

Hospital



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FLEXIBLE CONSTRUCTION

WISDOM AT WORK

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HOW MUCH “PRIVATE CARE” CAN HEALTHCARE TOLERATE?

Shortly after the closing of the European Commission's consultation on the EU Health programme 2007-2013, Commissioner M. Kyprianou announced in the press that he would propose a Directive aiming to standardise cross-border healthcare services by the end of 2007. This would entail defining when and how a citizen can receive treatment in a foreign country, and which social security system should pay for this care. The Commissioner emphasised that he does not want to liberate the healthcare market but that competition between healthcare providers would be unavoidable in terms of the Single Market principle.

No one is currently preventing service providers across Europe from offering their services, apart from the legal requirements of each country. Hence this European topic will be discussed at a national level.

Some countries (such as Denmark, France and Portugal) have a hospital system that is controlled by the State, in which case political authorities are solely or predominantly responsible. In other countries, the responsibilities are split between the official bodies and private, non-profit it suppliers.

In Germany, for example, the latter are often foundations or registered associations, which use any profits anyhow for the financing of further internal investments.

Private suppliers, who have already changed the market offering, are mostly stock exchange listed and thus profit oriented hospital chains, which are gaining ground in some countries.

In Germany some local governments transfer the management of their hospitals to such private suppliers, in some cases they even sell their hospitals. The reasons for these decisions are complex, for instance, because debt forces the local government owner to, or that the sale of a hospital would balance its budget.

In addition, private service providers manage the acquired hospitals more rationally, profit oriented and increase the number of services. The advantages of a hospital chain include centralised management, more economical purchase because of high volumes and better know-how; as figures are easily accessible, they can be compared which increases profitability. It is rather remarkable that not all local government hospitals are interested in the offers of private service providers.

The reason being that many politicians are afraid that it may lead to job cuts of low-skilled workers which would have political ramifications. For this reason, they do not believe in the long-term existence of private healthcare service providers.

It is feared that in the long term, important care needs such as geriatric treatments will be sacrificed in the name of profit oriented management. In the case of such developments, the local authorities will be called upon to assist; yet with fewer means than if they had owned the hospitals. So, we cannot answer the questions posed with speculations, platitudes and prejudices.

Therefore, we need to discuss this topic in our national associations. The Federal Conference of Hospital Mangers in Austria – who is a member of the EAHM – will be discussing this problem at their 51st congress.

The solutions compiled there could serve as background information for other national associations dealing with the same issues. Based on the various national points of view, it is the task of the EAHM to be the voice of hospital managers regarding competition between healthcare providers in Europe.



Willy Heuschen

Willy Heuschen
EAHM Secretary-General
Editor-in-Chief

The editorials in *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 EAHM.

EMPLOYING OLDER WORKERS

In the hospital sector, there has been a sharp increase in the demand for healthcare service recently. At the same time, there is a growing shortage of personnel in care professions. Because of the problematic nature of this situation, it is important for hospital managers to take heed of this and find solutions. What motivates care personnel? How can their experience be used optimally? How can the wealth of experience of older personnel be transferred to younger workers? American, Canadian and German experts offer their insights.

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FOCUS: GREECE

The national healthcare system of Greece – established in 1983 – is a combination of the Bismarck and Beveridge models. Greek healthcare is currently facing various problems, not unfamiliar to other EAHM members such as insufficient decentralising of its system, a surplus of doctors, a disparity between the public and private sectors, and excessive politicising of the hospital manager's job. Despite these challenges, the new Greek Health Services Management Association – who joined the EAHM last year – is fighting for the recognition of hospitals' interests.

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PERSONNEL MANAGEMENT

In addition to the challenge of patient care, hospitals are becoming the strongholds of public health. They have to serve as examples: regarding quality of life and healthy lifestyles, in other words, they have to offer a healthy environment for patients and employees alike. A well-known problem for doctors and other healthcare professionals is burnout. This means that the advancement of health amongst personnel will lead to satisfaction and better health all round.

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Rapid MRSA test promises reduced transmission and cost

Healthcare associated infections (HAIs) remain a major challenge, affecting around 9% of UK hospital patients, causing some 5,000 deaths per year in the UK – more than road traffic accidents – and costing the National Health Service an estimated £1 billion in additional costs.

In particular, methicillin-resistant *Staphylococcus aureus* (MRSA) continues to plague hospitals, although progress is being made towards the government target of reducing rates of MRSA bloodstream infections by 50% by 2008. Some 3,517 cases of MRSA bloodstream infection were reported in England between October 2005 and March 2006, down 1.5% from the previous six months. Since the government target was set in 2003, the annual number of cases has decreased compared to the 2003-04 baseline year. Acute specialist and acute teaching trusts have contributed significantly to MRSA reductions since mandatory surveillance began in 2001, the Health Protection Agency notes.

The most recent government statistics show that 25% of patients with MRSA already carried the bacterium on admission to their hospital. The majority of patients with MRSA bloodstream infections were admitted to general medical, general surgical or care of the elderly wards; 8% of cases were in renal patients; and 15% were diagnosed while in intensive care or high dependency care.

Surgical site infections alone are estimated to cost £65 million/year in the UK; a study at University College Hospitals London found that each MRSA surgical wound infection adds an average of £4,200 to the costs of routine care. Over 90% of this figure is due to the prolonged stay in the hospital. Surgery and dialysis patients appear to be high risk groups that should be considered for MRSA screening to help prevent surgical site and bloodstream infections.

Against this backdrop of high human and financial costs, active surveillance and screening are increasingly being recognised as important steps in identifying people who are colonised or infected with MRSA. Prompt identification of MRSA enables healthcare providers to implement appropriate interventions earlier in order to minimise transmission, which can impact patient and economic outcomes.

However, conventional culture-based screening takes up to three days, during which time staff can unwittingly spread MRSA from carriers to others. A rapid test from GeneOhm offers a major advantage over these traditional screening algorithms, in providing detection of MRSA in less than two hours directly from the patient specimen. The rapid BD GeneOhm™ MRSA assay provides an innovative, accurate, and rapid format to detect MRSA carriage. This CE-marked Polymerase Chain Reaction (PCR) test, which is also sold in North America and Asia-Pacific, works by detecting a unique molecular sequence, the right extremity of the SCCmec cassette containing the methicillin-resistance determinant (*mecA* gene) at its point of integration within the *S. aureus* chromosome.

This strategy allows for the definitive identification of MRSA in specimens that contain methicillin-resistant coagulase negative *Staphylococci* and *mecA* negative *S. aureus*, a combination that would normally yield false positive results when using other PCR methods.

Having definitive results for MRSA in hours allows proper infection control precautions and treatment to begin almost immediately, thus improving outcomes while enabling institutions to better control overall costs of infections. Interventions may include initiation of contact precautions and decolonization with mupirocin nasal ointment and chlorhexidine body wash and shampoo.

A major advantage over traditional screening...

For patients with negative test results, the rapid result also offers benefits by helping avoid unnecessary isolation, and may minimize unnecessary or inappropriate antibiotic use.

It is clear that reduction in MRSA infections and achievement of local MRSA bacteraemia targets will only be achieved with an increase in the level of screening and decolonisation in many trusts. Saving Lives: a delivery programme to reduce Healthcare Associated Infection, including MRSA: Screening for Methicillin-resistant *Staphylococcus aureus* (MRSA) colonisation: A strategy for NHS trusts: a summary of best practice (October 2006)

UK guidelines endorse UCLH approach

The Department of Health's The Health Act 2006: Code of Practice for the Prevention and Control of Health Care Associated Infections – issued in October 2006 - notes that for MRSA, policy should make provision for pre-admission screening, decontamination procedures for colonised patients, and isolation of infected or colonised patients.

University College London Hospitals NHS Foundation Trust has in place an innovative programme to screen all surgical patients for MRSA before admittance, believed to be the first routine screening of this kind in the NHS. This was highlighted as a best practice in the Draft full regulatory impact assessment: Reducing Health Care Associated Infections (HCAs), signed on 17 October 2006 by Andy Burnham, Minister of State (Delivery & Quality), Department of Health.

Dr Peter Wilson, Consultant Microbiologist at University College London Hospital, reports that some 5.1% of the 13,960 samples tested to date have been positive for MRSA. The proportion of positive results is higher for in-patients (9.0%), than for out-patients (2.7%). In the

intensive care unit, the prevalence of MRSA ranged from 9.1-18.8%; on wards, the figure ranged from 4.7-7.9%. Dr Wilson's research has also confirmed that screening with the rapid PCR-based test has led to a reduction in MRSA acquisition and bacteraemia.

Rapid testing reduces transmission by 65%

A study by Dr Richard Cunningham at Derriford Hospital (Plymouth) demonstrates the clear benefit of rapid, PCR-based screening compared with traditional culture-based methods in the critical care unit (CCU). PCR-based testing reduces the likelihood of transmission of MRSA by 65%, from an average of 13.9 transmissions per thousand patient days to 4.9 transmissions per thousand patient days (Journal of Hospital Infection, Volume 64, Supplement 1, Page S1). The study involved culture screening of 612 patients in April-August 2005, and PCR screening of 693 CCU patients between September 2005 and February 2006.

The overall MRSA carriage rate was found to be 4.7% on admission; culture results were available in three working days, PCR results within one working day. Standard infection control precautions were used for patients who tested positive.

"PCR screening for MRSA on admission to Critical Care Units is feasible in routine clinical practice, provides quicker results than culture-based screening, and is associated with a significant reduction in subsequent MRSA transmission on the unit," Dr Cunningham and colleagues concluded.

Can the cost of the test be justified?

While the benefits of rapid MRSA testing to patients are evident, the reality of healthcare systems is that new technologies also need to make financial sense – and over the relatively short term.

To examine the business case for PCR-based testing, Dr Cunningham set the costs of a screening programme against forecast savings to the hospital of reducing the number of MRSA infections in the Critical Care Unit. The result was an overall saving of some 165,000£.

Panel: Derriford Hospital – the business case for the rapid PCR-based MRSA test

3000 tests/year for:

- CCU admissions
- Elective cardiac surgery
- Emergency orthopaedic surgery

Costs

Consumables

£55,000

Savings:

Assumed prevention of;

5 cases of bacteraemia, each costing £7,500 = £37,500

3 cases of mediastinitis, each costing £20,000 = £60,000

5 sternotomy infections, each costing £10,000 = £50,000

4 orthopaedic implant infections, each costing £10,000 = £40,000

Pre-op prophylaxis (cardiac surgery, 1000 cases, 3% prevalence) = £32,000

Total £219,500

Predicted net savings: £164,500/year

Litigation on the horizon?

A recent news item confirms that this will become even more important in future: the BBC (30 November 2006) claims that, "a flood of MRSA compensation claims could finally be realised as lawyers turn to workplace safety legislation to pursue hospitals. To date it has been hard to pin the blame on the NHS...but recent successes have prompted a rethink in how lawyers tackle cases, with many making use of laws governing the control of hazardous substances."

Overall, there remains much work to be done if the government's goal of reducing MRSA bacteraemia rates by one-half by 2008 is to be achieved. However, promising initial results indicate the potential of rapid MRSA screening to support these efforts by accurately identify patients who carry the bacterium, and helping minimize transmission in the hospital setting.

"Rapid testing, perhaps even at the point of care, is expected to be the norm in the future, which may not be too distant. In order to get the benefit of a rapid result, the laboratory testing service should be

available when needed for the chosen patient groups, and the clinical services need to be able to take immediate action to decolonise a patient on receipt of a positive result."

From Screening for Methicillin-resistant *Staphylococcus aureus* (MRSA) colonisation: A strategy for NHS trusts: a summary of best practice (part of the Department of Health's initiative, Saving Lives: a delivery programme to reduce Healthcare Associated Infection, including MRSA).

Screening for MRSA colonisation – best practice

The new Code of Practice for Prevention and Control of Healthcare Associated Infections requires all NHS bodies to minimise the risk to patients. "Targeted screening and decolonisation in high-risk groups is a prime consideration in meeting these standards," notes a letter to NHS executives sent out on 16 November 2006 by Chief Medical Officer Sir Liam Donaldson and Chief Nursing Officer Christine Beasley. Headlined Screening for MRSA colonisation: a summary of Best Practice, the letter advises trusts to "review their strategies for screening and decolonisation of patients with MRSA carriage immediately...As a minimum intervention trusts should consider models for effective screening of high-risk cohorts, in particular A&E admissions and pre-operative surgical assessment patients." It provides the following summary of "interventions that should be considered in the light of the local patient population and the incidence of MRSA infections:"



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EAHM adopts position paper as part of EU consultation on cross-border health services

Meeting on 15 December 2006, the EAHM board agreed the Association's official position as part of the European Commission's consultation exercise on cross-border health services. The paper's key elements include a call for the introduction of a Europe-wide definition of the term "Quality in Health Care", the creation of a European accreditation model for testing quality and better options for comparing services.

One of the cornerstones of the document is the Association's demand that barriers to the free movement of doctors in training are eliminated. While qualifications awarded on completion of medical training are recognised in other EU Member States, mutual recognition requirements do not extend to services provided by doctors engaged in specialist training, even though official recognition is required for certification purposes. In some cases, doctors are prevented from applying for a training place to gain a specialist title in another Member State because the necessary admission number will not be allocated on the basis that they did not complete basic training in that Member State.

The EAHM paper argues that such factors impede free movement in services in the internal market and prevent cross-border cooperation among health service providers. The Association calls on the European Union to engage in support activities, such as collecting data on patient mobility, which would enable Member States to improve planning. It should also assist Member States in removing secondary barriers to cross-border care by tackling problems patients experience when they return following treatment abroad. For instance, many patients have difficulty accessing after-care services or obtaining medicines prescribed while abroad.

The policy document also draws attention to the fees charged for treating patients abroad, payment procedures, the length of the payment period, and the need for clarity on liability issues. The EAHM favours the introduction of a universal system of compensation for patients affected by medical error.

The EAHM position paper is available on the homepage at www.evkd.eu.org.

Seminar on accreditation of health services on 16 November 2007

Also at the December meeting, the EAHM Board agreed a date for its seminar on accreditation for health service providers, which will be held on:

16 November 2007

The event will take place in conjunction with this year's EAHM General Assembly which will be held as part of the MEDICA exhibition in Düsseldorf. The German Hospital Congress will also take place at the exhibition and will feature a new, multilingual international forum.

For further information or to download a copy of the programme or registration details, please check the EAHM website at www.evkd.eu.org.

Personalities: President Paul Castel appointed Director of the Hospices Civils in Lyons

On 17 January 2007, Paul Castel, EAHM President and Director of the Strasbourg University Hospitals, was appointed Director of the *Hospices Civils* in Lyons. Mr Castel, who has been in charge of Strasbourg's hospitals since 1998, is also the President of the Conference of Directors of French University Hospitals.

Employing 20 000 staff, the *Hospices Civils* in Lyons consist of 17 separate hospitals with an overall capacity of 5 384 beds and 358 day clinic places. They treat approximately 170 000 inpatients and 835 000 outpatients every year, and have an annual throughput of as many as 190 000 emergency cases. In 2004, they had a combined budget of 1 338 billion.

The Mayor of Lyons, Gérard Collomb, welcomed the appointment, describing Mr Castel as a "very important director who will give excellent leadership on the major projects under way in the region and make the hospitals of Lyons a focus of excellence in the French health sector."

Survey to measure patient satisfaction in EAHM member countries

In November 2006 members of the EAHM Board were circulated with a short survey on the issue of patient satisfaction and the methods deployed in individual countries to determine levels of same.

The French Health Ministry had asked EAHM President Paul Castel to collect European data on matters such as the national regulations in place for dealing with how patient satisfaction surveys are carried out and the manner in which their results are published as well as the effectiveness of such surveys. Ten EAHM member states submitted responses and a short report summarising their contents is available either from Helicia Herman (helicia.herman@eahm.eu.org) or on the EAHM website.

Paul Castel would like to express his sincere gratitude to his colleagues for their cooperation in collecting the data, particularly in view of the short time-frame available.



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"Trends in EU Health Care Systems"

A book by Win de Gooijer, one of the guest speakers at the 2006 EAHM Congress, was published under the title "Trends in EU Health Care Systems" (Springer Publishers, 2007, XXIV, 504 pp., 13 Illus., Hard Cover, ISBN: 978-0-387-32747-1). Some of the key issues explored in the book include:

- Expansion versus reform: an analysis of European health systems over the past 40 years.
- Why governments cannot fully control constantly changing dynamics in healthcare.
- Ethical and medical considerations arising from changing policies.
- Forecasts on how healthcare will develop in the European Union - how much change is feasible and how much is necessary?
- The book will be discussed in greater detail in a later issue of *Hospital*.

GERMAN GOVERNMENT ORGANISES HEALTHCARE CONFERENCE

The social dimension in the internal market – Perspectives of healthcare in Europe

By Rory Watson

The German government is making its contribution during its EU presidency to the European Commission's plans to draw up a clear strategy for the health sector. To enable as many views as possible to be injected into the debate, it organised a two-day conference on "The social dimension in the internal market – Perspectives of healthcare in Europe" in Potsdam in mid-January. The event attracted over 200 people ranging from national and European administrations to politicians and representatives from different areas of the sector with a strong presence of health insurance companies.

Robert Madelin, the Commission Director General for Health and Consumer Protection, provided the context for the discussions by setting out the aim of the new health strategy, which is expected to be presented before the summer. It will examine the role the EU can play as national health services have to deal with challenges ranging from demographic change to new technologies. It will also aim to end the uncertainty over patient rights and authorities' responsibilities which have emerged as a result of European Court of Justice rulings, and to draw into a coherent framework the many diverse health-related activities the EU currently operates.

Prof. Yves Jorens from the University of Ghent emphasised that after the ECJ judgements, two different procedures on individual patient mobility now apply in parallel. The failure to reconcile these through general EU legislation on services and on social security for migrant workers means a new legal framework is necessary. This should provide clear criteria on individual care for which authorisation from health authorities is required or not. It should cover issues ranging from information rights for patients to fees for medical services for foreign patients. He pointed to the need for clear rules on

cross-border contracting – an area that is growing in importance, but which currently lacks the necessary legal framework.

Evelyne Gebhardt, the German Socialist MEP who steered the Services Directive through the European Parliament last year, welcomed the ECJ rulings which have strengthened patient rights inside the Union. However, she made clear that in the debate on the organisation of Europe's many national healthcare systems, the primacy of politics had to apply. The Luxembourg-based judges could support politicians in this task, but it fell to European legislators to create a regulatory environment that provided legal certainty and took proper account of patients, service providers and third party payers.

The exercise should identify those areas where the EU and its internal market could help to improve national healthcare and require some form of European regulation and determine how the very different structures in place can be organised, so they conform to EU rules. The fundamental principle at stake, she insisted, was not about softening national systems, but about extending their portability.

John Bowis, a British Conservative MEP, agreed with Mrs Gebhardt on the need to clarify the present system in which patients, doctors and administrators alike are operating in a system for planned treatment "bedevilled by inconsistency and bureaucracy". At the same time, national authorities should provide guidance and information to frontline staff who have to handle demands from patients becoming more aware of their rights.

With several speakers pointing to the benefits of cross-border care, particularly in frontier regions, Prof. Jacques Scheres, from the University Hospital Maastricht, gave details of the Euroregion Meuse Rhine project. This

has established an effective network of Belgian, German and Dutch healthcare insurance companies and hospitals for a population of almost four million. In addition to ambulant and hospital care, other cross-border activities include moves to tackle the spread of antibiotic resistance, comparisons of hospital costs in the three countries, costs of medical aids, and other forms of care.

The conference gave the Commission much food for thought and raised more questions than answers. It is not the only input to the debate. The Commission also organised a public consultation on the various issues, which closed at the end of January. The shape of the

final proposal is still unclear, but as a Commission official told participants, it will be based on two clear pillars.

The first will seek to provide legal certainty, the absence of which is keenly felt by patients and national local health bodies. That is likely to require legislation. The second will develop the EU's traditional role in the health sector of giving support to national activity where European involvement can bring added value to the health services being provided.■

CONSULTATION DOCUMENTS AVAILABLE ONLINE

The public consultation launched by the European Commission on how to ensure legal certainty regarding cross-border healthcare and support cooperation between the health systems of the Member States closed on 31 January 2007.

The consultation follows discussions held by the Commission and the Commissioner for Health, Markos Kyprianou, who wants to achieve legal clarity and certainty on these complex issues to ensure high quality and efficient healthcare (see EAHM news, page 6).

The consultation seeks input on issues such as:

- Under what conditions can cross-border treatment take place and paid?

- What are the patient's rights in another country?
- What information does the patient receive about their treatment in another country?
- Who authorises and pays for cross-border healthcare?
- Whose rules apply?
- Who pays damages?

The contributions will serve as a basis for Commission proposals, which will be made later in 2007.

Contributions received from national and regional authorities, NGOs, universities, individual citizens, companies and associations who participated in this reflection process are available on the website:

http://ec.europa.eu/health/ph_overview/co_operation/mobility/results_open_consultation_en.htm

EUROPEAN PARLIAMENT MAKES RECOMMENDATION ON CROSS-BORDER DISPUTES

On 1 February 2007 the European Parliament approved a resolution in which it requested the European Commission to draft a legislative proposal with regard to the cross-border disputes in the case of personal injury or fatal accidents, which could also be applied in cases of medical error or unforeseen events during stationary treatment.

In their resolution the delegates stressed that there would be a divergence in respect of limitation periods, the commencement of the running of time, the date of knowledge, the ability to interrupt or stop the running of time, the presentation of evidence and the assertion of the defence of the expiry of the limitation period. Therefore, it is necessary to carry out an inquiry into the effects of the existence of differing limitation periods.

Based on this, a report should show whether legislation on the European level is necessary. Parliament considers that principles governing limitation periods should be laid down in an appropriate form, in so far as the

Community possesses legislative competence in this area, for damages claims.

The delegates justified their request with the fact that the differences were so large that they could lead to unwanted consequences for the accident victims in cross-border disputes. Injured persons are faced with difficulties if they want to exercise their rights in any other Member States, and thus forced to subject themselves to foreign law.

In some countries, minors and persons with a disability are not afforded any special protection with respect to the running of time for limitation purposes, and may thus lose rights to claim compensation, which they would otherwise retain, when injured in a Member State other than their own

Furthermore, Member States will be obliged to set up national information centres for keeping a register of all criminal investigations or pending proceedings involving foreign victims and for providing written answers to reasoned requests for information made by or on behalf of foreign victims.■
(HH)



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AUSTRIA

Austrian Congress for Hospital Management 2007

The successful Austrian Congress for Hospital Management (see last Congress www.ovkd.at/archiv.htm) will take place for the 51st time from 14 - 16 May 2007 in Krems an der Donau (Lower Austria).

The main theme will be "How much 'private' can healthcare tolerate?" In many European countries, the traditionally (mostly) public health and hospital systems are facing a crisis and often – allegedly – on the brink of financial ruin. A way out of this situation is to increasingly make use of private structures.

At the Congress, acclaimed experts will present and critically analyse the conflict between private and public systems. One of the questions that will be dealt with is: "Are public health systems really more expensive? Are private health providers gaining more ground? Is private care better? Is the healthcare system without private contributions affordable?"

Delegates will look at the chances, potential and limits that key players in the healthcare system are bound to come across, as well as determining who is responsible for development and who the driving forces are.

A detailed programme can be found at: www.ovkd.at/veranst.htm and www.noekhm.at. Registration can also be done via these websites.

FRANCE

Hospital 2012

Minister for Health, Xavier Bertrand, launched the "Hospital 2012" plan, which, after Hospital 2007, sets out the directions for hospitals from 2007-2012. The focus will be placed principally on the improvement of working conditions for staff and provision for families. Xavier Bertrand stated: "I want day nurseries in all hospitals for all staff, I would like spaces for families, and for carers because they spend a great deal of their time at the hospital". The second priority will be to continue to place hospitals within the safety requirements (fire, asbestos, etc.), particularly those hospitals whose equipment is most decayed. The entire renovation and re-organisation of all emergency services is also planned, and the Minister has announced his intention to increase the share of expenditure on hospital IT to 3% by 2012, compared with 1.7% today.

SPAIN

Private security services

The health authorities in Murcia have decided to employ the services of private security companies in order to protect hospital staff from violent patients. In 2006, violent occurrences in the region's hospitals increased by 38%. The security officers will work in the health centres and the emergency services. They will not be armed.

FINLAND

Restructuring of local government and services

Significant restructuring of local government and services is currently taking place in Finland. The objective is to have local governments that are financially and operationally stronger whereby services will increasingly be offered in cooperation with various suppliers.

This objective forms a sound structural and financial basis for the services that municipalities currently offer bearing the required standard of quality, effectiveness, availability, efficiency, and technological advancement in mind. The restructuring of primary healthcare production and organisations calls for the inclusion of at least 20 000 inhabitants per area offering healthcare and social services.

The restructuring of local government and services means more changes for the Finnish social sector because there is no service structure requiring a minimum of 20 000 citizens to be served. Under the framework law – allowing the

restructuring – districts can pool their resources to offer social and healthcare services.

The city of Kajaani and its surrounding municipalities were the first to do so, thus creating the Kainuu model in 2005 (until 2012). Kainuu is an administrative experiment and includes all healthcare units (primary health centres and hospital), social services, primary and secondary schools and vocational school, police for industry, trade, and other lines of business.

About 21 hospital districts are already cooperating and not only because of the legislation.

Highly demanding and unusual illnesses will be centralised in one or two hospitals in Finland. There is a growing call for the State to shoulder the financial responsibility for unusual, expensive-to-treat and rare illnesses such as ALS patients. Cooperation between hospital districts, including – in some cases – primary health centres is increasing in terms of financial administration and service tasks such as shared IT systems and procurement.

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WISDOM AT WORK

Retaining experienced nurses through innovative job descriptions

By Barbara Hatcher

A report sponsored by the Robert Wood Johnson Foundation, entitled "Wisdom at Work: The Importance of the Older and Experienced Nurse in the Workplace", (released in June 2006) aims at formulating a response to the current and increasingly daunting crisis resulting from the shortage of nurses.

FAVOURABLE WORKING CONDITIONS

Unless hospitals begin to address the conditions that would help older nurses extend their work life past usual retirement age, many of these nurses will retire at the very time hospitals are faced with the growing demands of an aging population. Various surveys and reports document that older nurses are more likely to extend their work life under the following conditions:

- ▶ Supportive workplaces
- ▶ Social interaction with peers and patients
- ▶ More control over work setting
- ▶ Participation in decision-making
- ▶ Work recognition, encouragement and positive feedback from supervisors
- ▶ Favourable work schedules
- ▶ Economic incentives
- ▶ Less strenuous jobs that use their experience
- ▶ Ergonomically friendly, safe and effective workplaces
- ▶ Retirement programmes that make working longer attractive
- ▶ Innovative new nursing roles

MANY OF THESE NURSES WILL RETIRE AT THE VERY TIME HOSPITALS ARE FACED WITH THE GROWING DEMANDS OF AN AGING POPULATION

NEW JOB DESCRIPTIONS

One of the recommended approaches is to maximise the dissemination of experience accumulated by older nurses through custom-made job descriptions and functions. By allowing nurses to expand into different roles and components of nursing, the institution would thus: (1) maintain the skills and experiences of nursing staff and benefit from the control or reduction of training costs; (2) be required to redefine expectations of the nursing practices; (3) need to address diversity-related issues; (4) be positioned to develop stronger and more functional multidisciplinary teams; and (5) have the capacity to improve relationships with patients and their families. These roles could offer a wonderful opportunity for seasoned nurses to take their bedside experiences and apply them in new roles. However, it is more important to have the nurses develop expertise in these domains, but not across all domains. Some of these new functions could be described as follows:

NURSING ROLES BRIEF DESCRIPTION

- ▶ The Chief On-Boarding Officer assists newer nurses when they join the hospital staff; helps younger nurses sharpen their problem-solving skills; and assists with the integration and transition into the culture. This officer also assists in shaping the organisational culture of junior-senior nurse mentoring.
- ▶ The Best-Practice Coach examines the qualitative data, determines how best to utilise the information and coaches younger nurses or

clinicians to achieve a higher level of clinical performance.

- ▶ The Technology Facilitator assists in the development of methods for effectively incorporating the technology into practice.
- ▶ The Team Builder coaches younger nurses and physicians, and sets up corrective processes and approaches. The Team Builder also teaches nurses to master the skills needed to serve as team coaches or facilitators.
- ▶ The Senior Consultant/Cost-Benefit Analyst acquires the skills necessary to use new technologies and provides an assessment of the technology from a systems perspective; determines the return on investment or performs cost-benefit analysis; and determines how to incorporate patient satisfaction data or medical utilisation data into practice.
- ▶ The Preceptor/Mentor integrates new nurses into the organisation and into the practice setting within the organisation and assists in the transition from theory to practice and from novice to expert nurse.
- ▶ The Community Liaison serves in a quasi-public-relations or community-action role.
- ▶ The Research Assistant participates regularly in “think tank” discussions with multidisciplinary team members for healthcare delivery issues, and conducts research to assess the needs of older nurses.
- ▶ The Relief Nurse performs “limited assignment” of patient care duties for nursing staff during their absence (e.g. during lunch and breaks), which would accommodate the scheduling needs of the older nurse.
- ▶ The Safety Officer conducts patient safety assessments and recommends preventive patient care delivery practices.
- ▶ The Staff Development Officer addresses the professional development issues of the nursing staff.
- ▶ The Communicator serves as the communicator and integrator of cultures for patients/families and staff.

▶ The Patient Educator and Family Advocate educates patients/families/caregivers, facilitates more in-depth education, freeing other nurses for other patient care responsibilities. The Educator also helps patients/families to negotiate the healthcare delivery system along a continuum of care.

▶ The Quality Coach uses data for evidence based patient care practices to improve patient care.

NEW WORK MODELS

Although these positions are viewed as excellent opportunities to extend the career of the older nurse, they tend to confirm a tendency to promote the most experienced, best skilled, sharpest clinical nurses into administrative and other non-clinical roles.

BOTH THE NURSES AND PHYSICIANS WOULD BE INDEPENDENT CONTRACTORS

nical roles. However, excellent clinicians should not feel that providing bedside care is a second class role. One should be cautious about sending, either overtly or indirectly, the message that if nurses want to better themselves, they must leave bedside practice. There may also be resistance from other healthcare professionals to accept these new roles, viewed as an infringement on their roles.

Furthermore, some experts put forth the idea of the establishment of a professional nurse practice, thereby eliminating the need to create new positions, job categories or job descriptions. The hospital would contract with the senior nurse practice group to provide the services incorporated in the defined roles, such a technology facilitator or quality coach. Additionally, because the nurses in this practice group would no longer be hospital employees, they would gain new status and have a different relationship with the medical staff. Under this system, both the nurses and physicians would be independent contractors, both professional, both highly experienced, both contributing to the hospital.

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MAINTAINING WORK COPING ABILITY AMONG OLDER NURSES

Map the “individual fingerprint” of your hospital and design interventions based on the findings of the WCA audit

By Dr Gerhard Berger

Hospitals increasingly rely on nurses of 40 years and upwards, despite the fact that the work ability of this group is threatened by “burnout”. What can management do to address the problem?

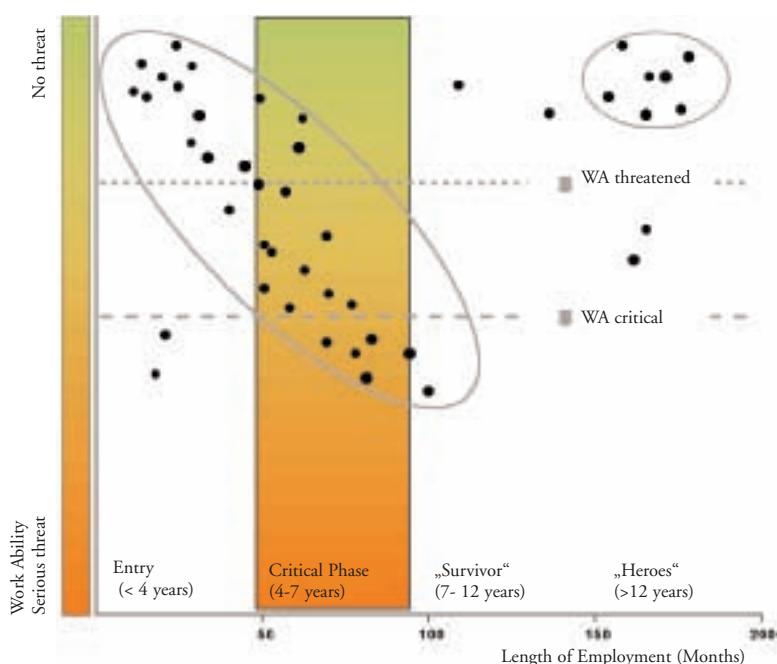
In view of ongoing demographic change, it is becoming increasingly important to adapt jobs to accommodate the needs of an ageing workforce. This is particularly true of the psychological and physical sides of nursing. Rather than developing special programmes to “shelter” older staff, hospitals must re-evaluate and refine their work processes and technologies and, not least, their institutional attitudes and corporate culture.

Measures aimed at providing an appropriate working environment for an ageing workforce should focus on maintaining the work (coping) ability of staff throughout their working lives. The concept of work coping ability (WCA) is proving to be a

very useful model for understanding effective human resource management, particularly in nursing and elderly care, and has emerged as an important foundation on which to build a strategically focused human resource policy.

Studies show that the WCA model is best placed to achieve four core objectives of human resource management. Managers who are guided by the WCA concept in their daily routine:

- ▶ find better qualified staff in a tightening labour market because improved working conditions are conducive to good health and their organisation comes to be viewed as attractive by healthcare staff;
- ▶ are able to limit staff turnover, create greater staff loyalty to the workplace and gain long-term benefits from the valuable skills of their employees;
- ▶ are able to limit expenditure on human resource management, thus improving economic efficiency; and
- ▶ can improve quality assurance in nursing, specifically by avoiding disruption to the



Type II organisations currently neglect the work coping ability of their staff. Many nurses in these organisations enter the critical phase after seven years' employment: their work ability is under serious threat.

Each δ represents a member of staff who has been surveyed. The larger the dot, the older the person concerned.

team's workflow and making better use of the specific skills of older nursing staff.

The concept of work coping ability acts as a valuable early warning system by setting off alarm bells at the right time and indicating to management whether intervention is required (e.g. before an employee takes long-term leave of absence or, in the worst case, experiences burnout). WCA also provides solutions that deliver measurable improvements in the quality of the working environment.

THE "INDIVIDUAL FINGERPRINT" INDICATES AN ORGANISATION'S APPROACH TO WCA

The first step in the work ability process is to ask two questions:

1. What is the organisation's current approach to the work coping ability of its staff?
2. Is action – possibly preventative measures – required?

The answers to these questions determine the organisation's "individual fingerprint", which can be easily mapped. Each member of staff (δ) is represented on the "fingerprint" (see Figure 1 for an example) by plotting on a graph his or her work ability (vertically) and length of employment in the organisation (horizontally).

Figure 1 on page 16 shows the typical fingerprint of an organisation that has neglected to maintain the work ability of its employees (Type II).

In the entry phase (period of employment < 4 years) the work ability of most nurses is still in the "green area", in other words, it is not under threat. Nurses starting a new job tend to be full of drive and therefore report high work ability scores. This applies equally to younger and older nurses, including those with considerable employment experience.

Type I organisations manage to maintain the work coping ability of staff at high levels despite large workload – even as length of employment and age increase.

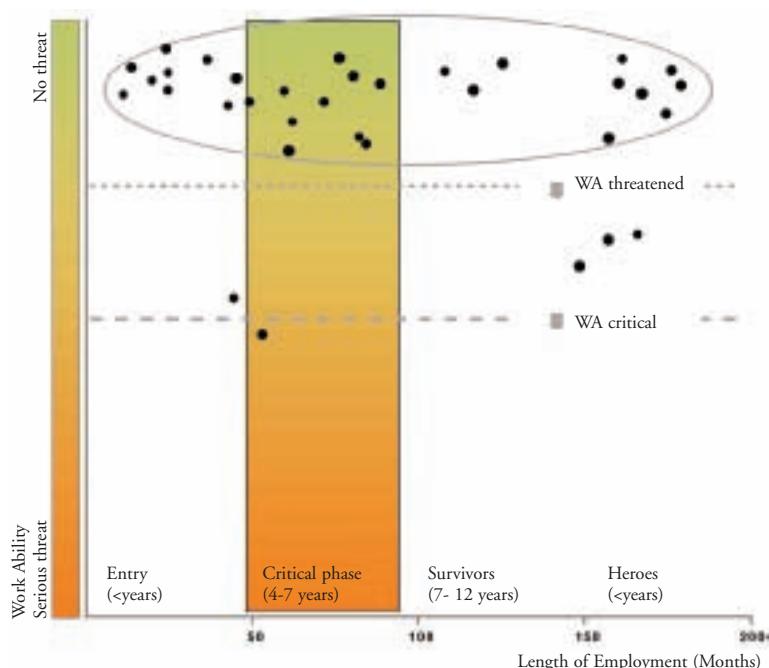
Each δ represents a member of staff who has been surveyed. The larger the dot, the older the person concerned.

The entry stage is followed by the "critical phase" (period of employment of between approximately four and seven years). This phase is characterised by the emergence of a "steep incline" and it is here that slippage in the work ability of many nurses becomes evident. The longer a nurse has worked in an organisation and the older she becomes, the more her work ability will be impaired. The critical level is reached after at most seven years.

A range of indicators shows that, at the end of the "critical phase", many nurses with significantly impaired work ability (extending as far as burnout) have the intention to resign. The decision they face is whether to leave their employer, change profession or become a "survivor" by joining a small band of so-called "heroes", a group of staff, predominately in older age brackets, who maintain their work ability despite their age and time in the job.

Organisations that manage to maintain and strengthen the work ability of staff (Type I) (-> Figure 2) have completely different fingerprints from type 1 organisations. Most members of staff in the type II organisation feature in the scatter diagram cluster, which shows a stable, horizontal trend. The WCA of nurses in this organisation is maintained at a high level, even among older staff and those employed for upwards of ten years, despite the fact that conditions are broadly in line with those in the type I organisation.

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EXPERIENCED NURSES

Some tips for critical care units

By Clémence Dallaire and Paul-André Lapointe

This article was inspired by a study carried out in the critical care units of a hospital in Quebec, with the help of 42 semi-conducted interviews among nurses and union representatives. This group played a major role in the establishment of priorities in the numerous solutions which emerged from the interviews and in the accepted choice of solutions.

The results highlight the real-life experiences of the longest serving or most experienced nurses, and a certain inter-generational conflict between the experts and novices. The main remark is that there is a very large instability of working teams, due to the modes of administration of the employment statutes, whether it be the excessive recourse to precarious statutes, high absenteeism, or a significant level of voluntary departures including departures of those taking retirement.

Besides an inferior quality of care given, the instability creates a deficit of individual and joint competences, which translates into work overload for the experts and additional stress for those who are not so experienced. Individual competences are partly acquired thanks to work experience and exposure to specific problems. They are sometimes transmittable only through personal interaction.

Within a working team, individual competences are really effective when they are combined and articulated together, in a synergistic way. For a working team, it is the capacity of effectively cooperating, coordinating and communicating on the basis of a common language, verbal or non-verbal, with a view to achieving complex interventions. This collective way of knowing how to react is particularly sought after in critical care units, where complex problems call for teamwork and the coordinated intervention of nurses, at the same time or sequentially. This teamwork is a must and is based on the quality of joint competences.

TEAMWORK

Such cooperation may be more difficult when a particularly ruthless conflict arises between stable/expert staff and passing/novice staff, which could in part be associated with an inter-generational conflict. New generations of nurses would

look for flexible hours, greater career mobility and a better balance between personal/family requirements and professional requirements. As a result, the younger ones would be less involved in work and would take fewer initiatives. This behaviour is also attributable to a strategy of protection: less experienced nurses who are occasionally introduced to critical care teams and units avoid having to take initiatives for fear of making mistakes.

Without denying the existence of differences between the generations, the strength lies in noting that by granting stability and the best working hours (of the day and week) to some and by confining others to precarious and unpleasant working hours (evening, night and weekend), the administration modes of the employment statutes aggravate the differences between the generations, even transforming them into an inter-generational conflict, and induce particular behaviour.

ACCEPTED SOLUTIONS

The inventory of solutions was built by compiling the totality of the solutions proposed by the nurses interviewed. The solutions proposed converge towards a central objective, that is, the stabilisation of the teams, and mainly favour interventions with regard to competences. They simultaneously aim to adapt resources to the acuteness of the patient's condition and to raise competences while acting on the internal and external aspects of work organisation.

The adaptation of resources to the acuteness of the patient's condition can assume different forms:

- ▶ The redistribution of work between existing resources. In fact, it has been noted that some people work too much, while others do not work enough. It is thus a question of increasing the number of full-time positions and reducing their precariousness.

- ▶ The reduction of working time for units in order to dedicate the time thus freed-up to training and involvement in special projects.
- ▶ The raising of competences, which reduces the stress and psychological demands of work, linked to uncertainty and the loss of control, often generated by a lack of competences.
- ▶ The revision of the professional and non-professional composition of care teams: for example, the addition of assistants and clerks in order to lighten the workload of nurses and enable them to dedicate themselves to the real aspects of their profession.

The raising of competences can also assume different forms:

- ▶ Increased exposure time to complex problems in the units. In more concrete terms, it is a question of making the more "precarious" nurses work harder and more regularly, so that they acquire the experience and competences necessary to better carry out their work.
- ▶ The overlapping of schedules ensuring the sharing of competences between experts, who are older, and who generally work during the day, and novices, who are younger, and generally work in the evenings and during the night.
- ▶ Mentoring: assigning an experienced nurse with teaching qualities who may serve as a point of reference to a specific group of novices.
- ▶ Involvement in special projects: problem resolution leads nurses to analyse a specific situation, to review the relevant literature and to discuss within a group diagnosis and possible solutions.

CONCLUSION

These possible solutions are currently being put to the test in a pilot project and could enable the expectations of older nurses to be met in terms of joint competences while helping the young to develop their individual competences. They are all based on a fundamental fact to the effect that the more experienced and older nurses are of greater importance in the context of the complexification of care. These nurses, who could be tempted to abandon critical care due to the heaviness of care and the workload, nevertheless have individual expertise allowing them to quickly react and manage acute cases in an efficient manner. They are, in short, absolutely essential in the practical training of young nurses and in the building of joint competences. ■

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THE ROLE OF THE COORDINATING NURSE

The experience of a nurse from the SINDEFI-SEP network

By Pauline Prouteau

Whether a hospital nurse, an independent nurse, or a nurse working within a network, nurses work on a daily basis with other members of the care and social team around the patient, as well as with the patient's family circle. For a coordinating nurse, collaboration with all the professionals involved is essential and pivotal.

Quite a number of professionals tend to a patient suffering from multiple sclerosis: nurses, neurologists, attending practitioners, physiotherapists, ergotherapists, social assistants, psychologists, all intervening according to various and complex symptoms. Interaction between these professionals is not always apparent.

MISSION OF THE COORDINATING NURSE

The SINDEFI-SEP network (multiple sclerosis and inflammatory diseases of the nervous system) was born from a need for communication around the patient aimed at improving the quality and accessibility of care. Financed by public funds, it

HOME VISITS OFFER TOOLS FOR OPTIMISING CARE.

has been in existence for three years and is led by a coordination team composed of a doctor, a nurse, a psychologist and a secretary. It enables communication, around a common charter, between neurologists (all types included) and other medical and paramedical representatives from the departments of Val-de-Marne, Seine-et-Marne and Essonne. One of its roles is to facilitate communication between the local authority and the hospital.

THE CONTRIBUTION OF HOME VISITS

When hospitalised, the patient cannot be evaluated within the context of his normal life. Home visits offer tools for optimising care. They can be carried out jointly with other professionals (e.g. ergotherapists, social assistants, home helps, attending practitioners).

THE HOSPITAL LINK

A patient with multiple sclerosis is hospitalised at different moments of his illness: the announcement of the diagnosis, the setting up of treatment, attacks, and entering the progressive phase of the illness. The interventions of the coordinating nurse in the department (of neurology, most frequently) take place in agreement with the head of the department by convention, upon request from a hospital professional, or at the time of hospitalisation, known within the network.

The coordinating nurse intervenes in different situations:

- ▶ With nurses from inpatient or outpatient clinics: for example, at the time of setting up injectable treatment. If the nurses in the department think that a patient needs closer follow-up at home, they can contact the coordinating nurse who will be able to carry out a follow-up visit, or even contact and train an independent nurse to help the patient.
- ▶ With executive nurses: the coordinating nurse can be asked to participate in the programming of hospitalisation in conjunction with the network doctor, when the neurologist or attending practitioner decides that hospitalisation is necessary. By working together with the doctor, the nurse can either avoid duplicating tests or carry out additional tests (e.g. vesical ultrasound for evaluation of residue). Furthermore, the nurse knows the daily requirements of the patient and can see to it that these are taken into account during hospitalisation.
- ▶ In the context of returning home, the coordinating nurse directs the patient towards a healthcare professional close to home, if necessary, thanks to the directory of professionals set up by the network: nurses, physiotherapists or home helps. For all these actions, they rely upon the information gathered by the carers at the time of hospitalisation, in agreement with the patient.
- ▶ With patients: the coordinating nurse delivers adapted, up-to-date information, additional to that given by the doctor and the hospital, possibly relying on specific booklets.

- The network can also be contacted directly by the hospital for the setting up of human and/or technical aids (e.g. for a patient in a wheelchair). The coordinating nurse knows the pathology and can bring his/her expertise with regard to the type of help that needs to be set up.
- One of the care projects set up by the SINDEFI-SEP network is an alternative to hospitalisation: corticoid perfusions at home at the time of an attack. The coordinating nurse helps to set it up, reminding the hospital doctors of the existence of this possibility, and facilitates its setting up through the provision of practical procedures.

In order for this organisation to function correctly, two points are essential: the training of hospital and independent carers at the SEP, so as to constitute a directory of resources of trained professionals, as well as regular information from the hospital teams on the existence and the role of the health network.

ADVANTAGES OF THE CONCEPT

The SINDEFI-SEP network was financed for the first three years (2003-2006) by FAQSV (Funds for Assistance in the Quality of Care in Cities) granted by URCAM (Regional Union of Sickness Insurance Funds). For the period 2007-2010, the network is financed by the DRDR (Regional Grant for the Development of Networks), awarded by URCAM and the ARH (Regional Hospitalisation Agency). The budget has not yet been defined, but will be in the region of 450 000 per year.

An external evaluation was carried out at the end of 2006 and made it possible to put forward the advantages brought about by the network to patients and professional members of the network (independent and hospital).

The main results are:

- Better patient information.
- Improvement in the coordination of care, allowing reduced isolation of the various professionals and, in particular, general practitioners and allowing a faster response to the problems of responsibility for care, particularly at home.
- An alternative to hospitalisation, particularly thanks to corticoid perfusions at home, but due to a better functioning of the network of professionals of proximity. The savings made (for sickness insurance) by corticoid perfusions at home versus at the hospital were estimated to be approximately 230 000 for 80 courses of treatment, considering the price per day in hos-

pital and the average cost of a journey by ambulance in the areas covered by the network.

- The growing capacity of paramedical professionals (at least, the physiotherapist) in responding to the various questions posed by patients.

CONCLUSION

In conclusion, one can see the value of the intervention of the network nurse, both for patients

WE NOW KNOW THAT A WELL-SURROUNDED PATIENT WILL BE ABLE TO BETTER CONFRONT THE DISEASE

and healthcare professionals. By having a better knowledge of patients' usual environment and their home carers, the coordinating nurse is able to optimise care, closer to patients' real needs, and adapt to their pathology. Hospital's carers appreciate the more personalised information provided thanks to the home visit reports. As for the extra hospital structures, they are extremely interested in the nurse's expertise of the pathology concerned, and call for relays of this kind.

On their side, hospitalised patients who meet the nurse feel supported and are reassured by the existence of a link between their daily life and this passage to the hospital. We now know that a well-surrounded patient will be able to better confront the disease and its constraints, and will be more observant of his treatment. ■

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PREVENTING BURNOUT IN HEALTHCARE

Staff and organisational measures

By Eva Hokenbecker

The German health system has been undergoing a transformation process the last couple of years: old, outdated structures are being discarded, hospitals are increasingly implementing strategies taken from the business world such as process management, introducing quality management systems, etc.

Networks of integrated care are working together with other healthcare institutions and are specialising in specific fields to be competitive on the market. Simultaneously, human resource management is also changing. Cooperation amongst multidisciplinary professions is valued more than ever, as is teamwork and qualified, specialised personnel. Optimising cooperation, coordination and operational and organisational structures are urgently needed not only to control costs whilst implementing DRGs but also to protect workers from excessive demands and overload.

Health promotion, as part of developing their skill set, contributes to employee satisfaction and the improvement of quality.

Many current studies highlight warning signs: working conditions are becoming increasingly unfavourable. Shrinking budgets lead to cuts in staff and shortages thus leading to time pressures as a result of larger workloads, more job density, etc. Many healthcare workers are overworked, exhausted and overloaded.

THE “I’VE ALREADY QUIT” SYNDROME

According to a 2005 report by a German medical fund (Deutschen Angestellten Krankenkasse – DAK), there has been a significant increase in employee absenteeism due to psychological problems. These long-term illnesses result in long absences from work, which in turn, have an impact on all staff and the workflow. This phenomenon is called the “burnout syndrome”, a chronic state of exhaustion with psychological and physical symptoms. There are three main causes for this syndrome:

- Workplace: Grievances in the organisational structure and human resources, psychological and physical strains.
- Personality traits: Lack of self-efficacy or confidence.
- Private life: Insufficient emotional and social support.

“Typical” burnout personalities tend to be pessimistic, lacking hope or plans for the future. They are not proactive in dealing with problems.

Work-related causes include overload and problems with superiors. Often employees get too little recognition. They are often not involved in decision-making processes,

and new measures are often implemented top-down. There could be a lack of employer support; often conflict is rampant within a team, highlighting the lack of solidarity amongst colleagues. One often sees the “I’ve already quit” syndrome where an employee starts to feel disengaged from the hospital and only performs meets the minimum requirements of their job description.

PREVENTATIVE MEASURES INVOLVE PRIMARILY TRAINING OPPORTUNITIES

The question arises as to who is supposed to deal with the early signs of burnout. Together with preventative measures, organisational intervention (prevention of certain behaviour, which result from stressful situations, processes and conditions) has to be combined in a meaningful way with employee intervention (preventing certain behaviour that could trigger certain personality traits). For instance, should an employee suffer from work-related time pressures, the organisational intervention team could propose a reduction in workload, and the employee intervention could suggest following time manage-

ment training. Should it happen that the employee is only offered the training and the working conditions are not changed, the real causes of stress and complaints cannot be treated successfully. Another strategy is to further the qualifications and competencies of the hospital's own personnel and also training specialists. They are confident, which is reflected in the quality of their work. Professionals work more economically as they are focused on efficient methods. To develop specialists, personnel competence has to be strengthened, and the methodology, field and especially social competences have to be developed and constantly supported.

In order to do this, the employer has to offer relevant basic and advanced training programmes, continuously adapting and improving them. Competences that have to be promoted include teamwork, communication, and dealing with criticism and conflict. Employees learn to make decisions and keep to them, how to set limits and say no, and address problems openly. The employer is in the position to be actively involved in the development of related fields by means of the planning process, organisation and work division.

It shows the employer's engagement, recognises excessive demands, and actively takes counter measures in case of

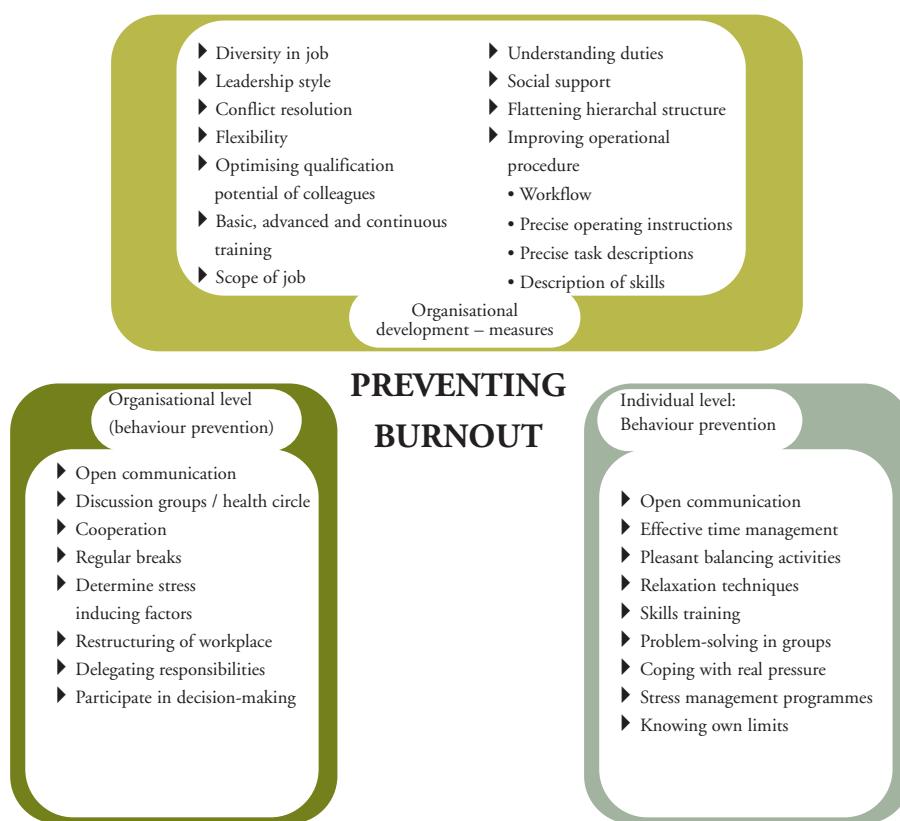
transgressing capacity. This results in the employee gaining more autonomy and independence from other professionals, stress is reduced, their confidence grows and general well-being improves. Development should be done to include the strengthening of competences and developing focused coping strategies.

EMPLOYEES SHOULD HAVE THE FEELING THAT THEIR SUPERIORS SUPPORT AND ACKNOWLEDGE THEIR EFFORTS.

ANALYSE THE ORGANISATIONAL DEVELOPMENT

Hospitals should already consider burnout prevention in its organisational development and, at the same time, conduct a very precise analysis of the institution-specific operational and organizational structure. In this way, overload and inefficient interfaces can be determined, for example departments with a staff shortage, team conflict, dissatisfaction, time pressure and excessive workloads. Based on this information, sufficient changes and improvements can be made. Making this possible requires trusting colleagues, providing open channels of communication and the efficient flow of information.

Figure 1: Preventing burnout on three levels (Source: Own material)



For every area, a concrete job description should be drawn up, which includes all areas of responsibility, the scope of the tasks and the job together with the work content and expectations. These guidelines give employees a feeling of security, increase their willingness and ability to make autonomous decisions, which, in turn, result in more self-esteem and a sense of responsibility. Employees should have the feeling that their superiors support and acknowledge their efforts. Employees should have a say in decision-making and planning processes (principle of engaging those involved).

In this way, the intent and background of decisions become clear, as employees can identify with the decisions taken. Figure 1 shows the different factors in pre-

venting burnout, on all three levels.

CONCLUSION

The hospital management should develop an understanding for the connection between the psychological health and the employees' quality of life, for instance, between organisational structures and their productivity. "The more frustrated, burnt out and exhausted employees you have, the less efficient the organisation will be, e.g. decline in productivity and more employees on sick

leave. Regarding work overload, a comparative study of American (USA) and German healthcare workers has shown that the educated healthcare workers in the USA could deal better and more appropriately with work overload in the long run." (Taken from: Brown, C. 1995. Professionalisierung als Chance, p. 44).

A more in-depth exploration of this topic can be found in a book by the same author "Ausgebrannt – Ein Ratgeber für Mitarbeiter und Führungskräfte zur Burnout-

Prävention in personenzentrierten Dienstleistungsberufen", published in October 2006 by LIT-Verlag Münster. ■

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THE NEW MARTINI HOSPITAL GRONINGEN

Building flexibly and future proof by using IFD construction techniques and creating a healing environment.

By Jack Thiadens, Rutger Kriek, Gerrit Afink, Arnold Burger and Nico Oosterom

The Martini Hospital was founded in 1991 after a successful merger of two medium-sized hospitals, the Roman Catholic Hospital Groningen and the general Christian Diaconessenhuis Groningen. Until the opening of the new building in 2007, the hospital is situated at two separate locations.

The Martini Hospital is a large general hospital. In 2005 more than 46 000 patients were admitted; approximately one third of them in day care. More than 270 000 patients visited the outpatient departments in 2005.

The hospital has a top reference function for specialised burns care. One of the three Dutch burns units is housed in the Martini Hospital. Besides, the hospital has top clinical functions such as neurosurgery and hemodialysis/peritoneal dialysis. Furthermore, the hospital is a teaching hospital.

The hospital is situated in the capital of the Province of Groningen, Groningen City. Groningen City also accommodates the University Medical Centre. In the eastern part of the Province of Groningen there are three smaller hospitals.

The sustainability of healthcare buildings has decreased strongly in recent years. This is partly due to the fact that the technical and economical life span of buildings does not correspond with their functional life span. No one can predict what healthcare will look like 20 years from now. Any hospital will have to be able to grow with its users and the rapid changes in healthcare. Industrial buildings seem to be the right answer.

The starting point for the construction of the new Martini Hospital was to make the building flexible and "future proof", enabling it to grow alongside rapid developments in care.

The hospital chose the integral application of industrial, flexible

and demountable construction (IFD construction techniques), which had never been used so extensively in hospital buildings in the Netherlands before. For this, the hospital received demonstration status from the

building should a shrinking scenario emerge.

A fundamental choice has been to deviate from the standard width of a hospital building block. Instead of a deep build-

NO ONE CAN PREDICT WHAT HEALTHCARE WILL LOOK LIKE 20 YEARS FROM NOW.

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Furthermore, the hospital chose a patient-focused design in an attempt to create a healing environment for patients. By doing this, the building supports the hospital's philosophy that by paying attention to details, value is added to the care of patients. So, the interplay of many colours in combination with a lot of daylight will lead to a light and warm building where patients and professionals will feel at ease. For this article only the theme of flexibility and sustainability will be discussed.

IFD CONCEPTS

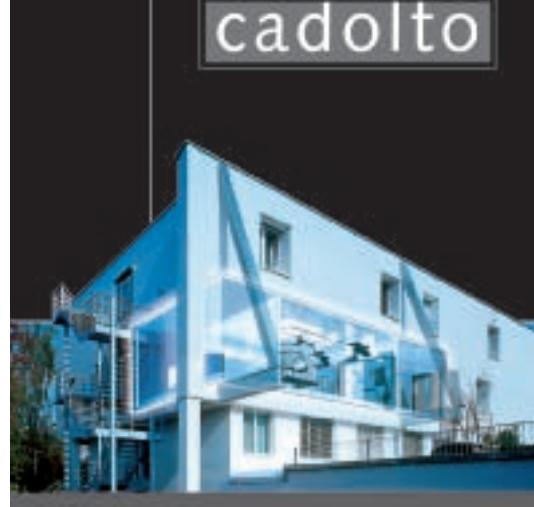
Flexible building was chosen, too, according to Industrial, Flexible and Demountable (IFD) building principles. The new hospital will consist of eight building blocks of approximately 1000m² each per level, which are linked together like two chromosome pairs.

Central facilities, stairs and lifts are housed at the junctions. By cutting the total building block into eight parts, it is simple to dispose of parts of the new

ing block of 40m x 25m in width, a narrow block of 60m x 16m was chosen. This produces 30% more daylight, which does not only have a favourable impact on patients' recovery and the biorhythm of patients and staff, but also offers the possibility of converting building blocks into offices or residences without excessive interventions.

The building is flexible at all levels because of the uniform building blocks.

Installations are placed in a central shaft per building block, which consists of 80% generic spaces and 20% specific spatial destinations, so that the main structure stands apart from the chosen healthcare concept. Two building blocks have a more traditional hospital size and accommodate among others operating quarters, imaging techniques and nuclear medicine facilities. For these two building blocks, another form of flexibility was chosen, through insulated pipes outside on the façade so as to keep an optimum of arrangeability of the available space for the future. The generic spaces on these two building blocks might be exchanged for example for an extra operating



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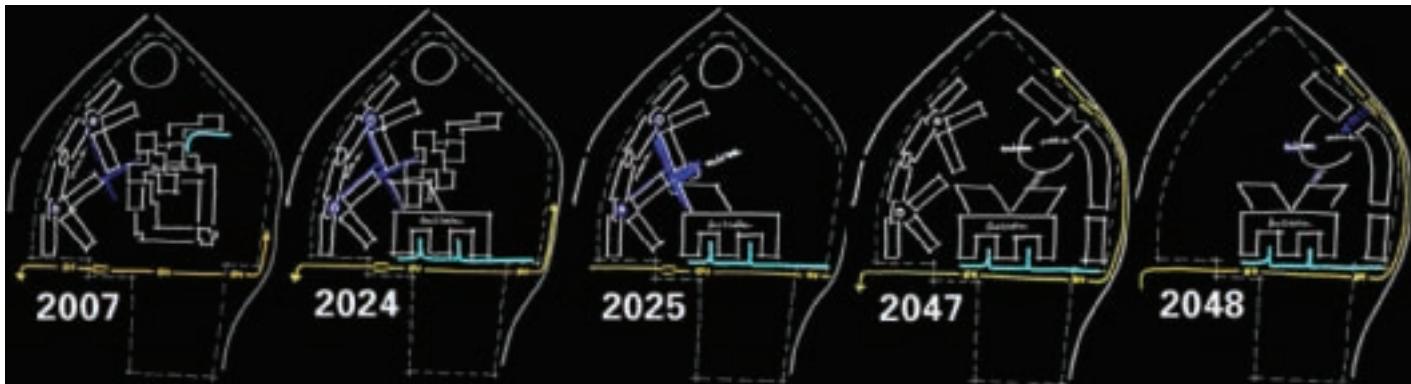
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FLEXIBILITY

As a starting point for the new plan flexibility, changeability and durability of the building concept were chosen. The building would have to be able to grow as it were together with its users and the rapid changes in health care. Industrial building seems to be the appropriate answer. In the new Martini Hospital this is carried through in detail.

The new building of approximately 58 000m² adjoins the eastern side of the existing hospital (35 000m²). A sophisticated housing vision has been developed for an optimum usage of the available space on the plot for the coming 40 years. In the coming period new buildings at the end of their life cycle can be removed easily via a sophisticated hopscotch and new buildings can be built alongside as well.

theatre. Flexibility was sought in the construction, the exterior and the interior as well. On the outside of the building, extensions of 2.40m x 7.20 m can be added locally, potentially increasing the surface by 10%.

around two principles, namely dividing care into elective and acute care and the forming of a nursing chain. Starting point for this care model is the fact that elective care (app. 85% of total care) is hardly or not disrupted by acute care. This concept is

THE CARE MODEL FOR THE NEW MARTINI HOSPITAL HAS BEEN CONSTRUCTED AROUND TWO PRINCIPLES

The Martini Hospital also applies a system wall which can be replaced or removed without having to be demolished and installations remain easily attainable. The design of these system walls effectively produces a sound insulating value of 48 dB from architectural floor to architectural ceiling.

CARE MODEL PRINCIPLE

The care model for the new Martini Hospital has been constructed

translated into the design for the new building.

The “heart” of the building is formed by the operating rooms which are divided into an acute part (high care) and an elective part (low care). This nursing chain going from the high to low care part of the Operating Block assures that it is not the size of the building block that defines the size of a nursing ward. The size of a nursing ward is flexible because the nursing wards are designed in the form of a

chain. Wards can shrink and extend by using beds from an adjacent ward.

FLOOR LEVELLING

Seen from the care concept the physical separation of elective and acute (emergency) care is translated into the function plan. This enables wards which strongly interact to be linked up horizontally and/or vertically. Concretely, the distance from the ambulance entrance to the operation block entrance is less than 30 meters. Where on the high care side above all the input of the patients is the guiding principle, on the low care side it is the input from the operating rooms. On this side the volume for most of all the ever increasing number of day care is determined by the speed with which a patient can go to day care after an operation via as short a stay at the recovery room as possible. This is realized by linking the recovery rooms and day care units together physically with a so-called “overflow” area.

SPACE

Almost all spaces are equipped with a demountable system wall which includes at regular intervals a metal built-in rail. In this built-in provision there is a click-in possibility for sockets for the use of wall plugs, data connections and medical gases. The wall plugs can be connected by means of a flexible line with connector to a distributing-box above the lowered ceiling. This wall makes it possible to alter spaces in a dry and efficient manner. However, it is to be expected

that the same space will alter in function so that other supplings must be taken up. Here extending the number of data points and the adding of medical gases should be

users. On the one hand it makes them feel they can change everything if need be, increasing their empowerment and consequently their motivation, but on the other hand it also has

of person-bound spaces, widening hours of opening and working, so that spaces and capital-intensive apparatus are used more are now regularly discussed. ICT is a crucial element in this debate, as space for healthcare activities must now be made available independent of time and place. ■

ACCOMMODATION HAS BECOME AN IMPORTANT THEME FOR DUTCH HOSPITALS

kept in mind. Certainly with the expectation that much more apparatus than at present will be connected to a central network, it is good for present day building elements to offer adequate solutions.

CUSTOMERS AND THE NEW CONCEPT

The flexibility of the construction plan has a two-sided effect on the

effect of having people think they can change plans at any moment. During the building process this is certainly not the case as one depends upon contracted building planning.

CONCLUSION

Because of this optimization, accommodation has become an important theme for Dutch hospitals. Topics such as activity-bound spaces instead

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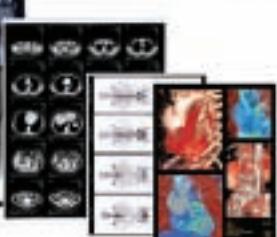
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THERE IS SOMETHING IN HOSPITAL AIR

By Mart Geraerts

It is a known fact that tuberculosis, aspergillus, chicken pox, measles and MRSA-containing particles float around in the indoor air of most hospitals. Numerous publications on hospital hygiene confirm this state of affairs. H5N1 might join them in the near future.

Airborne infection transmission causes severe human, social and financial problems. Moreover, the numbers of these infections are increasing as reported by the WHO on Tuberculosis and the H5N1 pandemic.

But this is not the point. The point is: "Can we do something about it?" The answer is: "Yes, we can clean the indoor air". Is it that simple? Yes it is, but it requires an open mind and commitment from various departments in healthcare organisations.

A NUMBER OF ISSUES HAVE TO BE CONSIDERED FIRST

The **hygiene department** should look further than the debate on which form of transmission is most important and rather focus on all the parameters, such as contact, droplet or airborne that result in the transmission of infections. By linking contact, droplet and airborne, preventive measures will result in the one supporting the other. Consider the idea that whatever is not in the air, cannot drop and contaminate the furniture or medical devices and, more importantly, cannot be inhaled.

The **technical department** should look further than the (theoretical) technical details of the HVAC system and have an open mind with respect to new, innovative solutions and options that can support their existing ventilation system, options that contribute to a safer hospital environment.

Management should make a cost-benefit analysis based on all the criteria, facts and figures and consequences, as commercial companies would do. The cost of an infection, in relation to the cost of a preventive measure, should also be considered in view of potential savings in financial, patient outcome and reputation.

But, let us look at some known examples first.

1. It was established that airborne MRSA-concentrations are always present in a patient's room ($\sim 6 \text{ cfu/m}^2$) and that higher concentrations occur during bed-making ($\sim 116 \text{ cfu/m}^2$). This means that high concentrations of MRSA (~ 100

cfu/m^2) would have fallen on surfaces such as medical instruments, furniture and the floor. Consequently, the result of other preventive measures like sterilisation or hand hygiene will be diminished. Additionally, a part of the MRSA particles remains airborne ($\sim 6 \text{ cfu/m}^2$) and will be spread by the indoor air to other areas in the hospital.

2. The risk of HCWs being infected with tuberculosis is higher in general departments, such as First Aid, I.C.U. and autopsy (non-isolation), than in equipped departments (isolation rooms).
3. Mobile HEPA Pro Units completely eliminated invasive aspergillosis infections in patients undergoing (allogeneic) bone marrow transplants.

Airborne infection transmission has no limits or boundaries and the majority develops inside the hospital facility.

What are the technical options available to reduce the risk of airborne infection transmission?

The options are:

- replacing all inadequate HVAC-installation; and/or
- installing HVAC-systems with HEPA filters in all the potential risk areas.

These options are fine when building a new facility or when costs are not an issue. However, both are demanding, as they require building activities with all the associated consequences including disturbances both to the department and patients.

A workable and feasible option is to install specifically designed and developed, high efficiency HEPA filter units (preferably mobile units) that filter/clean the indoor air by eliminating airborne infection transmission at the source. (This would include MRSA and/or TB and virtually all other infectious airborne particles.)

What are the considerations when trying to establish which HEPA filter unit should be used? Which questions

should be asked? Which device should be chosen? The most important criteria are:

- the effectiveness of the unit;
- whether the unit achieves the level of filtration required; and
- whether the information from the manufacturer is correct.

The only reliable answers come from international healthcare providers faced with the dangers of airborne infection transmission, as airborne infection transmission in hospitals is an international issue. Also, consider proven scientific confirmations published by esteemed scientific organisations such as hygiene institutes in university hospitals, which have worked with and tested a specific mobile HEPA unit for a long period of time, preferably months or even years. Only a unit that has offered significant results (a significant reduction or the total elimination of airborne infection transmission: CFUs) should be deemed reliable.

The technical demands for an efficient (mobile) HEPA unit are:

- double airflow (one airflow to take in contaminated air and one airflow to return cleaned air);
- air intake should be at an effective, horizontal

(breathing) level, from 1m and over 360° (air intake at floor level is useless, as people do not breath at this level);

- the air outlet should be over 360° diagonally upwards to create airflow in the room (air outlet at floor level is dangerous, CFUs on the floor are made airborne again);
- HEPA 14 filtration with leak test (no risk can be taken with infectious diseases);
- the casing should be shiny stainless steel (to prevent contamination adhesion);
- no or limited maintenance (the unit has to function around the clock, all year round);
- the electronics have to meet maximum safety standards;
- little or no occupation of floor space (floor space is limited in hospital rooms); and
- key remote control (only hospital staff can control the unit).

The discussion regarding the socially acceptable level of the infection rate is not that relevant as even one infection – which could have been prevented – is one too many. It would make more sense to look at the financial implications of an infection.

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LEADING THE LAPAROSCOPIC REVOLUTION

How the ICENI Centre for keyhole surgery is helping to reduce inpatient stays

By Tan Arulampalam

The ICENI Centre, part of Essex Rivers Healthcare NHS Trust, has an international reputation as a centre of excellence in laparoscopic (keyhole) surgery. This has been due to the pioneering work of Professor Roger Motson, who introduced laparoscopic surgery to Colchester in 1989. Modern surgery has now moved irreversibly towards a minimally invasive approach and Professor Motson has built a team of surgeons and specialist nurses to adapt to this change and drive laparoscopic training forward. The benefits of laparoscopic surgery to patients and the healthcare system are immense and include less pain, smaller wounds and shorter inpatient hospital stay as well as traditional inpatient surgery moving to day stay surgery. Delivering a high quality service in combination with a continuing commitment to training are the core principles underpinning the ICENI Centre. The first training course was conducted in 1992.

LAPAROSCOPIC SURGERY

Laparoscopic surgery involves placing several ports into the abdomen. The latter can be inflated with carbon dioxide through these ports. A telescope with an integrated camera system can also be passed through one of the ports and special instruments designed for laparoscopic surgery are passed through the others. A range of procedures both diagnostic and therapeutic can be performed. These include bowel resections, hernia surgery, liver and gallbladder surgery, vascular surgery and simple diagnostic procedures. Because the incisions are small compared to a big open wound and tissues are handled with far less trauma, patients tend to have less pain and discomfort.

Recovery is quicker due to earlier mobilisation and consequently hospital stay is much shorter.

RESOLVING CAPACITY ISSUES

Many hospitals have problems with delivery of elective general surgical procedures due to the volume of emergency admissions. The service delivery is further hampered by stringent financial controls and government driven targets. This situation is improving with changes in emergency admission processes. Although great inroads have been made towards resolving the capacity problems within these hospitals, further developments are required to resolve the capacity and demand issues that national and local health economies are facing.

Increasing the laparoscopic approach gives hospitals the opportunity to increase the utilisation of the Day Surgery Unit (DSU) and reduce inpatient hospital stay. This development will enable hospitals to deliver both local and national targets.

DEVELOPING THE INFRASTRUCTURE FOR LAPAROSCOPIC SURGERY

Although the ICENI Centre installed the first purpose built integrated laparoscopic operating theatres in 2001, there was a need to upgrade and expand the facility. This was because the technology had advanced, for example flat screen monitors with acceptable image characteristics became available, ultrasonic generators for tissue cutting and coagulating came of age and optics in the telescope and camera systems improved in terms of image quality.

An integrated laparoscopic operating theatre combines high quality laparoscopic camera systems, gas insufflators and dissection energy sources with the capability of having all equipment being remote in a separate unit with essential equipment suspended on ceiling mounted pendants. This means that delicate equipment does not have to be moved unnecessarily, there are no cables to cause accidents and equipment can be moved into place easily once a patient has been moved onto the operating table. All instrumentation can be controlled manually within the operative field or using voice control. In addition to this we specified a high quality image link to the hospi-

tal's education centre (for training courses) as well as the outside world via ISDN line connection.

A business case was drawn up for two integrated operating theatres as described above as well as training simulators, specialist nurses and administrative staff to run a full time training facility. The case was based on:

- 1) Reducing inpatient stay, guaranteeing hospital admission and reducing waiting lists with negligible detrimental impact on other services within general surgery or other surgical specialities.
- 2) Increasing DSU utilisation.
- 3) Attracting external referrals from other hospitals due to our own expertise.
- 4) Increasing educational activities to the benefit of the regional health sub-economy.

In November 2005 two laparoscopic operating theatres were launched at the ICENI Centre.

EXPANDING THE CENTRE

The next phase of development will be the appointment of a fifth laparoscopic gastrointestinal surgeon and a second laparoscopic nurse. The portfolio of courses has already expanded from 10 to 16 training courses per year. There is a broad range of courses covering all laparoscopic procedures which are suitable for all grades of surgeon. The ICENI Centre is committed to maintaining the highest standards of training and currently has places available for three junior surgeons as well as two laparoscopic fellows. In addition, the ICENI Centre works closely with the Association of Laparoscopic Surgeons of

Great Britain and Ireland in training senior surgeons. Because of the numbers of surgeons in the ICENI team they are able to offer a Preceptorship programme whereby surgeons visit Colchester with a team of their own and then set up training at their own hospital with an ICENI surgeon and nurse acting as mentors to guide the safe adoption of new laparoscopic techniques at other UK and European hospitals. The ICENI Centre has a commitment both nationally and on a European level for laparoscopic training.

The next capital investment will be for a new training centre building capable of housing the administrative staff, simulators and dry labs and the audiovisual hub. Lecture theatres and seminar rooms will be included.■

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DEVELOPMENT OF CAREER PATHS

To a great extent, the comprehensiveness of their education and training allows nurses to operate fairly proficiently upon graduation from nursing school. However, over the course of their career, much time is spent differentiating them to develop a bedside practice. This type of orientation makes it very difficult for the senior, experienced clinician to switch to an undifferentiated role, for example, to serve in an administrative and managerial role that requires different skill sets and an understanding of technology.

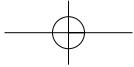
In general, healthcare institutions fail to create career paths and to offer continuing education and training needed for this type of career shift. Because current and future practices will increasingly require nurses to both participate in and lead multidisciplinary teams composed of individuals with varying technical skills, levels of preparation, and roles, the establishment and implementation of a career ladder is critical.

CONCLUSION

There are many reasons why healthcare organisations are awakening to the recruitment and retention of older nurses as part of the demographic mix in their agencies. Experts advise that organisations should "understand and know their internal demographics" with data such as the age of the nursing workforce, intent to retire, the types of positions that will be vacated, and - in the case of management positions - whether a succession plan is in place.

While strategies for recruiting and retaining older nurses are feasible, the challenges ahead are indeed great. Nothing short of transformational change is required to avert a potential public health catastrophe within the next 15 years. We need to be clear that there is no time to waste.■

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Dr. Bruce Jaffray

as a general surgeon, he switched to pediatric surgery because he finds long-term outcomes for children in pediatrics more positive: “*In general, I prefer children as patients because their recovery times are quicker and prospects for their long-term health after surgery are more optimistic*”. He has a unique expertise in pediatric laparoscopic surgery, and introduced it to his hospital.

Laparoscopic surgery was developed solely for adults and Mr. Jaffray believes that explains the initial resistance to using minimally invasive surgical procedures on children. However, clinical trials

revealed impressive results: children got the same benefits from minimally invasive surgery vs. traditional open operations as adults did. They went home more quickly, less morphine was required after surgery, and fewer complications arose.

Because of these positive results, Mr. Jaffray predicts a leap in demand for laparoscopy applications in children. Surgeons are also experiencing increasing parental pressure for the technology: using laparoscopy means shorter hospital stays and increased efficiency amongst the surgical staff. Surgeons are becoming more experienced at performing single-stage operations in children, instead of staged operations - which require longer stays and have potential for more complications.

In 2006, Mr. Jaffray's hospital was donated a substantial grant by the hospital charity to buy a minimally invasive unit. The staff determined essential selection criteria and set image quality as the number one priority. A public tender was then called, and all major manufacturers were assessed. **CORE** was finally selected, since it clearly offers the best image quality.

Bespoke Operating Solution

Furthermore, the Richard Wolf team was able to integrate the hospital's existing equipment into the new system, which offered the staff a bespoke solution. The system was specifically tailored to their needs and precisely matched their requirements. After the equipment was installed, the after-service care provided by Richard Wolf quickly managed to iron out all snags.

Ergonomics and Safety Using Satellite LCD technology
According to Mr Jaffray, **CORE**'s biggest advantage



is that it makes complex procedures easier to perform. The screens are placed at a 360° angle from the operating table, so there is no need to move any equipment around. Everything is suspended from the ceiling, and there are no cables on the floor, which makes the operating room safer for the patient and staff. The equipment can also be moved for traditional open surgery when necessary, so the space is used as efficiently as possible. The system is ergonomically designed for the comfort of the surgical staff, so they can concentrate on the patient.

Tele-surgery

CORE also has a managerial dimension, by associating clinical governance to complex procedures. Surgeons have indeed a new way to share data and disseminate information. Traditionally, they were kept up-to-date via medical and surgical journals, but today can watch a new procedure in real-time, or watch a recognized expert perform an operation to help further increase their proficiency. Since **CORE** allows for video transmission in real-time via the hospital's intranet, and all procedures are automatically archived on a secure central server.

Overall, **CORE** has made Dr Jaffray's surgical life easier. It gives him excellent image quality, fits his needs perfectly and makes it more comfortable for him to perform complex operations. With **CORE**, Dr Jaffray actively contributes to twenty-first century pediatric surgery.



LABORATORY MANAGEMENT: THE IMPORTANCE OF QUALITY AND EFFICIENCY IN PATIENT CARE

By Prof. Wilfried von Eiff, Nora Meye and Ingo Leufke

The current reforms in the German healthcare system seem to focus on maintaining the quality of care in hospitals while cutting the high costs and reducing duration of stay. The laboratory-diagnostic management process can contribute substantially to achieving these objectives. The importance of laboratory diagnostics in terms of DRGs can be illustrated on the basis of the following figures.

Two out of three times, the doctor's diagnosis is based on laboratory results. Due to the confirmation of 62% of secondary diagnosis – primarily because of laboratory parameters – the laboratory becomes even more important for coding and hospital reimbursement. Moreover, the hospital laboratory is responsible for up to 70% of all services rendered to patients, yet constitutes only three to four percent of the hospital's total budget. Consequently, the clinical laboratory becomes a valuable, indispensable and competent partner to the hospital. In future it would no longer be a pure cost centre but rather a substantial contribution to the hospital's profitability. The manage-

ment of clinical laboratories are faced with multiple options when it comes to applying the requirements of the DRG system fairly.

Figure 2 illustrates new communication channels, changes to the organisation, possibilities regarding new EDP, cooperation possibilities and outsourcing laboratory functions as options to optimise the management of a laboratory.

The introduction of the DRG system demands efficient processes and operational sequences in the hospital make sure that the most cost effective services are delivered as these will only be reimbursed by a flat-rate amount.

In future, laboratory parameters should no longer be requested in an unfocused and random manner. There will be more differentiated, question-oriented research samples, which could possibly be controlled by real time coding.

The range of tasks carried out by the laboratory will

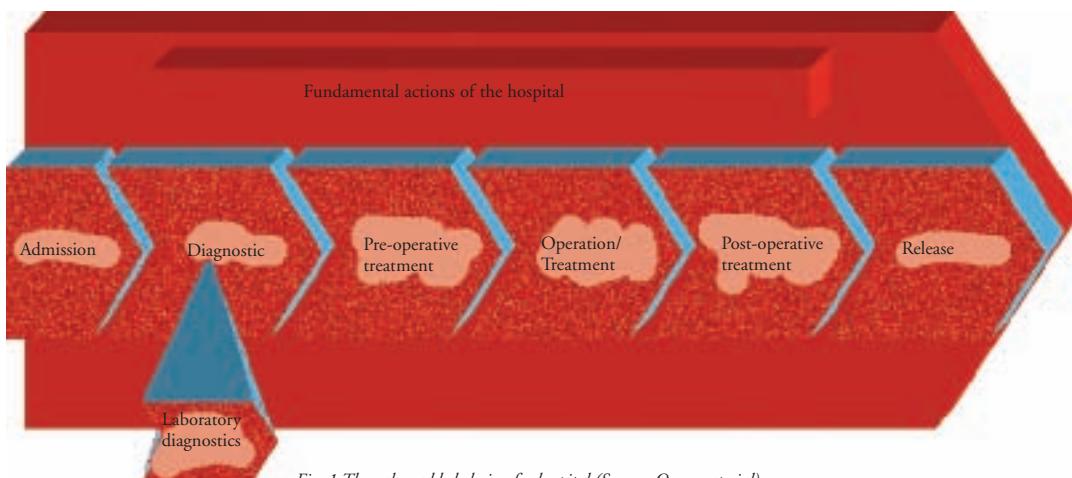


Fig. 1 The value-added chain of a hospital (Source: Own material)

develop from merely providing requested results into an independent function within the clinical pathway. Many clinical pathways should also incorporate the laboratory diagnostics.

Not only because 62% of compensation relevant secondary diagnosis is mainly confirmed by laboratory results and can thus be documented as being "MDK-approved" (medical fund) but also because the requirements of laboratory results are easy to standardise and could be simplified by electronic data processing assistance.

The laboratory of the future will be measured in terms of its delivery speed and then its cost effectiveness. Rapid feedback from laboratories makes shorter patient pathways possible. Around the clock availability is therefore the most important requirement of a laboratory in a DRG system. The consequences of unsuitable antibiotic treatment lead, for instance, to longer waiting times, further and more intensive diagnosis, more extensive and thus more expensive therapy or even long-term consequences. In critical cases, i.e. clarification of the MRSA status, immune status, etc., the laboratory is an indispensable diagnostic partner of the treating physician. Moreover, the requirements of the DRG system must be met by means of electronic data processing (EDP).

An extensive paperless laboratory information system - from entering a request to receiving the results at the station - should be standardised. The test results of the laboratory become available to the stations (on their monitors) immediately after the technical and medical validation. In 80% of all cases, data from the laboratory are available in less than an hour. So, a special emergency laboratory becomes superfluous. To ensure the correlation between test results and the DRG coding, more EDP support would be needed.

Basis laboratories in various hospitals, which have a similar structure, can be centralised and run by a central specialist or a hospital laboratory. Analyses needed on a daily basis for diagnostics must be locally available. They cover about 80% of the testing revenue. The remaining 20%, uncommon and infrequent tests, should be centralised and outsourced.

Medical care centres are part of integrated care. Amongst CHI physicians – in certain regions - supra-local laboratory communities already exist.

In terms of inter-disciplinarity, combinations with other diagnostic fields such as pathology, radiology or microbiology would be possible for the clinical laboratory. The economic advantage of the MVZ in comparison to other forms of care lies with the contribution of borrowed capital as well as the possibility to conclude economically interesting compensation agreements, which do not fall under the standard benefit volume.

Generally speaking, outsourcing can have positive effects on a hospital. Outsourcing causes neither closure nor a hostile takeover. Cooperation and partnership should be the absolute criterion for both parties because the prospect of bankruptcy will have more negative repercussions for all involved.

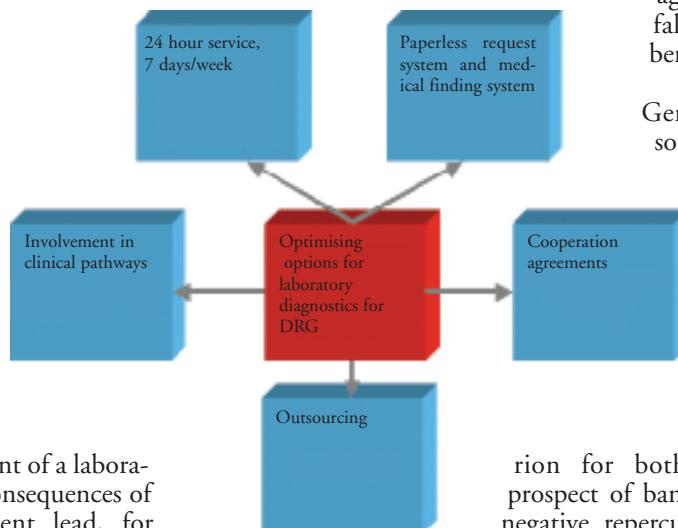
When considering outsourcing the laboratory function, one should bear certain considerations in mind e.g. 93 out of 100 errors are made outside the clinical laboratory.

The transport of samples to an external "special laboratory" has grown tremendously.

The reason for this development is that large laboratories can carry out high quality tests at reasonable fees due to the high volumes of work they receive. This means that results become available later because the samples have to be taken to an external laboratory first. In the DRG context, long waiting times – hours or even days – is just not acceptable. Empirical experience shows that 80% of the analyses can be done right there. Many types of tests should be available at all times. These issues have to be discussed before considering outsourcing.

If you do decide to outsource, no more than 51% to 74% should be subcontracted to an external partner. The hospital's remaining capital share would ensure that the partner does not realise any price leads. Additionally, the hospital also shares in the profit if higher revenues are generated. This is the incentive for both parties: the financial aspect. Ensuring increased efficiency and getting new

Fig.2: Options for laboratory diagnostics for DRG purposes (Source: Own material)



Workstation Consolidation

Throughput Imbalance: Major Cause of Bottlenecks, Say Customers

The future of Europe's hospital system lies in the development of larger complexes - either purpose built or in the form of partnerships between smaller and medium-sized hospitals. The challenge is to treat more people, for less money.

This consolidation of resources is driven by several factors. The availability of new diagnostic techniques, greater awareness of health issues and an ageing population all play their part in pushing up the cost of treatment and patient care. To meet this demand for cutting edge treatment and improved patient facilities, managers must consolidate their buying power throughout all departments. Staff at all levels are setting targets and cost control measures. To survive, we see hospitals forging financially beneficial partnerships, feeding into and servicing a central resource, often a new multi-million-euro centre of excellence.

There is no doubt that, in the long-term, patients will benefit from faster diagnosis and treatment. But this objective comes at a price. Alongside the consolidation of resources, departments are forced to look for cost savings: juggling heavier workloads, with pressure to maintain standards and minimum staff levels. Nowhere is the pressure felt more than in the hospital laboratory. Dedicated laboratory people at all professional levels find themselves struggling to cope with workload escalations, which they appear to have little or no means of controlling.

On the one hand, we see hospital administrators demanding they keep down costs. Yet, laboratories are working more closely than ever with medical teams. Doctors require more and varied tests, at a faster turnaround time rate. As new assays are introduced and treatments are developed, success rates must be monitored and evaluated.

Labs need to rethink test requirements

From being seen as the scientific backroom service providing numerical blood analysis results, the laboratory now has the opportunity to play a more proactive role as a diagnostic information resource. The concept of collaborative disease management is finally becoming a more realistic, and professionally stimulating, concept. But as professionals, the lab team knows all this has to be done while maintaining total standard conformity without sample contamination or any ambiguity of result reporting.

It is rare to see a modern hospital allowing the laboratory to recruit additional staff to cope with these demands. Instead, the message is clear: they are expected to deliver these additional tests and services, but with the same number of staff. Unless they start to fundamentally rethink how they manage their expanding testing requirements, these additional demands will place an intolerable burden on their workloads and their ability to maintain standards. To help fulfill the expectations of doctors and hospital administrators, laboratories are now looking at ways to automate their processes.

Automating processes to streamline workloads

The largest hospital complexes have chosen Total Lab Automation (TLA) solutions to improve productivity. But it requires a high initial capital out-



↳ Marcel van Kasteel
Vice President
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lay, with an ongoing financial commitment for five to seven years. And there must be sufficient space to house both the analysers and the tracking linking them up.

Medium-sized hospitals, with varying workloads, are seeking other solutions. They need to automate processes but want to achieve this by consolidating chemistry and immunodiagnostics into a 'workstation consolidation system'. This is designed to make the most efficient use of existing staff levels while reducing the number of primary tubes required.

But linking chemistry and immuno systems is a difficult task; and several different types of workstation consolidation systems are on the market as companies attempt to address this challenge. External surveys indicate that by 2005, around 1,000 workstation consolidation systems had been installed in Europe (CAP TODAY 2006).

Five performance factors deliver success

Beckman Coulter has approached this in a different way. We first carried out extensive research to find out what was lacking in the performance of existing systems and sought to pinpoint why. We then had to find ways of addressing the challenge, so the performance of the next generation of workstation consolidation systems could be fundamentally improved. Let's look first at the five main criticisms our research highlighted:

- ↳ **Incomplete total test menu**
(additional tests and reruns had to be switched to other immunodiagnostic analysers)
- ↳ **Limited onboard test panel**
- ↳ **Difficulty with reloading the reagents**
- ↳ **Significant throughput imbalance**
(caused by the immuno component being too low in comparison with chemistry - this then has an impact on turnaround time)
- ↳ **Carry-over issues**
(a concern for immunodiagnostic testing, especially for tests such as HIV, HCV and HCG)

UniCel ® CTA offers new approach with parallel processing

Beckman Coulter addressed concerns over the limitations of current workstation consolidation systems with the development of the UniCel

Demands a New Approach



Closed Tube Aliquotted, the UniCel CTA. This new sample handling module will connect the UniCel DxC 800 Synchron® Access® PRO Clinical System with the UniCel Dxl 800 Access Immunoassay System to become the UniCel DxC 880i*. The UniCel CTA offers laboratories the unique feature of parallel processing. This enables chemistry and immunodiagnostic tests to be analysed in tandem - a process which helps eliminate bottlenecks and improve turnaround time (TAT). Consolidation of chemistry and immunoassay testing on one hybrid platform produces a synchronised instrument with one entry point for samples. But it only delivers significant turnaround time improvements if the integrated workstation also performs parallel processing.

The total number of test runs per hour for individual analysers does not always apply when the systems are integrated like this. For workstation consolidation to be effective, immunoassay throughput must not significantly hold back overall turnaround time, once the systems are connected. The UniCel DxC 880i has been developed by Beckman Coulter specifically to overcome this. With a throughput of up to 400 tests per hour on immunodiagnostics and up to 1,440 tests on chemistry, we deliver the right throughput capacity on both sides without any major reduction on TAT.

'Workstation factor' charts throughput imbalance issues
During our research, customers told us that bottlenecks were often caused by this imbalance between immunodiagnostic throughput on some existing integrated systems and that of the chemistry component. They identified this as a major obstacle to laboratory efficiency. When the immunodiagnostics component was unable to deliver all tests in one hour, assays had to be run on a separate analyser. This meant in some cases making aliquots, incurring reruns and sometimes being forced to take additional samples from patients.

This presents a dilemma for an individual laboratory when assessing the merits of integrated systems: how to understand the effect of this potential performance imbalance on workflow. To help address this, Beckman Coulter representatives utilize a unique simulation tool which calculates what is called the 'UniCel Workstation Factor'. This tool analyses a laboratory's current throughput, calculates the number of different tests it would need to run on one system and identifies how its future throughput needs can best be delivered.

Time and cost savings from one-tube approach

Our research also indicated that to achieve maximum benefit from workstation consolidation, and to reduce time and cost, laboratories benefit from making maximum use of the one-tube approach. They should not

only identify the number of different tests required, but recognise that tests like HIV, HCV and toxoplasmosis are often requested with clinical chemistry tests and should be part of the available menu.

On the UniCel DxC 880i we provide a test menu of more than 150 different tests**. Customers need therefore use only one tube, without splitting the samples, because tests like HIV and HCV have to be carried out on separate systems.

Ability to reload reagents while running

The DxC 880i offers an onboard capacity of 120 total tests, including 70 chemistry and 50 immunodiagnostic tests. All reagents from the component systems can be loaded while the system is running, improving TAT. Avoiding an instrument shutdown to reload provides a quantifiable saving in LEAN process terms.

The UniCel CTA has both an aliquot feature to reduce carry-over and closed tube sampling (CTS) to remove labour-intensive de-capping and re-capping steps. This technology can save hundreds of staff hours a year. It also ensures there is no evaporation or cross contamination.

CTS ensures sample integrity and staff safety

Manual de-capping of a sample tube can spread potentially biohazardous micro-particles as far as six metres¹. Laboratory staff have the second highest rate of documented occupational transmission of blood borne and other pathogens and account for around 20 percent of HIV cases amongst healthcare workers². To reduce this risk, closed tube sampling was introduced many years ago on haematology analysers. Beckman Coulter is the only company which has successfully introduced closed tube sampling on chemistry analysers and workstation consolidation systems.

With the UniCel DxC 880i, Beckman Coulter introduces a new approach to workstation consolidation - one which allows customers to handle today's workload pressures while improving productivity and reducing costs.

By making these process savings, customers will have more time to focus on added-value tasks such as disease management initiatives. This, in turn, improves their professional service to the medical teams by helping to make a significant impact on patient care.

* In development, pending achievement of CE compliance; not yet available for in vitro diagnostic use.

** Not all tests are available in all geographies

¹ Houwen B., Diagnostics Today, Beckman Coulter, Inc. 2002

² Clinical Laboratories: Reducing Exposures to Bloodborne Pathogens, International Health Care Worker Safety Center, Univ. of Virginia

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business relate to hospital business. strengthens the hospital's profitability and ensure job security.

To do this, employees have to agree to competitive work contracts. In the case of a laboratory, only financial, personnel and organisational responsibilities would be transferred to the external laboratory partner, who commits to take on the routine analyses of the hospital, and guarantees around the clock care. This requirement should be particularly emphasized as to facilitate a shorter waiting period within the DRG system.

When negotiating with external laboratories over price, consider the comparability of the cost of in-house services and that of external suppliers. Do not compare the higher hospital prices one-to-one with the cheaper offer of the established laboratory.

Rather, weigh the optimised in-house services up against the all-hours service (such as that of the potential partner) and then compare their prices. It is always advisable to remember that quality supersedes price. Small and medium-sized hospitals are at an advantage. Apart from becoming more effective, they are also obtaining expert

diagnosis knowledge. The above-mentioned arguments and options underline the importance of a laboratory in DRG.

The laboratory diagnostics have a large influence on the medical and business objectives of the hospital and should not be seen as a cost factor, but rather as a key process in the value chain with an optimising effect.

The laboratory contributes to cost reduction and improving quality in the patient-value supply chain.^H

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The hospital in Figure 2 spares its nursing staff the physical and psychological costs associated with progressive impairment of WCA, while saving itself the inescapable costs associated with removing the "sand in the organisational wheels" (high turnover rates, absenteeism, problems with duty rosters and so forth) and addressing risks to the quality of care.

Assuming the objectives of the hospital are to ensure that nursing staff can manage their work over the long term ("fit until retirement") and offer the organisation high quality and consumer focused skills, and that its strategy is to develop sustainable human resource policies which enhance work coping ability, it must first identify what hospital-specific action is needed. It then draws on the findings of this exercise to develop and introduce a series of focused measures.

STAFF EMPOWERMENT IS THE CORNERSTONE OF THE WCA AUDIT

The WCA audit is the instrument of choice for completing this task. It identifies the work coping ability of staff and the most important measures, from a staff perspective, for reducing workload. The empowerment of staff is the cornerstone of the exercise. It seeks to maintain and strengthen employee work ability, who are particularly

prone to burnout (in the nursing and care professions). The WCA audit is carried out using a questionnaire. In order to guarantee anonymity and confidentiality, the hospital should commission an external body to conduct the survey and produce an audit report. Many factors play a role in determining the level of threat to staff work ability. Every hospital has its own unique set of circumstances – its "individual fingerprint". The audit provides an insight into how the organisation currently utilises staff work ability and – in so far as required – deduces measures that will optimise and create best-fit working conditions. The WCA audit, like other audits, can also be used as a tool for risk and quality management.

An information brochure on the WCA audit for nursing, including references to other literature on the topic can be requested from the author.^H

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THE GREEK HEALTH SERVICES MANAGEMENT ASSOCIATION

By George J. Stathis

In Greece there are two employee confederations, one for the public and the other for the private sector. The Greek Federation of Public Hospital Personnel falls under the public confederation and the Federation of Unions of Private Hospitals under the private sector confederation.

This way of organisation may seem rather simple, but, in practice, it means that professionals (e.g. doctors, nurses, pharmacists, technicians, etc.) in every health sector have their own representative organisation that organises congresses, publishes periodically and address their demands.

The first organisational institution of its kind in Greece, the *Administrative Hospital Directors*, was founded in 1995. This association was mainly a trade union, whose members came from the public sector only. One of its main activities was organising the annual national congress for healthcare management services, which was first held in 1999. The *Administrative Hospital Directors* played an important role in changing Greek legislation and establishing the practice of appointing managers in Greek NHS hospitals. In 2001 the first managers – previously active in the private sector – were deployed in public hospitals.

The members of the *Administrative Hospital Directors* then decided to disband the association, resulting in the Greek Health Services Management Association (GHSMA) being founded in 2002. The GHSMA is mainly a scientific organisation

whose members work in either the public or private sector.

A basic requirement for membership is a university degree in sciences that is related to management in health services. Most of the members are senior executives (managers, directors, etc.) – in public and private hospitals and companies in the health sector – doctors, nurses, health economists, computer specialists, and hospital engineers – who are active in healthcare management services. Other members include academic staff from research faculties at various universities.

The GHSMA is not affiliated to any political party, but informs Parliament, the government and other organisations related to the healthcare industry of its actions and decisions.

The Association processes and publishes proposals for the modernisation of hospitals and the better organisation of sanitary systems, by means of thematic committees. Although the organisation has not existed that long, its sphere of influence is growing markedly, especially amongst those politicians who share our vision.

The main objective of the GHSMA is to change the job description of hospital managers to a more technocratic one, as these are mostly political positions. This means that with every change of government, almost all hospital managers in Greece are replaced. Consequently, we have many new members, but some are

less actively involved than others.

Our Association supports:

- The application of modern methods of financing hospitals (DRGs or Global Budgets).
- The continuation of computerising hospitals, as well as the utilisation of health informatics in the country.
- Changing the legal status of public hospitals, in order to acquire more operational flexibility.

The GHSMA continues to organise the annual, national Congress on Health Services Management, in which more than 1000 people participate every year. The Minister and the Deputy Minister of Health and Social Solidarity attended the eighth Congress – that took place 28-30 September 2006. The Association also organises regional events and lectures in various cities.

The website (www.eemy.gr) offers a raft of information on Association decisions and statements, Greek and international healthcare news, a bibliography, announcements of congresses and events, etc. Currently, the content is only in Greek.

The official journal of GHSMA, the *HEALTH REVIEW- Sciences, Technology and Policy*, is a bi-monthly publication with a circulation of 10 000. The magazine focuses on scientific work for hospital management, health economics, health informatics, health policy, quality, education, etc.

The GHSMA Board has seven members, elected by the General Assembly



every two years. The next election will take place in October 2007.

In January 2006 the GHSMA submitted an official application for EAHM membership. We presented

our Association to the EAHM Board, in Algarve, Portugal on 16 June 2006, and to the Executive Committee in Dublin, on 30 August 2006. The following day, the General Assembly decided unanimously to

accept the GHSMA as a full member of EAHM. ■

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THE GREEK HEALTHCARE SYSTEM

By Gregory Roumeliotis and Stefanos Chronis

The Country

Greece covers an area of 131 957 km² with hundreds of scattered islands around its coastline. The country is divided into 13 administrative regions.

Over the last 15 years, a great many economic immigrants – some legal, others not – have been entering the country. According to official statistics, the population (in 2005) stood at 11 120 000 people. Women make up 50,5% of the total population. In 2005, the workforce amounted to 4 850 000, and unemployment was at 9,6%.

Greece is a parliamentary democracy. The capital is Athens with 4 million inhabitants; Thessalonica is called the “capital of north” is. The official language is Greek (98%). Other languages are spoken in border zones (2%).

In 2005, the GDP was 181 billion (16 277 per capita), with an annual growth rate of 3.7%. In 2004 health expenditure was 10% of the GDP; estimates showed that it would increase to 10.3% by the end of 2006. Life expectancy at birth is 82 years for women and 78 years for men (in 2005).

The Structure

The current Greek healthcare system was established by Law 1397/1983, on which the Greek National Health System (GNHS) was founded. The principles of law include:

- Equity in delivering and financing healthcare services
- Primary health care development
- A new public-private mix in the service provision
- Responsibility of the state for the provision of healthcare services
- Decentralisation in the planning process, improvements and community participation
- Establishment of new payments methods for healthcare providers

As a result of this law, all hospitals that had been subsidised by the State became public; the employees all became civil servants; and the establishment of new private clinics was prohibited. (This prohibition was suppressed nine years later.)

Initially, vast numbers of doctors and other health professionals were appointed in the public sector, and many new hospitals and more than 200 rural health centres were built.

Interestingly enough, numerous legal provisions have not yet been enforced

such as decentralising the system, organising primary healthcare and modernising administrative and economic processes in the public health sector.

Financing

The Greek healthcare system is mixed, having elements of both the Bismarck and Beveridge models.

Health expenditure is covered by:

- State budget
- Social insurance funds
- Private insurance companies
- Official out-of-pocket payments by patients
- Non-official payments by patients

The total health expenditure is covered (2005) by:

- State and social funds: 52%
- Private payments of patients: 48% (Private insurance covers about 2%).

GNHS hospitals receive funds to pay all personnel directly from the State budget. Also, they receive one daily fee for each patient from the social insurance funds, which is low, bearing in mind the real cost of hospitalisation. Therefore, they often face substantial deficits, which are afterwards covered by the State budget.

However, in many cases patients have to pay doctors in public hospitals some money "under the table" to minimise waiting time or because they think this will ensure better medical care.

In private hospitals (clinics) hospital fees and doctors' salaries are high-

er. As a result, hospitals employ nurses' assistants to deal with the workload. Unfortunately, these assistants are not sufficiently trained.

In contrast, there are few registered nurses – one nurse for every 250 inhabitants – because this profession does not offer much in terms of social

factors that impact on the productivity and effectiveness of the system. In a lot of cases, problems arise in the supply chain of technological equipment, sanitary materials and medicines, resulting in financial loss for public hospitals.



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er, as these are paid by private insurance companies, or directly by patients. Patients who have social insurance prefer to stay in private clinics, as this guarantees fast service and more luxurious conditions.

Problems

The main problems in the Greek healthcare sector can be summarised as follows:

- The number of doctors per capita is very high, bearing the size of the population in mind. Experts estimated that the country needs 27 000 to 30 000 doctors. However, currently there are more than 68 000 doctors; in other words, 1 doctor for every 136 inhabitants. Some doctors sup-

reward. As a result, hospitals employ nurses' assistants to deal with the workload. Unfortunately, these assistants are not sufficiently trained.

- Primary healthcare is not organised by a central body, especially in urban areas. General practitioners represent less than 2% of the total number of doctors. Hospitals offer their services covering both secondary and primary healthcare. As a result, there is increase in patients waiting lists, a tendency to direct patients to the private sector or patients engage in unethical out-of-pocket payments.
- The fact that GNHS staff have a job for life and the lack of active HR evaluation and incentives are negative

- Modern management methods and cost control systems, such as global budgets and DRGs, have yet to be applied in GNHS hospitals.

Regarding the establishment of modern and integrated Health Information Systems and despite the generous EU funding, absorption rates are very low, application has been very slow and therefore the system cannot have powerful and accurate tools to achieve optimum operation and planning, or perform financial and clinical audits.

In November 2006, the Minister of Health and Social Solidarity announced that he would propose three new bills to Parliament regarding the (i) central procurement of hospital supplies; (ii) administrative reengineering of the GNHS; and (iii) organisation of primary healthcare. ■

The current structure of Greek healthcare services:

Public Sector		Private Sector	
NHS	Insurance Funds Health Services		
► Hospitals	► Hospitals	► Hospitals (clinics)	
► Health Centres		► Diagnostic Centers	
► Rural Surgeries	► Polyclinics	► Independent practices	
► Emergency Pre - Hospital Care		► Independent Surgeries and Laboratories	

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THE GREEK HOSPITAL SYSTEM

By George J. Stathis

The current hospital system in Greece is a direct result of Act 1397/1983 that established the National Health System (NHS). Laws that were later enforced brought about some changes, but did not modify the basic characteristics of the system.

The Greek National Health System is responsible for 327 hospitals, both in the public and private sector, totalling 51 762 beds (according to statistics from 2005). The average bed occupancy is 80% and the average length of stay is six days for the public sector and eight days for the private sector (excluding rehabilitation, chronic and psychiatric cases).

Public sector

Act 397/1983 stipulated that all hospitals that received government subsidies had to be become public. This also applied to certain hospitals e.g. academic, military or those operated by social insurance funds. Staff in these hospitals became civil servants. Only two hospitals did not change their status, since they received funding from private donators; they have, however, maintained certain characteristics of a publicly operated enterprise. An important regulatory innovation was established by Law 3293/2004, namely that - for the first time – operates within the health care system a state-owned company in the healthcare sector.

Today there are 148 public hospitals in Greece: 115 general and 33 specialised, offering 35 814 beds in total. The largest hospital has 1 100 beds, while smaller hospitals have 242 beds on average. Thirty percent of public hospitals – which allocate 40% of all

beds – can be found in and around Athens.

In 2005, GNHS hospitals employed 98 226 people. Doctors represent 23,5% and nursing staff 42,5% of the total. Only 19% of hospital staff members are graduate nurses (i.e. registered nurses). NHS doctors have their own salary scale, which is higher than that of other specialised hospital staff. In addition, doctors receive compensation for after hour service (night duty).

Up to 2000 all public hospitals were solely dependent on the Ministry of Health and Social Solidarity for their annual budgetary funding. With the introduction of Act 2889/2001, an effort was made to decentralise health services and Regional Health Systems were created. However, these bodies do not have any power. Important decisions are still taken centrally by the Ministry. Currently there are 17 Regional Health Systems, but the Greek government recently announced that they will be cut back to seven and later abolished all together. The same Act also introduced the position of hospital manager for the first time; larger hospitals also have a deputy hospital manager.

Private sector

The 179 private hospitals, called clinics, have a total of 14 528 beds, which translates into 75 beds per hospital. About 15 of these clinics are large, offering a few hundreds beds. These clinics are usually owned by a group of companies. Their patients either have private health insurance or pay from their own pockets. As these private clinics determine the cost of treatment and doctors' salaries

themselves, their cost structures are much higher than those of public hospitals, which, inevitably, leads to conflict with insurance companies.

Some small private clinics work within the parameters of social insurance funds. So, they charge daily hospital fees, as defined by the government. Most of the larger clinics are general hospitals, while 53% of smaller clinics are specialised. According to law, the stocks have to be nominative if a private clinic belongs to a company.

Hospital managers

A board of directors – seven members for hospitals with up to 399 beds or nine for hospitals with more beds - manages public hospitals. The government appoints the majority of the members along with the Chairman of Board who is the hospital manager. Until 2004 hospital managers were appointed for five years and could not be released, unless there was a (serious) official reason. From 2004, hospital managers have been appointed by the Minister for two years, without a contract and they can be released before the end of their term, without compensation.

In practice, hospital managers are considered political appointments. So, whenever the government changes after national elections or a new Minister of Health is appointed, most of the hospital managers are also replaced. This means that there are no more than five hospital managers who have served continuously from 2001 to 2006.

The most important criterion for public hospital managers is to possess an academic degree. Current legisla-

tion demands that hospital managers have additional qualifications, as well as proven industry managerial experience and any post-graduate qualification in health-care management. There are no formal guidelines for the nomination, concerning these additional qualifications.

In the private hospital sector, general managers are selected according to meritocracy criteria. They already have extensive experience as a CEO and would thus receive remuneration reflecting their status.

Internal organisation

The organisational structure of Greek hospitals is more or less similar in both the public and private sector.

Although GNHS hospitals have a Medical Directorate, each department or unit (e.g. pathology, surgery, nephrology) functions autonomously and has its own director, as in the private sector.

There is also a Nursing Directorate that is divided into sectors and departments. In public hospitals, there is a nursing department for every medical department or unit (e.g. operating room, intensive care, etc.). In private hospitals, it is more likely that one nursing department would take care of various medical departments.

The Administrative Directorate with sub directorates for the administrative and financial issues, deal with all administrative matters. The Administrative Director is in charge of staff, hospital budgets, moving patients, dietary needs of patients, secretarial support of all services, developing IT, etc.

All hospitals have a Technical Directorate, which is responsible for the maintenance of buildings, mechanical installations and biomedical equipment. In public hospitals, the biomedical engineering department falls under this directorate.■

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- The cost of an MRSA infection is between €10 000 and €36 000.
- Tuberculosis (non-resistant) costs a minimum of €10 000.
- Treatment of invasive Aspergillosis costs around €35 000.
- Preventive medication against invasive Aspergillosis, for all patients at risk, costs around 30/day per patient amounting to around 600/day for a ward.

Bearing these figures in mind, we should ask ourselves how we can guard against potential infection as a result of airborne infectious particles and the crippling associated costs. The answer is simple as the costs to implement an effective (mobile) HEPA concept pales into insignificance when compared with the cost of an outbreak of an airborne infection.

- An efficient mobile HEPA unit that protects healthcare workers, patients and visitors all year round, costs substantially less than €10 000 and is a once-off investment.
- The initial budget estimate, to create an isolation room or patient safe room with air-cleaning and pressure difference (positive or negative) is approximately €1 000.

Apart from that, a professional isolation room with negative pressure (for tuberculosis /H5N1) or positive pressure (for immuno-compromised) is installed in less than a day.

Finally, once you have decided to implement an effective and efficient (mobile) HEPA filter device/unit, make sure that the unit has been double checked and its validity confirmed by medical, clinical and laboratory studies, published by esteemed medical organisations.

Only then you can be sure that there is nothing "bad" in the air and breath easily.■

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INNOVATIVE FRAMEWORK OF MEDICAL SERVICES MANAGEMENT IN GREECE

State-owned company serving public interest

By Athanassios K. Papamichos

During recent years, there has been a growing interest in reforming health-care systems worldwide. Countries of all economic development levels are looking for creative ways to organise and finance healthcare in such a way as to promote equity, effectiveness and efficiency. The European Union is increasingly facing problems in this regard, as a result of globalisation, a lack of competitiveness and its ageing population. This state of affairs is a clear indication that the status quo is no longer an option.

The Lisbon European Council (23-24 March 2000) identified problems arising in healthcare delivery due to increasing costs and expenditure as well as the less than optimal quality of medical services. Subsequently, they stressed the need for investment in human resources and the information society, calling for new models that will ensure the provision of high quality medical services.

Within this framework, the National Reform Programme of Greece – for the period 2005-2008 – is focusing on the development of models, which evolve from productive private entrepreneurial initiatives that can promote competitiveness and openness of the economy.

Health Units S.A.

The Greek Ministry of Health and Social Solidarity (MoH) responded to calls for healthcare delivery reform by designing models that are based on preventive and person-centred healthcare systems. The establish-



Entrance of the Health Units, S.A. in Athens

ment of Health Units S.A. in 2004 – a state-owned company serving public interest – created an innovative operational tool for the provision of qualitative healthcare services to citizens, while complying with the rules of a competitive market economy.

The MoH provided the venture capital for this new legal entity and has the right to transfer up to 49% of its initial capital to other institutions of the public sector, such as the existing social insurance funds, in order to maintain the public character of the company.

The Greek government, through the Inter-ministerial Committee, supervises the operational and financial management of the company. The primary aim of Health Units

S.A. is to operate and develop the Olympic Village Polyclinic and build on the experience and know-how in healthcare delivery that was acquired during the summer Olympic Games of Athens in 2004.

THEY STRESSED THE NEED FOR INVESTMENT IN HUMAN RESOURCES AND THE INFORMATION SOCIETY

Along with the provision of primary care clinical services, the company offers specialised medical services (e.g. home care, rehabilitation), advanced treatment techniques for athletes, and preventive medicine consultation. Other objectives include the continuous education and training of healthcare professionals, and the promotion of occupational health and life sciences.

Innovations and Advantages

The legal scheme of Health Units S.A. offered the potential to develop a series of innovations. Firstly, the company constitutes the first Société Anonyme offered by the State, pro-

viding modern and competitive medical services to citizens with private insurance.

Additionally, it uses a new legal framework, which allows better man-



agement of material and human resources, thus allowing greater flexibility in decision-making, and, subsequently, faster and better responses to the demands for high quality healthcare services.

A new, flexible form of administration and management – freed from long bureaucratic procedures and unsuccessful methods used by public organisations and healthcare units – has been implemented. It offers the potential for developing and enhancing human resource effectiveness through evaluation and motivation criteria.

Health Units S.A. utilises Quality Assurance and Total Quality Control techniques according to international standards and protocols (Business Management and Administration – ISO 9001:2000, Data Integrity and Security – ISO 27001, Biological Laboratories – ISO 17025, Environmental Management – ISO14001, Hygiene and Security at Work – ELOT 1801, Clinical Protocols – Balanced Scorecard). Furthermore, it prioritises the integration and best practice of emerging technologies in healthcare. Finally, the company's legal framework safeguards its public character while still offering the option of exploiting different funding sources.

Olympic Village Polyclinic

Until now Health Units S.A. has focused on the post-Olympic development and operation of the Olympic Village Polyclinic. The polyclinic became operational during the Olympic and Paralympic Games of Athens. It received much praise from the international community for its high quality medical services offered to more than 12 000 athletes, officials, delegates, and members of the Olympic family.

Inspired by the technical know-how acquired during the Games, the advanced infrastructure and the state-of-the-art biomedical equipment, the

company decided to implement a project that would alter the operation and organisation of clinical services. This transformed the Polyclinic into a centre of excellence in the fields of primary care, physical therapy and rehabilitation.

Today, it is known for:

- providing high-level integrated primary care clinical services to citizens;
- providing qualitative medical services in physical therapy and rehabilitation; and
- developing specialised services in athlete support, home care, telemedicine, prevention and healthcare promotion.

Quality of diagnosis, therapy and continuous care is enhanced through the use of information and communication technologies in the form of a Hospital Information System, a Laboratory Information System, a Radiology Information System, a Picture Archive and Communication

THE COMPANY'S LEGAL FRAMEWORK SAFEGUARDS ITS PUBLIC CHARACTER

System and an integrated, patient-centred Electronic Medical Record. In addition, electronic clinical workflows are devised in a way that allows flawless transition from conventional procedures to a complete paperless/filmless hospital environment. The development of a Management Information System, which monitors the business process, and management of healthcare delivery within the network of Health Units primary care centres will provide a new model for integrating the Healthcare Enterprise in Greece.

Strategic Planning

The company's strategic plan concentrates on developing:

- a network of primary care centres with integrated operational and managerial standards, which can

offer qualitative medical services to citizens;

- e-health services;
- educational and training activities for healthcare professionals;
- new, innovative medical services in primary care; and
- Public-Private Partnerships (PPPs).

Public-Private Partnerships will encourage the development of new projects, exchange of know-how, and standardisation in the organisation of healthcare delivery. During the last few years, several PPPs have been established throughout the European Union, including new member states from Eastern Europe and the Mediterranean. The basic advantages of such partnerships in healthcare include finding potential investments and funding for new projects, applying emerging technologies in medical services and ensuring that they are accessible at the point of need, and developing preventive and person-centred National Healthcare System models that can guarantee financial sustainability. As part of its broader strategic planning, the MoH aims to use Health Units S.A. as a tool for developing cooperation and partnerships with national and international public/private organisations, thus improving cost-effectiveness of medical services in Greece while maintaining their public character.

Conclusions

Strategies of healthcare integration aim to bring together input, organisation, and management, in order to make the delivery of particular services more efficient and accessible to citizens. The legal and operational framework of Health Units S.A. offers the opportunity to modernise and enhance the effectiveness of medical services in Greece.■

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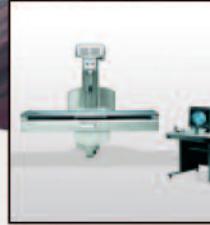
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