaded, then it should go into standby after some minutes. Many of these powersaving functions are now incorporated into other portable IT devices such as smartphones. Most hospital equipment with display screens should at least have functions which turn off the screen after 10-20 minutes without user input. For equipment types such as patient monitors this may not be desirable; in such cases the screen should at least have adaptive backlighting and go into low-light mode.

Suppliers can also reduce overall power consumption by choosing low power CPUs and screens in their more advanced devices. High power equipment such as autoclaves should have automatic monitoring at the plug level, so that technical staff can receive warnings when such equipment has exceeded a predetermined run time and can investigate. All of these strategies can be complemented with staff energy awareness programmes and good routines at the end of shifts for shutting off unnecessary equipment.

Our planned report on equipment and energy consumption will give a profile of the actual usage patterns going on inside a hospital. This will provide new knowledge that can be used by hospital planners, design engineers and those responsible for buying equipment for the hospital. This information will include guidelines for designers and suppliers to help achieve the low energy hospital in the near future.

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# HEALTHCARE IN ITALY

## The National Health Service (NHS)

By Karl Kob, Gianfranco Finzi, Ugo Luigi Aparo

Article 32 of the 1946 Italian Constitution states that health, and healthcare, is a fundamental right of the individual, a primary collective interest, and guarantees free access to medical care to citizens. For the fulfillment of this right and duty enshrined in the Constitution, citizens and stakeholders asked the Italian Parliament to create a uniform health service throughout the country, with equity of access to healthcare for all citizens without exception.

### Statistics.

Source: www.who.int

Total population (2012):	<b>60,885,000</b>
Gross national income per capita (PPP international \$, 2012):	<b>32,920</b>
Life expectancy at birth m/f (years, 2011):	<b>80/85</b>
Probability of dying under five (per 1 000 live births, 2012):	<b>4</b>
Probability of dying between 15 and 60 years m/f (per 1 000 population, 2011):	<b>73/40</b>
Total expenditure on health per capita (Intl \$, 2011):	<b>3,130</b>
Total expenditure on health as % of GDP (2011):	<b>9.5</b>

### Local Health Units

After more than 30 years of debate at various levels, in 1978 the Italian Parliament finally approved the First Health Reform, entitled "Establishment of the National Health Service." This reform, based on the Beveridge model, created at the municipal level the Local Health Operating Units named USL (Unità Sanitarie Locali).

The USLs cover defined geographical areas within which all health interventions are provided under one management structure, namely

implementation of the First Healthcare Reform, the 19 regions and two autonomous provinces of the Italian state established, under their own laws, a network of 673 USL, divided into health districts; each one with approximately 10,000-15,000 inhabitants.

### Reorganisation

Financing of healthcare in Italy occurs through the National Health Fund, which is allocated annually according to a set of parameters (number of inhabitants, number of elderly persons, etc.). In the years following the First Reform, several problems emerged, largely due to the inability of the municipalities to successfully manage healthcare services. People talked about "confusion", and the media filled pages on "a low performing health system."

In 1992/1993 a Second Health Reform was approved, entitled "Reorganisation of the discipline in the health field." This legislation established the transformation of the Local Health Units (USL) into Territorial Healthcare Authorities (ASL - Aziende Sanitarie Locali), with legal enforcement powers. ASLs are operative structures of regions/autonomous provinces and are headed by a General Director, assisted by a Med-

ed in broader Health Districts, accounting for approximately 50,000-60,000 inhabitants and over;

- 940 small and medium-sized hospitals remain ASL presidia;
- 96 large hospitals become autonomous hospital authorities;
- Each ASL is divided into three organisational units: prevention (budget not less than 5%), community care (budget not less than 48%), and hospital care (budget not more than 47%).

### Rationalisation

In 1999, following the ASLs' persistent inability to contain healthcare spending, the Third Healthcare Reform "Rules for the rationalisation of the National Health Service" was approved. This reform confirmed the already existing directional structure: General Director, assisted by the Medical Director and Administrative Manager, and included the following changes:

- Territorial Healthcare and Hospital Health Authorities, in addition to possessing legal powers, have corporate autonomy. Therefore, the responsibility of the General Director includes the establishment of the organisation, and responsibilities, of the different areas and their roles on the basis of a private act approved by the Region /Autonomous Province;
- Territorial Healthcare Authorities and Hospital Authorities must respect budget goals, previously agreed with the Region/Autonomous Province and can not have open deficits;
- A Strategic Direction Committee and a Technical and Advisory board were put in place to support the General Director in planning and organisation.

In the years following the First Reform, several problems emerged, largely due to the inability of the municipalities to successfully manage healthcare services

the Chairman and Management Committee. They cover prevention, diagnosis, treatment, rehabilitation and forensic medicine, both at a local level and/or at the hospital level. The USL do not have legal enforcement powers. In the

ical Director, and an Administrative Manager.

The main organisational changes due to the Second Healthcare Reform were:

- The transition from 673 Local Health Units to 228 Health Authorities (ASL), articulat-

Since 1999, numerous legislative measures have been adopted with the aim of containing health costs, rather than for the improvement

of healthcare itself. A recent one requires that Regions and Autonomous Provinces must either close or convert small acute care hospitals, in order to bring the total number of hospital beds for acute cases to 3 for 1,000 inhabitants for rehabilitation, and to 7 for 10,000 inhabitants for the post acute phase.

The resources retrieved from hospitals, as a result of hospital bed reduction, may be diverted to preventive services, and especially

to primary care services. However, many experts have expressed concern about the future sustainability of the current health system and they strongly recommend new reforms.

The National Association of Hospital Medical Directors (ANMDO), an association that represents medical management for both scientific and trade union issues plays an important advisory role with regard to the reform of the Italian healthcare system.

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Scientific Secretary

ANMDO - National Association of Hospitals Medical Directors

## THE ITALIAN ASSOCIATION OF HOSPITAL MEDICAL DIRECTORS (ANMDO)

The Italian National Association of Hospital Medical Directors (ANMDO) was founded in 1947 by a group of Medical Directors following a concept presented by Prof. Foltz, Medical Director in Torino.

The mission of the Association included:

1. To contribute to improvement of the organisation of the hospital;
2. To improve specialisation courses in order to ensure the technical and professional training of doctors who wish to carry out management functions;
3. To organise specific cultural events addressed to all hospital doctors;
4. To develop a platform for exchange and close consultation between professionals who work together to provide hospital care and fulfil their missions;
5. To improve and protect the ethical and economic issues related to management activities; and
6. To improve the dialogue with foreign hospital associations, and to join international organisations with similar goals.

In parallel, the official journal of the association "L'Ospedale" is published. The goal of the journal is to share and inform on the common and special interests of all its members, especially in terms of hospital hygiene and hospital management.

Under the guidance of Prof. Foltz, President of the association from 1947 to 1967, ANMDO defined the role of Hospital Medical Directors, raising the cultural prestige of the members of the association and improving the functions of the hospital medical directors transposed in 1968 in the Italian National Reform of Hospitals (Mariotti law).

Over the years ANMDO adapted its internal organisation to the numerous reforms introduced into the Italian healthcare system that called for management changes with important consequences for the medical hospital director activities. In 1978 the Italian National Health Service was created based on the idea that the health protection of all Italian people is guaranteed by public institutions. Key facets are solidarity, universality and equity. In 1992 and 1993 a new Italian National Reform of the Healthcare system entrusted to the different Regions the responsibility of healthcare delivery and introduced the concept of public health enterprises to be managed as private enterprises. ANMDO has taken account of these changes and adapted its statutes and mission accordingly. ANMDO includes a National President, the National Board where the different Regions are represented, a National Scientific Secretary and a National Union Secretary.

Since 2003 Prof. Gianfranco Finzi has been National President of ANMDO.

The current mission of ANMDO is:

1. To improve the role of hospital medical directors;
2. To improve the training of association members in managerial, legal and economic areas and in hospital hygiene and hospital techniques;
3. To develop a short term and long term strategy for the hospital sector and a platform for exchange and close consultation between the ANMDO members with the objective of coming to agreement on the major issues in the public and private sector;

4. To conduct negotiations on behalf of its members with national and regional institutions and to mediate between its members and the public authorities and social institutions;
5. To work together with its members to promote scientific and technical progress and innovation;
6. To contribute to ensuring the sustainability of the national health service;
7. To improve quality and safety in healthcare; and
8. To organise and develop relationships with foreign hospital associations and to join international organisations with similar goals.

In 2010 ANMDO joined the European Association of Hospital Managers (EAHM). This has opened up new opportunities for the association to interact with European hospital managers sharing different experiences and information.

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##### A. Scarmozzino

Piemonte Regional President

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##### UL Aparo

Scientific Secretary

ANMDO – National Association of Hospitals Medical Directors

# POLITICS, ECONOMICS AND TECHNOLOGY IN HEALTHCARE

## ANMDO Scientific Activity Report 2013

The National Congress is the main scientific event of the Italian National Association of Hospital Medical Directors. Last year the 39th ANMDO national congress was held on September 25 to 27 in Rome. The theme was "Politics, Economics and Technology: Healthcare for what?" The event was attended by about 450 people, including medical doctors and other professionals in the healthcare sector.

The theme of the congress was inspired by the period of great changes that we are cur-

rently experiencing in Italy and in many western industrialised countries. It is a difficult time with a lot of focus on public spending and spending reviews. The formal definition of a "spending review" is as follows: "a process intended to improve the efficiency and effectiveness of the state apparatus in the management of public expenditure, through systematic analysis and evaluation of organisational structures, decision-making procedures and implementation of individual acts

within programmes". Some interpretations of the term spending review could come to the conclusion that healthcare is a huge drain on national finance and therefore justify indiscriminate cuts. Italy is heading in that direction and it goes without saying that ANMDO does not agree at all with this approach.

Healthcare is an essential competence and component of modern social systems. It is planned by political decision and experiences economic and technological develop-

ments. Healthcare is not a financial black hole. On the contrary, it plays an essential role in sustaining economic growth. However, it is clearly necessary to rethink the current methods of management. Hospitals and healthcare must evolve to go hand in hand with scientific progress.

We have witnessed over the centuries the transformation of management methods and the continual emergence of new management tools. Until not long ago, there was time to learn how to make the best use of them. Today things have changed. We must act in real time. We need to match their evolution in real time, looking into professional fields other than our own. We have to check if they can be used to advantage in the healthcare domain.

ANMDO, fostering the continuous improvement of the cultural heritage of the Italian Hospital Medical Directors, promotes the acquisition of innovative skills and competences. Therefore, ANMDO urges its members to never take anything for granted, and to explore, without hesitation, new uncharted territories. It may be risky but there is also great potential.

With the intent to outline the existing framework in which healthcare organisations operate, a PEST analysis was performed. This was done in order to highlight the most relevant variables and factors that have to be taken into consideration in the decision-making processes, strategic planning, and operational decisions. The same set of variables and factors can be used to sketch possible future scenarios and identify the main discontinuities that will challenge hospital medical directors and those in managerial positions in the healthcare sector.

The goal is to add effective new tools to the already well-equipped management toolbox, which healthcare players should be aware of and use. To reach this result, ANMDO believes that it is crucial to enter into a dialogue with directors from hospitals across Europe.

**Politics, Economics and Technology and European Healthcare**

One session of congress was dedicated to a discussion on "Politics, Economics and Technology in European Healthcare" in which representatives of the European Association of Hospital Managers (EAHM) participated. The session was co-moderated by the ANMDO Scientific Secretary, Prof. Ugo Luigi Aparo and by the ANMDO Secretary General Prof. Karl Kob. The panel included Gerry O'Dwyer (Ireland), Frederic Boiron (France), Danielle Rossi-Turk (Belgium), Juraj Gemes (Slovakia), Mieczyslaw Pasowicz (Poland) and the ANMDO National

## Healthcare is not a financial black hole. On the contrary, it plays an essential role in sustaining economic growth

ments. Healthcare is not a financial black hole. On the contrary, it plays an essential role in sustaining economic growth. However, it is clearly necessary to rethink the current methods of management. Hospitals and healthcare must evolve to go hand in hand with scientific progress.

We have witnessed over the centuries the transformation of management methods and the continual emergence of new management tools. Until not long ago, there was time to learn



**Photo.** Politics, Economics and Technology in European Healthcare panel discussion in Rome



Vice President, Prof. Gabriele Pelissero.

The session proved to be very inspiring, and made the point that almost all European countries are struggling with similar problems. European countries can act together to find new solutions, to provide European citizens with equitable, accessible, top-quality health-care systems.

ANMDO is currently working on defining the final details of the scientific programme of the 2014 congress. ANMDO's 40th national congress will take place in Naples on October 21 and 22, and its title is "Rethinking

Health: Strategic Role and Responsibilities of the Health Departments". It will focus on less for more: less resources for more, better outcome, to obtain the best care at lower costs.

The congress will identify the key elements needed to design and implement an innovative strategy that takes into account the depletion in resources and allows for the definition of a totally patient-centred healthcare system, organised on the basis of his/her needs. ANMDO is confident that EAHM, already engaged in the development of IMPO,

a new management tool, will bring a great contribution to the 40th ANMDO national Congress, emphasising the key role that Europe, as an integrated system, plays.

#### Authors:

**Ugo Luigi Aparo**

Scientific Secretary

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President

ANMDO – National Association of Hospital Medical Directors

## MANAGEMENT

### Continued from page 18

and reinforces the concept of "one" team.

Team members are encouraged to look for ways to continually improve services. Every quarter, there is a team roundtable that includes the seven areas that work in the ED section of the pavilion. During these meetings, current patient perception scores or other performance improvement initiatives are discussed.

A unit based council (UBC) was developed to help the team address issues and implement improvements. The UBC is made up of team members from all seven areas. During the roundtable meeting, the last 30–45 minutes is led by the UBC and is used to promote communication and process improvement across all areas of the team.

### Results

The facility has been open for a little over a year and over 350 interviews have been conducted. There are still some vacancies to fill, but the team is okay with that. The team is phenomenal and willing to fill in the gaps until the right people are found. So far, there have been well over 16,000 ED patients seen and over 13,000 imaging studies have been performed. There is an amazing sense of ownership across the team, as members know how important their roles are to other areas in the team. Because the roles are very different than what is typical to a hospital, there was a period of adjustment for team members to acclimate to the new model and build trust with each other.

Patient perception scores are managed by Professional Research Consultants, Inc. For 2012,

the outpatient imaging quality of care was in the 96th percentile and likelihood of recommendation was in the 96th percentile. ED quality of care was in the 100th percentile and likelihood of recommendation was in the 99th percentile. Recently, CMC-Waxhaw was notified it will receive the PRC Top Performer Award for being the top performer in the national PRC ED database.

Employees are surveyed annually on employee satisfaction. The team was ranked as a Tier 1 by Morehead Associates, which is the highest tier attainable. The greatest strengths shown in the survey were teamwork or how the team members relate to each other and customer service. In the era of healthcare reform, all positions must be as cross-functional and efficient as possible. The staffing model is utilised at our facility is being looked at as a model for future centres.

### Conclusion

Merriam-Webster defines culture as the set of shared attitudes, values, goals, and practices that characterises an institution or organisation. For many, culture is influenced by upbringing, education, and often past experiences. Leaders are responsible for creating the vision and maintaining the culture that lives in their respective departments.

Whether hiring one team member, managing an existing team, or building an entirely new team of people, the concepts and models that were used to build the culture at this centre can be applied. Behavioural and peer interviewing

are essential to establishing the desired culture from the very first interaction with candidates. To be innovative and truly improve, performance improvement must be owned by the team, not just the leader. Team members need clear expectations set for them from the moment they are hired and, more importantly, leaders must hold team members accountable for these expectations.

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Heinz Kölking

## FAIRE FACE À NOS DÉFIS

Les hôpitaux en Europe font face à des défis considérables. Chaque pays est confronté au même problème: comment assurer la qualité et l'efficacité des soins malgré des conditions souvent extrêmement difficiles.

La crise économique et financière est loin d'être finie et ses effets se font bien sentir. L'évolution démographique est un facteur du changement annoncé pour nos structures et la gestion dans l'hôpital mais aussi dans l'ensemble du système de santé. S'adapter et s'organiser avec le changement, requièrent des qualités de gestionnaire qualifié mais aussi des qualités de leader.

Ces liens et connexions ont servi de base pour le choix du thème de notre récente AEDH au Luxembourg. Une variété de rapports et contributions au congrès en provenance des hôpitaux de nos pays ont décrit les défis et problèmes auxquels nous faisons face, et présentent certaines solutions possibles. C'était une scène captivante: les collègues venant de toute l'Europe ont discuté de stratégies réussies et de plans de gestions efficaces. Certains exemples de réussite présentés au congrès sont repris dans cette édition.

Notre association a travaillé intensivement sur le modèle IMPO, lancé officiellement au Luxembourg. Il sert à définir un outil de travail commun. Il devrait être vu comme un système permettant de définir les caractéristiques et éléments de gestion d'un hôpital et les lier aux conditions existantes, aux structures, processus et surtout aux résultats obtenus.

Le but du modèle IMPO est de créer un système de simplification avec des éléments standardisés. Cela implique visions, missions, buts, principes de base, instruments and outils nécessaires pour une gestion efficace de l'hôpital et ses bons résultats. En résumé, il s'agit de développer des lignes directrices dans un cadre donné et de contrôler les processus pour obtenir de bons résultats à la fois pour les patients et pour le service public.

Les hôpitaux tiennent à un système de santé de haute qualité y compris les soins d'urgence. Cela implique des progrès médicaux ainsi que de nombreux emplois, raisons pour lesquelles ils sont un

facteur important de la puissance et du développement économique.

Le prochain congrès européen de l'AEDH se penchera sur ces deux aspects avec le thème: « L'économie dans le domaine de la santé— notre responsabilité auprès des gens ». C'est le 25<sup>ème</sup> congrès de l'association, 25 ans après la fin de la division en Europe. Vous y êtes cordialement invités du 11 au 13 septembre 2014 à Berlin.

Pour de plus amples informations veuillez vous rendre sur le site web: [www.eahm-berlin2014.de](http://www.eahm-berlin2014.de)

**Heinz Kolkling**

*President 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.

## LA 43<sup>E</sup> ASSEMBLÉE GÉNÉRALE DE L'AEDH LE 28 NOVEMBRE 2013 AU LUXEMBOURG

La 43<sup>ème</sup> Assemblée générale de l'AEDH a eu lieu dans la matinée de la première journée du congrès de Luxembourg. Le président Heinz Kölling a accueilli les délégations et a débuté par le rapport des activités 2012-2013.



ASSOCIATION EUROPÉENNE DES DIRECTEURS D'HÔPITAUX  
EUROPÄISCHE VEREINIGUNG DER KRANKENHAUSDIREKTOREN  
EUROPEAN ASSOCIATION OF HOSPITAL MANAGERS

En évoquant les activités de l'an passé, le président souligna l'importance de la directive européenne relative aux soins de santé transfrontaliers et le succès du séminaire conjoint qui s'est tenu à Düsseldorf. Une fois de plus l'événement commun a attiré beaucoup de participants qui en ont profité pour partager leur expérience sur sa mise en oeuvre.

2012-2013 fut une année chargée avec l'organisation du congrès. Luxembourg 2013 a été préparé dans un timing extrêmement étroit en grande partie grâce à Marc Hastert et son équipe. Les préparatifs de Berlin 2014 sont déjà en court. La thématique du congrès de Luxembourg "Gestion hospitalière en temps de crise" fut d'actualité et sera aussi un des grands axes du congrès de Berlin.

Par ailleurs, au court de l'année écoulée, des membres de l'association se sont rendus en Italie pour la conférence annuelle AMNDO, à Krakow en Pologne pour le 25<sup>ème</sup> anniversaire de l'association polonaise des directeurs d'hôpitaux ainsi qu'à Belfast en Irlande du Nord afin de rendre visite à IHM NI,

notre nouveau membre.

Ces visites ont souligné les nombreuses similitudes en termes de situations et de défis auxquels font face les hôpitaux et systèmes de santé et le rôle essentiel que joue l'AEDH en Europe.

Mr Kölling conclut son rapport en rappelant aux membres que l'accent doit être mis sur l'Europe. Actuellement il y a plus de scepticisme que d'optimisme mais l'Europe a un grand rôle à jouer dans le domaine de la santé et du bien-être. C'est pourquoi il est important que l'association construise une plateforme solide. C'est l'un des objectifs de l'AEDH et il ne doit pas être oublié.

Le Secrétaire général Willy Heuschen a présenté les comptes de l'année 2012 avec de bonnes et mauvaises nouvelles. Il rapporte qu'en dépit d'une diminution des revenus les comptes sont à l'équilibre avec un léger surplus.

Mr Heuschen expliqua qu'afin d'équilibrer les comptes, les voyages et réceptions ont été limités.

Malgré ces restrictions, le programme de l'AEDH a été mené avec succès. Mr Heuschen a remercié le conseil, le comité exécutif et les sous-comités pour leurs contributions lors de l'année écoulée. Il a ajouté que réduire les dépenses peut être une bonne solution à court terme, mais à moyen et long terme d'autres ressources sont nécessaires.

Les comptes 2012 ont été vérifiés et approuvés donc l'assemblée générale les a acceptés et est passée au budget et plan économique proposés pour 2014.

Mr Heuschen estime que 2014 et les années à venir vont être de véritables défis et si on veut que l'association ait un rôle important en Europe, il faudra en faire plus. Ceci implique une augmentation de nos activités et de nos

ressources humaines. Pour cette raison le comité exécutif a accepté d'augmenter de 5% les frais d'adhésion pour 2014. L'assemblée générale a voté et approuvé cette augmentation. Heuschen a expliqué qu'il était confiant sur le fait que les revenus vont augmenter grâce à nos congrès; Luxembourg fut un succès et Berlin le sera également. Les sponsors industriels vont aussi jouer un rôle essentiel.

Une nouvelle dépense budgétaire est prévue avec le fond de solidarité grec en pour soutenir nos collègues grecs après l'annulation du congrès mais aussi pour leur permettre de rester actif sur le plan national et européen. Le fond sera en place pour une durée de trois ans et le Secrétaire général grec en a profité pour remercier les membres de leurs soutiens.

Deux nouveaux membres ont été officiellement rejoints l'AEDH. L'Institute of Health Management of Northern Ireland Division (HMI NI) a été suggéré et accepté comme membre. Mr Kölling et Mr Heuschen se sont rendus à Belfast l'année dernière et croient au succès de ce nouveau partenariat.

Louise McMahon, présidente de HMI NI a tenu à remercier l'AEDH pour le soutien apporté à HMI NI, et espère que son association sera aussi bénéfique pour l'AEDH.

Aussi, un nouveau membre-associé a rejoint l'AEDH. L'Akademie Leipzig Germany est un institut agissant au nom du Deutscher Städtetag (l'association des villes et communes allemandes). Leur travail remarquable dans l'organisation de formations en gestion hospitalière garantit un partenariat fructueux.

► Interview : Pr Schubert

Le professeur Hans-Joachim Schubert, directeur général du centre hospitalier du nord et président du comité scientifique luxembourgeois, a joué un rôle clé dans l'élaboration du programme du congrès 2013.

Il a aussi avec beaucoup de justesse, résumé les points principaux du congrès dans un discours de clôture. Notre rédactrice Lee Campbell a interviewé le professeur pour en savoir un peu plus sur sa perception des choses.



Pr Schubert a trouvé intéressant de voir que les situations dans plusieurs pays européens sont similaires. C'était une opportunité aussi d'apprendre comment certains pays ont déjà fini les premières grandes étapes de la réorganisation de leur système de santé, leur vision de l'hôpital et de la médecine ainsi que l'énorme potentiel de certaines nouvelles solutions de coopération entre différents acteurs du système de santé.

La flexibilité était une valeur récurrente et Schubert soutient le fait qu'il n'y a pas de solution unique. Faire certains changements demandent du temps et cela doit débiter par la direction.

Avec des ressources de plus en plus limitées, une plus grande concurrence et des patients mieux informés et exigeant, cela nous force à nous concentrer davantage sur le patient avec un système effectif. Vu le changement dans les remboursements et les possibilités croissantes de soigner un patient hors de l'hôpital, sa vision c'est de se concentrer sur le nombre de patients traités avec son indice moyen et non sur le nombre de lits.

► Une pharmacie hospitalière Innovante: Organisations, compétences et imagination.

Le président de l'association européenne des pharmaciens hospitaliers, professeur Roberto Frontini parle des innovations mais aussi du prochain congrès annuel de l'AEHP. Pour Mr Frontini, l'innovation dépend beaucoup de l'environnement qui l'entoure.

Ce qui est innovant dans un pays peut paraître courant dans un autre. L'idée est de prendre chaque étape l'une après l'autre, d'aller toujours de l'avant, et d'être en constante progression.

Le succès de l'innovation dépend beaucoup de l'imagination, des compétences et de l'organisation. Nous avons besoin d'une vision, de bons outils, mais aussi d'une éducation qui permettrait de donner du relief à cette vision.

Mr Frontini s'inquiète des pseudos-innovations sur le marché et affirme que l'industrie doit apporter de nombreuses réponses en termes de données et de coûts. Les récentes innovations en pharmacie ne sont pas seulement des nouvelles technologies telles que les codes-barres. Selon lui, un changement des mentalités et une collaboration plus rigoureuse sont les clés des récentes innovations.

► Des soins fondés sur des données probantes au pilotage des données de la chaîne d'approvisionnement

La gestion des stocks de médicaments et des livraisons des pharmacies hospitalières est une tâche compliquée.

Il peut y avoir des milliers de médicaments répertoriés, ils ont des durées de conservations différentes et les demandes varient constamment. La disponibilité des médicaments est essentielle dans la capacité d'un hôpital à fournir les soins nécessaires aux patients, au bon moment et avec efficacité.

L'enquête à grande échelle menée par l'association américaine des hôpitaux démontre que l'impact d'une mauvaise gestion affecte non seulement les dépenses (dues aux gaspillages et pénuries) mais aussi les soins des patients et l'utilisation des ressources. Les pharmaciens passent en effet souvent trop de temps à répertorier et gérer les livraisons au détriment des patients. Une large source de données est disponible pour clarifier la gestion des stocks de manière plus intelligente. Le défi est de prendre une large quantité de données et de les transformer en information utile pour mieux comprendre et prévoir la demande. Aussi, il est nécessaire d'établir une évaluation de performance de la chaîne d'approvisionnement.

Une analyse de ces données offrira de nouvelles opportunités pour améliorer le contrôle des coûts, des stocks tout en se focalisant sur la santé du patient.

## ▶ La chambre du patient en 2020

Le projet NXT Santé 2020 est un projet de collaboration qui vise à améliorer le confort des patients et optimiser les performances des soignants. Ce projet américain répond aux défis les plus courants, en particulier la sécurité, les incompréhensions dans les soins et le travail inefficace.

Un des éléments essentiels de sécurité est l'utilisation de surfaces non poreuses pour améliorer la « propreté » et la fabrication de solutions antimicrobiennes pour réduire l'hépatite auto-immune. Pour sécuriser les trajectoires, des barres d'encrages rectilignes continues du lit à la toilette ou la douche ou des systèmes anti dérapage autour de la douche.

La tablette du lit combine tablette classique pour repas avec de l'autre côté un outil de contrôle de lumière, température, en fonction des préférences du patient. Cette tablette donne aussi accès à de nombreuses applications en télémédecine pour accompagner le patient pendant son hospitalisation et suivre le patient après son départ.

La chambre du patient 2020 améliore ainsi la qualité des soins fournis, réduit les coûts opérationnels et permet d'optimiser l'efficacité du travail.

## ▶ Surveiller les équipements afin de réduire les coûts énergétiques.

Les architectes et les ingénieurs ne connaissent pas les demandes énergétiques et de la manière dont sont utilisées les différents équipements médicaux, à l'exception de quelques larges unités radiologiques. La majorité des équipements hospitaliers sont uniquement du domaine des professionnels de la santé.

Dans les grands hôpitaux souvent complexes, ce manque de connaissance mène à des problèmes de mesure des besoins électriques, de chauffage et de refroidissement et perdent la possibilité de stocker ou recycler la chaleur gaspillée.

Les résultats préliminaires de l'étude indiquent qu'un changement du système de livraison énergétique pour une livraison « sur demande » réduirait considérablement la consommation d'énergie dans les hôpitaux. Les fournisseurs peuvent réduire cette consommation en choisissant des processeurs et des écrans de faibles puissances en provenance de leurs matériels technologiques les plus avancées. Les équipements à haute puissance doivent surveillés de façon automatique comme les stériliseurs à haute pression. De ce fait l'équipe technique peut être alertée lorsque l'équipement a excédé sa durée d'utilisation prédéterminée et peut donc enquêter.

L'ensemble de ces stratégies peut être complété avec des programmes de sensibilisation et de bonnes habitudes à prendre telles que éteindre les équipements non nécessaires en fin de service.

## ▶ Focus : Italie

La caisse primaire maladie italienne a subi de nombreuses réformes. Depuis 1999, de nombreuses mesures législatives ont été prises avec le but de maîtriser les dépenses de santé plutôt que d'améliorer le système. Une récente mesure requiert que les régions et les provinces autonomes doivent soit fermer soit ramener le nombre total de lit à 3 pour 1000 habitants pour les cas les plus graves et à 7 pour 10000 pour les autres.



Les ressources récupérées des hôpitaux, suite à la réduction des lits d'hôpitaux, peuvent être redirigées vers des services de prévention et en particulier pour les services de soins immédiats. Cependant, plusieurs experts ont fait part de leurs inquiétudes concernant la viabilité du système de santé et appellent fortement à de nouvelles réformes.

ANMDO, l'association nationale des directeurs médicaux d'hôpitaux qui représente la gestion médicale à la fois des scientifiques et des syndicats joue un rôle important de consultant par rapport à la réforme du système de santé italien.



Heinz Kölking

## UNSEREN HERAUSFORDERUNGEN ENTGEGENTRETEN

Die Krankenhäuser in Europa sind in der heutigen Zeit erheblich herausgefordert. In allen Ländern geht es darum, unter sehr schwierigen Bedingungen die medizinische und pflegerische Versorgung mit hoher Qualität, hoher Effizienz und Effektivität zu sichern.

Immer noch wirkt die Wirtschafts- und Finanzkrise. Die demografische Entwicklung erfordert ein Umdenken und wandelt unsere Strukturen und Prozesse im Krankenhaus und in der Gesundheitsversorgung. Um diesen Wandel zu bewältigen und zu organisieren bedarf es eines qualifizierten Managements und guter Führung.

Diese Zusammenhänge waren auch bestimmend für die Inhalte unseres Europäischen Kongresses der EVKD in Luxemburg. Die verschiedenen Beiträge auf dem Kongress aus den Krankenhäusern in unseren Ländern haben Herausforderungen und Probleme beschrieben und Lösungsmöglichkeiten aufgezeigt. Eindrucksvoll konnten wir erleben, wie Kolleginnen und Kollegen in Europa erfolgreich strategisches und operatives Management gestalten. Einige Einblicke geben wir in dieser Ausgabe. Die grundlegende Voraussetzung für den Erfolg sind veränderte Strukturen und Prozesse.

Unsere Vereinigung arbeitet seit einigen Monaten intensiv am IMPO-Modell, in Luxemburg wurde es offiziell vorgestellt. Es definiert für das Management einen „roten Faden“ in Form eines Arbeitsinstruments (IMPO: **I**nputs-**M**anagement-**P**rocesses- **O**utcomes). Es ist als ein System zu verstehen, in dem wir die Merkmale und Elemente des Managements für die Krankenhäuser definieren, und zu den Rahmenbedingungen, Strukturen, Prozessen und vor allem zu den erreichten Resultaten (Outcomes) in Bezug setzen. Das IMPO-Modell soll dabei helfen, ein System (Baukasten) mit standardisierten Elementen zu schaffen und Komplexität zu reduzieren. Es beinhaltet all die Dinge, die wirksames und gutes Management erfordert, um das Unternehmen Krankenhaus strategisch und operativ so zu steuern, dass es Erfolg und gute Resultate erzielt. Dazu zählen Visio-

nen, Leitbilder, Ziele, Grundsätze, Instrumente und Werkzeuge. Zusammengefasst geht es darum, im vorgegebenen Rahmen ein umfassendes Regelwerk zu entwickeln und in diesem Regelwerk die Prozesse so zu steuern und zu überprüfen, damit gute Resultate, gemessen am Patienten und am gesellschaftlichen Versorgungsauftrag, erzielt werden.

Krankenhäuser stehen für eine gute Gesundheitsversorgung einschließlich einer entsprechenden Notfallversorgung. Ebenso stehen Krankenhäuser für Medizinischen Fortschritt, für viele Arbeitsplätze und damit auch für Wirtschaftskraft und Wachstum einer Volkswirtschaft. Diese beiden Aspekte der Krankenhäuser in Europa greift der nächste Europäische Kongress der EVKD unter dem Thema: „**Gesundheitswirtschaft – unsere Verantwortung für die Menschen**“ auf. Es ist der 25. Kongress unserer Vereinigung im 25. Jahr nach der Beendigung der Teilung von Europa. Wir laden sie herzlich ein vom **11. bis zum 13. September nach Berlin** zu kommen.

Wir freuen uns darauf! Schauen Sie auf unsere Website: [www.eahm-berlin2014.de](http://www.eahm-berlin2014.de)

**Heinz Kölking**  
Präsident EVKD



Leitartikel in (E)Hospital werden von Führungspersönlichkeiten 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.

## 43. EVKD GENERALVERSAMMLUNG 28. NOVEMBER 2013, LUXEMBURG

Die 43. Generalversammlung der EVKD fand am Morgen des ersten Tages des erfolgreichen Kongresses letztes Jahr in Luxemburg statt. Präsident Heinz Kolking hieß die Delegierten herzlich willkommen und gab mit seinem 2012-2013 Aktivitätsbericht den Startschuss für die Versammlung.



ASSOCIATION EUROPÉENNE DES DIRECTEURS D'HÔPITAUX  
EUROPÄISCHE VEREINIGUNG DER KRANKENHAUSDIREKTOREN  
EUROPEAN ASSOCIATION OF HOSPITAL MANAGERS

Bezüglich der Aktivitäten des letzten Jahres unterstrich der Präsident die Bedeutung der EU-Richtlinie für grenzüberschreitende Gesundheitsversorgung und das erfolgreiche, in Düsseldorf abgehaltene, gemeinsame Seminar. Einmal mehr war die gemeinsame Unternehmung gut besucht und bot den Delegierten eine ausgezeichnete Gelegenheit, sich über ihre Erfahrungen mit der Implementierung der Richtlinie auszutauschen.

2012-2013 war ein arbeitsreiches Jahr für die EVKD, was die Kongressorganisation betraf. Der 2013 Kongress in Luxemburg wurde in einem extrem engen Zeitfenster organisiert, was vor allem Marc Hastert und seinem Team hoch anzurechnen ist. Die Vorbereitungen für Berlin 2014 sind schon angelaufen. Das Luxemburger Kongress-thema, Krankenhausmanagement in Zeiten der Krise' ist in unserer derzeitigen Situation von besonderer Bedeutung und wird daher auch beim Berliner Kongress ein Schwerpunktthema darstellen.

Andere Aktivitäten im Verlauf des Jahres: Die Ratsmitglieder haben Italien im Rahmen der jährlichen AMNDO Konferenz einen Besuch abgestattet, zudem waren sie in Polen zur 25. Jahresfeier der Polnischen Vereinigung der Krankenhausmanager, sowie in Belfast (Nordirland), um mit unserem neue-

sten Mitglied IHM NI Kontakt aufzunehmen. Diese Besuche hoben die vielen Gemeinsamkeiten hervor, etwa in Bezug auf die herausfordernden Situationen, denen sich Krankenhäuser und Gesundheitswesen in ganz Europa gegenübersehen, sowie die bedeutsame Rolle, die die EVKD in Europa spielt.

Heinz Kolking schloss seinen Aktivitätsbericht mit der Aufforderung an die Mitglieder ab, den Fokus auf Europa nicht zu vergessen. Aktuell wird Europa eher mehr abgelehnt als akzeptiert, doch Europa spielt eine große Rolle im Gesundheitswesen, vor allem in Bezug auf die Fürsorge. Es ist daher wichtig, dass die EVKD eine solide Grundlage aufbaut – eines der Ziele der EVKD, das nicht in den Hintergrund geraten darf.

Generalsekretär Willy Heuschen stellte die Geschäftsbücher 2012 vor – mit guten und schlechten Nachrichten. Er berichtete, das trotz Umsatzrückgängen die Bücher ausgeglichen sind und sogar ein geringer Überschuss erwirtschaftet werden konnte. Um die Bücher auszugleichen, erklärte Willy Heuschen weiter, war es erforderlich, Ausgaben in Bezug auf Reise- und Empfangskosten einzuschränken. Trotz dieser Einschränkungen wurde das EVKD Arbeitsprogramm erfolgreich ausgeführt und Willy Heuschen bedankte sich bei den Ratsmitgliedern, dem Führungsausschuss sowie den Unterausschüssen für deren persönliche Beiträge im Verlauf des letzten Jahres. Er fügte hinzu, dass die Senkung der Ausgaben vielleicht eine gute kurzfristige Lösung darstellte, die mittel- bis langfristige Lösung jedoch eine Herausforderung sein würde und mehr Ressourcen erforderlich wären.

Die Geschäftsbücher 2012 sind auf ihre Richtigkeit überprüft und für korrekt befunden worden, sodass die Generalversammlung die Bücher annahm und der Generalsekretär zum vorgeschlagenen Budget- und Wirtschaftsplan 2014 fort-schreiten konnte.

Laut Ansicht von Herrn Heuschen werden sowohl 2014 als auch die darauffolgenden Jahre eine echte Herausforderung darstellen; und wenn es unser Wille ist, die

EVKD zu einem echten Player innerhalb Europas aufzubauen, müssen wir sicher mehr leisten. Dies gilt sowohl für unsere Aktivitäten als auch für die Arbeitskraft. Aus diesem Grund beschloss der Führungsausschuss eine 5%ige Steigerung der Mitgliedsbeiträge für 2014. Die Generalversammlung stimmte dieser Erhöhung zu. Heuschen betonte, er sei zuversichtlich, dass unsere Kongresse zu erhöhten Einnahmen führen würden; Luxemburg konnte als Erfolg verbucht werden, und Berlin wird es ebenso sein. Partnerschaften mit der Industrie spielen ebenfalls eine Schlüsselrolle.

Eine neue Ausgabe im Budget ist der Griechenland Solidaritätsfond, um unsere griechischen Kollegen nach der Kongressab-sage zu unterstützen und sicherzugehen, dass sie auf sowohl nationaler als auch europäischer Ebene weiterhin aktiv sein können. Die Laufzeit des Fonds beträgt drei Jahre, und der Generalsekretär nutzte diese Gelegenheit, um sich bei den Mitgliedern für ihre Unterstützung zu bedanken.

Zwei neue Mitglieder wurden offiziell in die EVKD aufgenommen. Das 'Institute of Health Management Northern Ireland Division' (IHM NI) wurde vorgeschlagen und als Vollmitglied akzeptiert. Heinz Kolking und Willy Heuschen reisten im letzten Jahr nach Belfast und gehen davon aus, dass IHM NI und EVKD einer erfolgreichen Zusammenarbeit entgegensehen. Louise McMahon, Vorsitzende des IHM NI, dankte der EVKD im Namen ihrer Vereinigung und gab ihrer Hoffnung Ausdruck, dass ihre Vereinigung die EVKD unterstützen und fördern würde.

Die EVKD nahm außerdem ein neues außerordentliches Mitglied auf. Die Akademie Leipzig Deutschland ist ein Institut, das im Auftrag des Deutschen Städtetags handelt (Vereinigung Deutscher Städte und Gemeinden). Deren großartige Arbeit in der Organisation von Trainingsprogrammen für Krankenhausmanagement wird eine nutzbringende Partnerschaft mit der EVKD sicherstellen.

### ▶ Interview: Prof. Schubert

Prof. Hans-Joachim Schubert, Generaldirektor des ‚Centre Hospitalier du Nord‘ und Präsident des Luxemburgischen Wissenschaftlichen Komitees, spielte in der Entwicklung des 2013 Kongressprogramms eine Schlüsselrolle. Er fasste auch die Hauptpunkte des Kongresses in seinem Schlusswort äußerst treffend zusammen. Im Interview mit Redaktionsleiterin Lee Campbell ging Prof. Schubert dann noch näher auf seine Erkenntnisse ein.

Schubert fand den Kongress inspirierend, vor allem die Ge-



legenheit, von anderen Ländern in ähnlichen Situationen zu lernen und zu erkennen, welch enormes Potential für innovative Kollaborationen mit anderen Schlüsselspielern im Gesundheitssektor vorhanden ist. Flexibilität war ein immer wiederkehrendes Thema während der Konferenz und auch laut Ansicht von Schubert gibt es keine für alle umsetzbare „Universallösung“. Es bedarf beträchtlicher Zeit und Anstrengung, um eine Organisationskultur zu verändern, und der Manager spielt hierbei eine wichtige Rolle.

Während Krankenhausmanager früher vor allem über die Bettenzahl ihrer Krankenhäuser referierten, betont Schubert nun, dass sich dies zunehmend verändert. Heutzutage konzentrieren sich Manager auf die Anzahl der behandelten Patienten und den durchschnittlichen Fallschwere-Index (Case-Mix Index, CMI). Seine Vision für die Zukunft: Fokus auf die Zahl der behandelten Patienten und auf den durchschnittlichen Patient-Value-Index.

### ▶ Das Patientenzimmer 2020 Von Lee Campbell

Ziel des Designprojekts ‚NXT Health Patient Room 2020‘ ist die Verbesserung der Patientenerfahrung und Optimierung der Leistung der Betreuungsperson. Dieses US-Amerikanische Projekt mit 40 Partnern spricht einige der vielen Herausforderungen an, der sich medizinische Fachkräfte derzeit gegenübersehen, wie z.B. unsicheres (Arbeits) Umfeld, Missverständnisse bezüglich der Betreuung sowie ineffiziente Arbeitsvorgänge. Es geht um fünf Schlüsselkomponenten: Patienten-Armband, Patientenbegleiter, offenes Badezimmer, Pflegestation und Pflegezentrum.

Zu den wichtigsten Design-Elementen zählen der Einsatz nicht-poröser Oberflächen zur Verbesserung der Reinigungsfähigkeit, sowie antimikrobielle Lösungen zur Verminderung nosokomialer Infektionen. Direkte Wege und Geländer zum Anhalten sind hilfreich in der Sturzprävention, und ein Kontrollzentrum direkt am Patientenbett erhöht Komfort und Kontrolle. Bezüglich Leistung der Betreuungsperson kann die Sicherheit durch Integration von ‚Smart Awareness Systems‘ verbessert werden; der Einsatz haltbarer Substanzen sowie nachhaltiges Design können wiederum bei der Senkung der Betriebskosten helfen. Der Arbeitsablauf wird zudem durch einen Fokus auf den ‚Point of Care‘ mittels Patienten-Armband und damit assoziierter Technologie optimiert.

### ▶ Der innovative Krankenhauspharmazeut: Vorstellungskraft, Fertigkeiten und Organisation Von Roberto Frontini

Der Präsident der Europäischen Vereinigung der Krankenhauspharmazeuten, Prof. Roberto Frontini, sprach mit (E)Hospital über die Innovation der Krankenhausapotheke und den demnächst stattfindenden Kongress. Laut Ansicht von Frontini steht Innovation in Beziehung zur Umwelt; was in einem Land innovativ ist, könnte in einem anderen Land bereits Standard sein. Es gilt, immer den nächsten Schritt zu setzen, vorwärts zu blicken und sich konstant zu verbessern. Die erfolgreiche Innovation ist abhängig von Vorstellungskraft, Fertigkeiten und Organisation. Wir brauchen Vision, die richtigen Werkzeuge und Weiterbildung, um diese Vision umzusetzen, und eine solide Organisation, um sicherzustellen, dass dann auch alles funktioniert.

Frontini warnt vor pseudo-innovativen Arzneimitteln am Markt und glaubt, dass die Industrie bezüglich Daten und Kosten einige Antworten schuldig geblieben ist. Neue Innovationen der Pharmazeutischen Industrie umfassen nicht nur neue Technologien wie etwa Barcoding. Als rezente wichtige Innovationen zitiert Frontini eine Änderung der Mentalität hin zu einem mehr patientenorientierten Ausblick und das Auftreten gemeinschaftlicher Betreuung.

Alle Bilder und Videos finden Sie auf unserer Website [www.myhospital.eu](http://www.myhospital.eu)



### ► Von der Evidenz-basierten Medizin zu datenge-steuerten Lieferketten im Krankenhaus

Von Anita R. Vila-Parrish, Julie S. Ivy

Die Inventur von Arzneimitteln und Vorräten innerhalb der Krankenhausapotheke ist eine komplexe Aufgabe. Tausende von Arzneimitteln sind zu inventarisieren, die Wirkstoffe haben unterschiedliche Haltbarkeitszeiten und die Nachfrage ändert sich häufig. Die Verfügbarkeit von Arzneimitteln und Vorräten ist ein entscheidender Faktor für die Fähigkeit eines Krankenhauses, zeitnahe, effektive und sichere Patienten-outcomes zu gewährleisten. Laut einer großen Untersuchung im Jahr 2011 der American Hospital Association reicht der Einfluss eines Missmanagements (aufgrund von Verschwendung oder Mangel) hier weit über Gesundheitskosten hinaus und beeinträchtigt auch die Patientenversorgung und den Ressourcengebrauch. Zahlreiche Datenfundgruben sind verfügbar, um intelligentere Inventur-Managementstrategien zu gewährleisten. Die Herausforderung besteht darin, große Quantitäten von Transaktionsdaten in nützliche Information zu überführen, um Bedarfsmuster und -verhalten zu verstehen und vorauszusagen. Die Analyse dieser Daten zeigt Möglichkeiten einer verbesserten Inventur-Kostenkontrolle auf und stellt gleichzeitig sicher, dass der Fokus weiterhin auf der Patientenbetreuung liegt.

### ► Geräteüberwachung zur Senkung des Energieverbrauchs in Krankenhäusern

Von Tarald Rohde, Robert Martinez

Krankenhausdesigner und Bauingenieure sind sich typischerweise nicht des Energiebedarfs und Gebrauchsmusters in Bezug auf die meisten Krankenhausgeräte bewusst. Die Mehrheit krankenhausspezifischer Geräte ist die Domäne der medizinischen Fachkräfte, nicht der Bauingenieure oder Architekten. In großen und komplexen Krankenhäusern führt dieses mangelnde Bewusstsein zu Problemen beim Einstufen des Bedarfs für Elektrizität, Heizung und Kühlsysteme, und zu verpassten Gelegenheiten, überschüssige Wärme zu speichern und zu recyceln.

Die vorläufigen Ergebnisse der Studie weisen darauf hin, dass der Wechsel von Energieliefersystemen auf ein ‚on demand‘-Modell zu einer drastischen Senkung des Energieverbrauchs führen könnte, etwa durch Auswahl niedrigenergetischer CPUs und modernerer Bildschirme. Hochleistungsgeräte wie Autoklave sollten eine automatische Überwachung auf Steckerebene haben, so dass das technische Personal gewarnt wird, wenn ein solches Gerät eine vorbestimmte Laufzeit überschritten hat und sie nachfolgend weitere Untersuchungen einleiten können. Alle diese Strategien können mit Mitarbeiterprogrammen zum Thema Energiebewusstsein sowie guten Routinen bei Schichtende (Ausschalten unnötiger Geräte) kombiniert werden.

### ► Fokus: Italien

Der staatliche Gesundheitsdienst in Italien hat mittlerweile bereits einige Reformphasen hinter sich. Seit 1999 wurde eine Vielzahl von Legislativmaßnahmen verabschiedet, mit dem Ziel, die Gesundheitskosten zu beherrschen – weniger Fokus lag auf der Verbesserung der Gesundheitsversorgung selbst. Die jüngste Maßnahme stellt fest, dass Regionen und Autonome Provinzen kleine Akutspitäler entweder schließen oder umbauen müssen,



um die Gesamtzahl der Krankenhausakutbetten auf 3 pro 1.000 Einwohner für die Rehabilitation zu bringen, beziehungsweise auf 7 pro 10.000 Einwohner für die Postakutphase.

Die von Krankenhäusern aufgrund der Verminderung der Bettenzahl abgezweigten Ressourcen können auf Präventivdienste umgeleitet werden, vor allem auf Versorgungseinrichtungen in der Allgemeinmedizin. Jedoch haben viele Experten ihrer Sorge bezüglich der zukünftigen Nachhaltigkeit des derzeitigen Gesundheitssystems Ausdruck verliehen; sie empfehlen dringend neue Reformen. Die nationale Vereinigung Ärztlicher Krankenhausdirektoren (ANMDO), eine Vereinigung, die das medizinische Management für sowohl wissenschaftliche als auch gewerkschaftliche Belange vertritt, hält eine wichtige Beraterfunktion bezüglich der Reform der italienischen Gesundheitssysteme inne.



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