Hospital

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EUROPÄISCHE VEREINIGUNG DER KRANKENHAUSDIREKTOREN
EUROPEAN ASSOCIATION OF HOSPITAL MANAGERS

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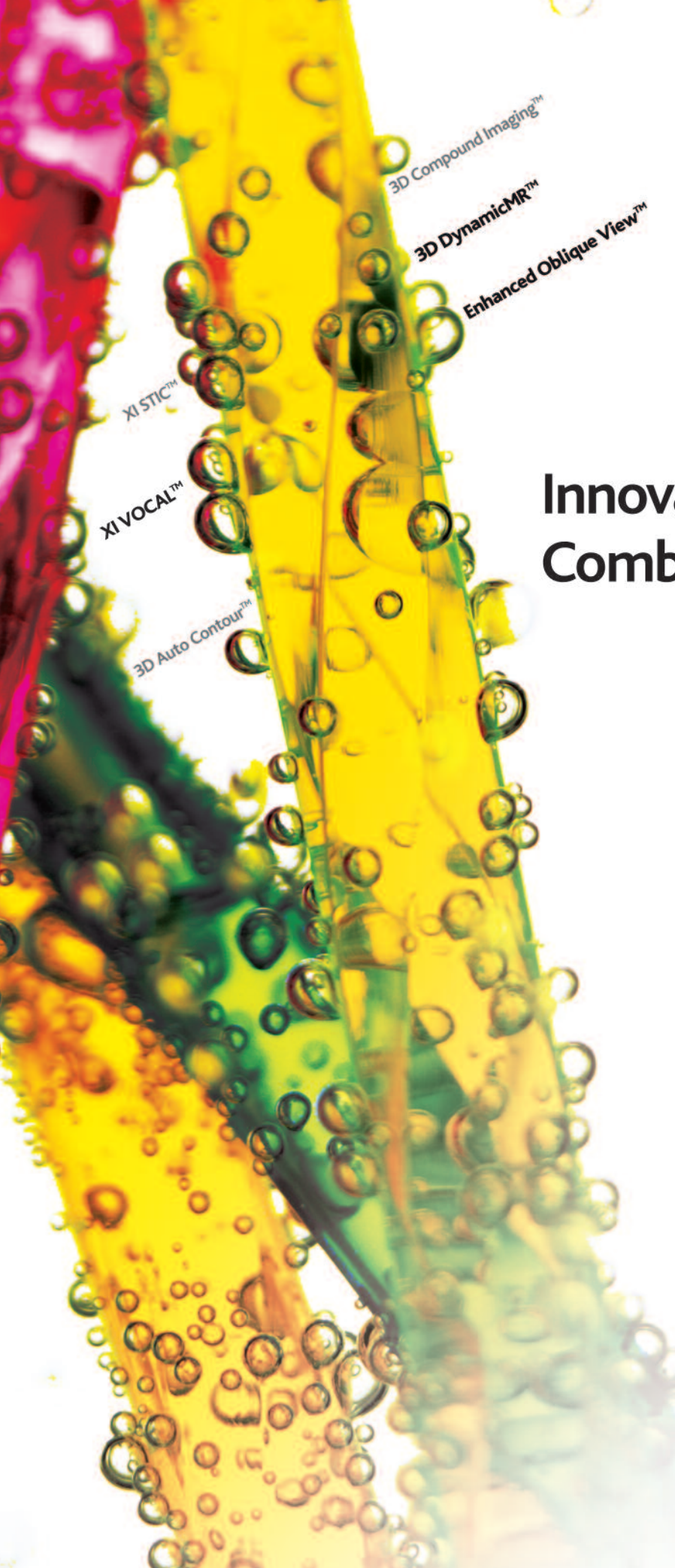

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50 years of Europe and counting!

When, on the March 27, 1957, France, Belgium, Luxemburg, the Netherlands, the Federal Republic of Germany and Italy signed the Treaty of Rome for a European Economic Community (EEC) and European Atomic Energy Community (EURATOM), the basis of our European Union was thereby founded.

50 years later, the concept of an economic community has become a group of 27 states, which cooperate in new domains, such as domestic and foreign affairs. Despite cultural differences, linguistics, and traditions, this unity rests on common values: freedom, democracy, constitutionality, respect for human rights and equality before the law.

Europe has negociated a major turn-around during this half-century: after a confrontation of states, it has evolved in the direction of a solid union.

These years have been positive for European citizens: after two world wars, we have lived for more than 60 years in a European Union in peace, which has brought prosperity as well as rapid development (economic and other) to numerous member states.

The dynamics of six enlargement phases, and the will to pool resources and to work together is reflected also at a more modest level: numerous hospital management associations were already members of the EAHM, despite the fact that their countries were not yet members of the EEC, the EC or the EU.

Such a collaboration does occasionally run into difficulties, generally caused by misunderstandings. The EAHM, as others, is confronted with the challenge of bringing members together and to demonstrate the advantages and the future, positives perspectives.

It is also important for the EU to explain - now, as always - its decisions which seem bureaucratic to its citizens and to explain to them the concrete benefits which a united Europe brings them.

This positive evolution for Europeans expanded into domains for which the EU had no direct jurisdiction, but their development is indirectly linked to the EU. Included in this is healthcare. Without the Union, not only it would be impossible to collaborate between countries in healthcare, but patients from one state would not be able to benefit from healthcare services in all European countries.

Now we need to spread the message. The quality of healthcare services must be defined at a European level, and may be enhanced by a reciprocal exchange of experience.

President Paul Castel

We, the hospital managers, must contribute and we can, by our leadership, progressively prepare our establishments for a European healthcare system.

Hospital management will occupy a central place in the development of the European healthcare economy, which represents one of the essential elements of the economic development of member states.

One can summarize the concept of future governance of European hospitals by a brief and expressive formula: a communal governance of health establishments by a partnership of decision-makers. The foundations of

continued on page 2

Results of the study on patient satisfaction measures

The short study of the General Secretariat of the EAHM of November 2006 (see *Hospital* 1/2007) has been processed.

Reminder: the members of the EAHM office were invited to respond to questions such as, for example, the existence of legal depositions in relation to the evaluation of patient satisfaction and the publication of eventual results, and additionally the real efficiency of such a study.

The data from ten member states were collected on the following points:

- In your country are there legally binding inquests into the evaluation of patient satisfaction?
- In such a case, are the results communicated to the health professions or to the public?
- Are the studies of patient satisfaction part of a series of measures to improve the quality of the health services?
- Do the results of the studies contribute to an improvement in health services?

To summarize, the following results have been established:

1. In seven of the ten countries, a study on patient satisfaction is not required by law.
2. In all countries, studies on patient satisfaction are part of quality management and are considered to be important in this domain.
3. In relation to the publication of results of the study, this happens in five of the countries. In three countries, the publication of results of studies is limited to the hospital. In two countries, there is no obligation to publish the results. Comparative information is not made available or only with the hospital or hospital group.
4. All countries support the idea of a study to measure patient satisfaction which underlines the importance of information and the opinion of the patient, and indicates that the health professionals can use this kind of information.
5. Finally, in response to the question of the potential improvement in care, one can say that in nearly every country and on a regular basis, the results are used to modify the existing structures of the hospital landscape and thereby their results. In this regard, one must underline the response of Greece, who made available the results of a study on the subject: analyses of 2000-2001 showed that 75% of Greek hospitals did not react to results of such studies. If the measures had been taken, they concerned parking places, hygiene, and changes in hospital food.

The details of responses can be consulted on the EAHM site.

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our European Association of Hospital Managers are built on this philosophy, in respecting the diversity of European healthcare systems.

One must hope that the first results of the European study on hospital governance, carried out in colloboration with HOPE, the European Hospital and Healthcare Federation, can influence the conception of European hospital governance of tomorrow. The results of the survey show numerous differences and similiarities which exists betwen member countries of the EAHM.

It is in this context that the reflection on hospital governance in Europe will be reinforced at our next congress in Graz in 2008. European hospitals and healthcare will emerge stronger.

Paul Castel
Preseident of the EAHM

World Health Care Congress – Presentation by Heinz Kölking, Vice-President of the EAHM

Once again this year, the EAHM continued its cooperation with the World Health Care Congress, which took place from 26 to 28 March in Barcelona (Spain).

The presence of the EAHM was reinforced at Summit 3, "Paying for Performance". Heinz Kölking (Germany), Vice-President of the EAHM, was one of the four speakers and delivered an excellent presentation on the theme of "Promoting Entrepreneurship in European Hospitals".

Some extracts:
"There is no doubt that the hospitals of today and tomorrow will occupy a special position in the health economy. The importance of hospitals assume mutiple facettes. That is why, in view of the installation of an efficient healthcare structure, future strategies of the hospitals themselves must be carefully studied. Hospitals in the past have often been 'managed'. We need, in order to face the future and the modification of existing conditions, a completely different form of management for hospital structures and procedure. We must also possess competent managerial staff with regard to the specific characteristics of hospitals concerning structure and services. Due to changes in our society and major evolutions, such as medical progress and an aging population, it is clear that we must develop new ways, especially in healthcare.

1. Society and the economy require healthcare which evolves, but which is always effective and efficient, in the larger sense.
2. Services determine the economic development and the work market of the future.
3. Evolution can only take place if we develop efficient structures and procedures of good quality.
4. The 'tertiary sector' does not need to be on the defensive and it is necessary to clarify the fact in addition to quality, efficiency and effectiveness, we are there for people and can give them support, and therefore assume a real role in the society of the future.
5. Hospitals must play a crucial role in the development of an economic health network. This depends on an active conception of structures, procedures and results in the sense of a 'spirit of enterprise'.

Finally, the perspective is not so gloomy for hospitals, and it is on that note that I would like to finish. In fact, all this assumes a lot of openness of spirit and optimism. Let my words encourage you!"

Preparations for the 'Accreditation of Health Establishments in Europe' seminar

On 16 November 2007 in Düsseldorf

Preparations for the seminar on the theme of accreditation of health establishments are well underway. The Secretariat, as well as the scientific committee, under the presidency of Asger Hansen (Denmark) consulted numerous experts and followed it up assiduously in order to ensure the quality of the content.

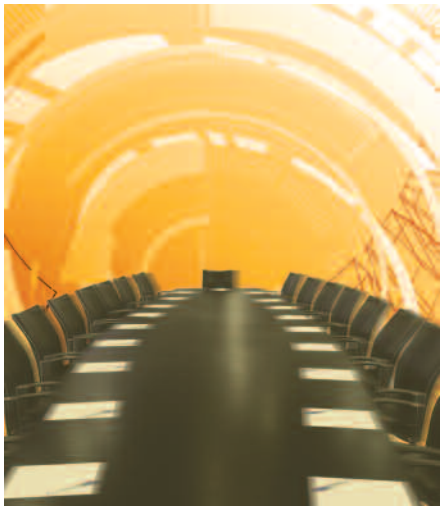
The objective of the seminar is to let the experts debate the question of the development of a model of European accreditation on a voluntary basis. Furthermore, an overview of systems of accreditation which already exist in Europe will be outlined, including a comparison with other external quality evaluation methods such as the EFQM ('European Foundation for Quality Management').

At the end of the seminar, the experts in accreditation will compare the content of different standards and indicators and, under the aegis of the EAHM, will submit a model for European accreditation.

For more details on the programme and the methods of inscription, we recommend that you consult the EAHM site (www.aedh.eu.org).

GOVERNANCE

This central theme of hospital management today is eloquently illustrated by the analysis of the first results of our survey on hospital governance in Europe, which underlines the forces and the differences on central points, such as the structure of the Administrative Council. European hospitals share henceforth a common fate and their structures must adapt to the real world, as illustrated by the article of Professor Vondeling on integrated care or that of Mr. Schmitz on decentralized organisation.



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GOVERNANCE

OPTIMISATION OF PROCESSES

DESIGN AND FACILITY MANAGEMENT

OPTIMISATION OF PROCESSES

Linked to the theme of governance, the optimisation of processes must be a constant preoccupation for every hospital manager. Whether it is about relations between patients and staff, and the ethical questions which arise, or about technological developments which arise in all healthcare establishments, or more material considerations, such as the food at the hospital, all daily hospital procedures must be analysed and structured in order to better respond to the demands of patients, personnel and economic questions which the hospital managers face.

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MED TECH

FOCUS: SLOVAKIA

AGENDA

FOCUS: SLOVAKIA

Professor Nemec explains openly to us the different modifications which the Slovakian healthcare system underwent and their impact on hospital performance. Apart from the facts and figures, he questions the origin of the dysfunction of the hospital sector in an uncompromising analysis which affects all of us.

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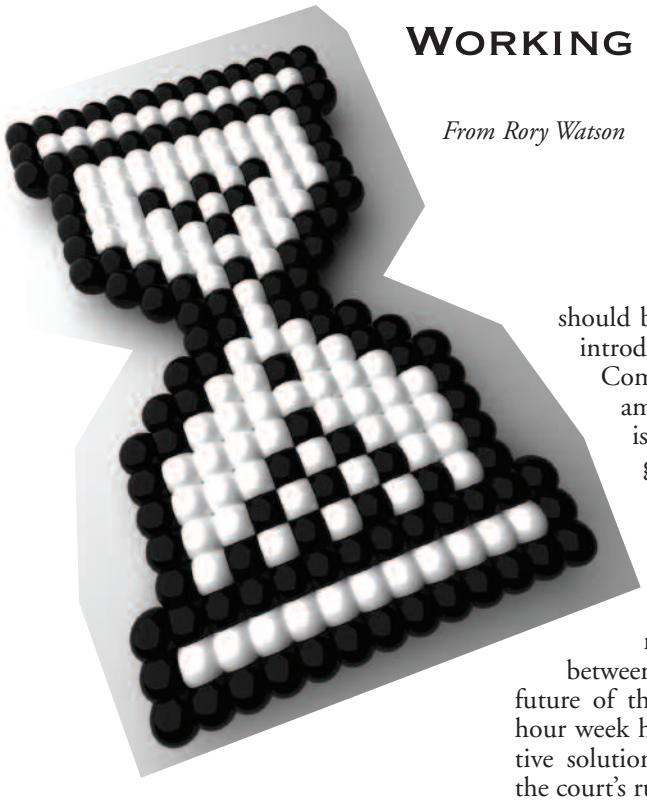

From Rory Watson

The European Commission has written to all 27 EU governments asking them how they are complying with recent court rulings on the working time directive with its provisions on rest periods and a maximum 48-hour week.

The extent to which national authorities respect key judgements from the European Court of Justice (ECJ) has become more urgent after the failure of ministers last November to agree to update the legislation which first took effect nine years ago. The Commission is focusing on four central aspects: the reference period used to calculate average weekly working time, use of multiple contracts, arrangements for rest periods and treatment of on-call time.

The last two require major changes in almost all national health systems after the Luxembourg-based judges ruled that all on-call time in a hospital counts as working time and that compensatory rest for employees should be given immediately. To introduce some flexibility, the Commission had proposed amending the existing legislation by creating a category of inactive on-call time and by providing for rest within a reasonable period.

However, the stalemate last November between governments over the future of the opt-out from the 48-hour week has made an early legislative solution on implementation of the court's rulings extremely unlikely. Germany, the current EU president, does not want to address the issue in the coming months and its successor in July, Portugal, is also reluctant to tackle the problem. Suggestions in some quarters that the deadlock could be broken if issues such as on-call time which affect the health service directly were treated in separate legislation have won little support.

On the basis of the replies it receives to the four points, the Commission will have to decide whether individual member states are complying with the rules as interpreted by the Luxembourg-based judges or whether it should take legal action to force them to do so.

Some countries have amended their legislation. Germany, which was directly affected by the Jaeger judgement a year earlier did so in 2004. However, warnings that 15,000 extra doctors would be needed if this were implemented immediately led to a transition period until the end of last year. It is only since January 2007 that the inactive period of on-call time, which had previously been classified as a rest period, has counted towards the working week.

Sweden changed its legislation last year. It now states that any collective agreement which gives employees less than is provided for in the ECJ rulings is invalid. The Netherlands made on-call time in hospitals count towards the working week in 2005. More recently, the Czech Republic amended its legislation in January. It estimates it will need an extra 2,000 doctors to comply with the new rules, while Poland has said the health and fire brigade services will require 15,000 more employees. In the United Kingdom, the emphasis has been on changes in working patterns. Rotas and on-call time have given way to shifts and a major reorganisation of the National Health Service. The cost of the various measures is estimated at between € 300-450 million.

The extent to which countries that have made changes are now in conformity with the Luxembourg judgements is unclear. Analyses by both the European Commission and European Parliament indicate that only Luxembourg and Italy have a clean bill of health, while Slovakia and France are in the process of amending their legislation. The research suggests that 18 countries out of the 27-member Union are not respecting the provisions on on-call time and that 21 contravene compensatory rest requirements. Four – Germany, Lithuania, Malta and Poland – do not comply with the reference period for calculating the aver-

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age working week and a further four – Hungary, France, Spain and the UK – do not respect the individual opt-out.

However, it is by no means certain that the Commission will come to the same conclusions when it has a more complete picture of the application of the working time legislation across the Union and lawyers have examined the measures in place. It will also need to determine whether the changes made on the statute book are actually being implemented in practice. The situation is further complicated by the fact that it is not just health services which need to be taken into account. The legislation also covers other sectors such as fire brigades, the police and residential care.

Political considerations will also have to be borne in mind. Would the Commission be prepared to upset most EU governments by bringing a score or more legal cases in such a sensitive area? However, one thing is certain, whether through the blunt instrument of court action or by softer cajoling, all member states will have to ensure that their working time practices respect the EU legislation as interpreted by the European Court of Justice.

THE FUTURE LEGAL FRAMEWORK OF HEALTH-CARE MUST INCLUDE PATIENTS' RIGHTS

In a resolution on cross-border healthcare adopted on 15 March 2007, the European parliament insisted on the obligation to guarantee absolute protection of health in the EU. The plenary assembly insisted on amongst other things, a reinforcement of patient rights and the creation of a legal framework for cross-border arrangements in healthcare matters. In regard to several cases of the European Court of Justice, the members of parliament cited juridical security, especially in regard to pan-European reimbursement of costs, as a priority of the legal framework proposed by the Commission for cross-border healthcare.

To secure the freedom of movement desired by patients, families, the professions concerned and the healthcare providers, the members of the European parliament wanted clear directives to be laid down within the framework of cross-border healthcare measures. Above all, the division of tasks at different stages (or eventually in different countries) of a treatment must be defined.

The improvement of the communication channels, the creation of a European network of reference centres and the exchanges on the accreditation and the specialist status of cross-border health professionals must also be accelerated. The reinforcement of patient information must result in a common charter of patients' rights in the future community framework, and a central contact point for patient complaints.

The addition of a charter of patient rights is the result of a call by European Liberals and Democrats. Later, the 29 March was proclaimed the 'European Patient Rights Day' and a first conference organised in Brussels. Numerous representants of patients' rights participated, as well as many European members of parliament and numerous well-known members of the healthcare sector. The European charter of patient rights, which the Active Citizen Network laid out in 2002, was presented. Article 8 of the charter which proclaims the right to high quality healthcare deserves to be emphasised.

The Commission has for the moment not adopted a position, as it is not yet certain that a charter of patient rights will be included in its future proposition for the legal framework for healthcare services.

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The European Parliament critises the project of a legal framework for social services

The project of a legal framework for general interest social services was generally well-received by members of parliament, but gave rise however to certain criticisms.

According to the members of the European parliament, this kind of service constitues one of the pillars of the European social model, in relation to which, at a European level, all erroneous interpretations by the law must be avoided. A legal framework is welcome, within this context.

The concept of the Commission, which depends on the difference between competition, state aid and the market on one hand, and public service, general interest and social cohesion on the other will be distorted, according to members of the European Parliament. The positive synergies between economic and social aspects must be better exploited.

The lack of definition of services in the proposition is critised, such as the fact that health services are excluded, despite the fact that they should be considered as social services of general interest.

The members of parliament propose the creation of public-private partnerships. It will be up to each state authority however to decide if the social serices should be insured by public health insurance or by private enterprise.

Obviously, it is necessary to guarantee that the common interest is taken into account. In addition, the state authorities must check if the social services providers respect the principles and values of the social services of general interest, as well as the specified requirements.

The members of parliament finally requested the Commission, member states and social sevices providers to elaborate measures for professional training, so that the professionals of the sector can adapt to conditions of stress, shiftwork or working nights, and to dangerous or exhausting activities. The governing bodies must guarantee a high standard of professional training to social workers, in order to assure the future needs in social services.

A harmonisation of health systems in Europe?

In a study recently published by Health First Europe (HFE, a patient association), health professionals (including doctors, scientists and industrialists), and numerous experts came out in favor of a harmonisation, in the long term, of European health systems. Amongst the people surveyed were representatives of the European institutions and of the members states of the EU, as well as from industry and non-governmental organisations.

41% preferred a general harmonisation in the long-term as opposed to the pursuit of different natonal systems. The majority of people questioned (58%) were however against a unique European health system.

The principle reasons for a harmonisation would be the freedom of movement of the patient covered, and equal rights for patients as well as comparable working conditions for members of the health professions. These objectives could only be guaranteed in a harmonised system, according to advocates.

89% asked for more investment in innovative technology, 86% for the creation of a programme of prevention (for example for the prevention of cancer), and 82% the introduction of diagnostics, treatment, and options for electronic documentation, as well as reducing healthcare spending in the EU. Finally, 69% think that the European Commission should publish comparison data on the qualification of healthcare providers.

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Ireland

The hospital administration wants to reduce private hours

The Irish hospital administration has just announced that it wants to reduce the income which medical specialists derive from private fees paid for the treatment of private patients.

The medical specialists and the Irish hospitals are authorised to treat private patients, even if they work mainly for the Irish national health service. The hospital administrators suggest to offer two separate contracts to doctors from now on.

A.: Doctors who work in a public hospital are not authorised to treat private patients.
B.: Doctors can treat a certain number of private patients, up to 20% of their working hours. If they treat more, the employer has the right to reduce the fees related to their services in the public helath service. The Irish Medical Organisation (IMO) opposes the measure and describes it as injust, because it punishes diligent specialists.

Belgium/ France

Agreement on emergency interventions

A Franco-Belgian agreement was signed this month between health ministers of the two countries on emergency interventions (SMUR) in the cross-border zone. This is a first in Europe, which finalises a move which has been in progress for many years. The zone concerned extends from the Belgian coast as far as Luxembourg, and concerns the French regions of Lorraine, Champagne-Ardenne, Picardie, and Nord-Pas-de-Calais.

The process of cross-border emergency interventions existed already in practice between Belgian and French emergency departments. The objective of the partnership convention which was just signed is to look after the daily concerns of people. The only problem lies with mastering Flemish (one of the national languages of Belgium) in certain zones. In an initial analysis, it is estimated that between 150 and 200 interventions per year in each country have the potential for cross-border collaboration, meaning 400 interventions in total. The advantages are the rapid intervention of the SMUR and the transfer of victims to the nearest hospital. A framework agreement permits reimbursement of interventions abroad. The caller pays, the intervention time being calculated by half-hour. This project is also of interest to Germany, according to the Belgian health ministry.

Germany

Health reform

After almost a year of negociation, the Bundestag (federal parliament), followed by the Bundesrat (federal council), adopted health reforms on 2 February, and voted for the 600 pages of legislation on 16 February. Finally, the Federal President Horst Köhler signed the law; the controversial reforms became law as envisaged on 01 Avril.

Politicians and associations consider that certain parts of the reform, particularly the interventions of private health insurance (PKV) are anti-constitutional.

The last word belongs to the constitutional supreme court, because the PKV association has been preparing a series of constitutional complaints against the health reforms for a long time and the political parties also envisage this procedure.

France

New Minister of Health

At the end of March, Philipe Bas, the acting Minister for Social Security, was named Minister of Health, replacing Xavier Bertrand, who left the government to dedicate himself to his function as spokesperson for the campaign of one of the principal candidates in the French presidential election.

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HOSPITAL GOVERNANCE: EXPLORING THE EUROPEAN SCENE

By Kristof Eeckloo, LLM, Luc Delesie, CE, MS, PhD and Arthur Vleugels, MD, PhD

In many European countries, governments, researchers and hospital leaders are attempting to find the right "fit" between the changing context of healthcare and the key configurations of the governing structures and processes within hospitals. Many of them are looking at examples from abroad to learn from the innovative solutions, the achievements and the mistakes of their European colleagues.

However, it is clear that no uniform scenario, or road map for governance reforms, applicable to all hospitals in all European healthcare systems, is available (nor would be useful). This is due to the very nature of hospitals themselves. Although they constitute more or less autonomous business entities, they are at the same time deeply embedded in, and influenced by, the healthcare system of which they are part. This means that innovative models from abroad will not be helpful, unless they are cautiously examined against the background of the wider configurations in which they are embedded.

This state of affairs provides ample arguments why comparative research is needed on hospital governance and its determinants within the national health care systems. The added value of such a research framework will only increase, as in the near future, there will be an urgent demand for empirical studies testing how the gradual changes in the configurations of hospital governance affect performance, both in terms of efficiency of the governing bodies and overall hospital outcomes. Without seriously taking into account the specificities of the context, the relevance of these empirical studies will not exceed the setting of th (nonexistant) "average" or "typical" hospital.

The survey

In 2004, The European Association of Hospital Managers joined with the European Hospital and Healthcare Federation (HOPE) and launched a pioneering research project on this subject.

Scientific support is provided by the Centre for Health Services and Nursing Research of the Catholic University of Leuven. HIGIS healthcare information provides the technical support.

The principal goal of the project is to foster a better understanding on how the characteristics of the national healthcare systems can explain differences in governance practices in European hospitals.

The study uses both primary and secondary data. The main source of the former is a comprehensive survey of individual CEOs, which was organised in the spring of 2005. The focus of this survey was on Western Europe. Individual CEOs were contacted through the intermediary of the national member organisations of HOPE and EAHM.

Survey sample

Thanks to the efforts of the national associations and, of course, all participating CEOs, a large sample of 522 hospitals has been obtained. Figure 1 shows the sample distribution as regards legal form and hospital type.

Table 1 shows the total number of participating hospitals per country. "Positive outliers" are Greece and Belgium.

A "hospital". What's in a name?

As inclusion criterion, the questionnaire referred to the WHO-definition of a hospital, which states that a hospital is a residential establishment equipped with inpatient facilities for 24-hour medical and nursing care, diagnosis, treatment and rehabi-

litation of the sick and injured, usually for both medical and surgical conditions, and staffed with at least one physician.

It is clear that in practice, this definition covers a wide range of situations. As to the size, 50 of the participating hospitals count less than 100 beds, 163 between 100 and 300, 212 between 300 and 800, 50 between 800 and 1,200, and 40 hospitals count more than 1,200 beds. 86 participating hospitals are academic centres (teaching and research). 6 are so called "industrial" hospitals, which means that they are affiliated with a major employer.

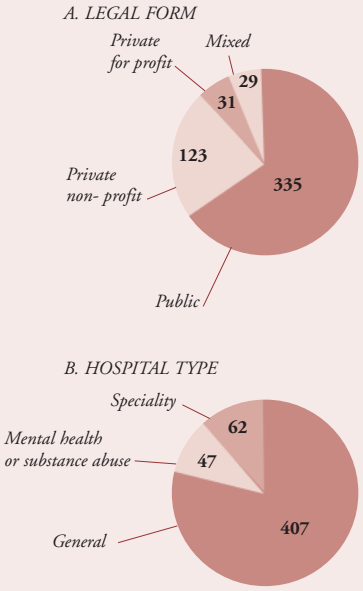
An important observation is that less and less hospitals correspond to the archetype of a one-building, one-management and one-hierarchy organization. For instance, 237 of the 522 participating hospitals are spread over multiple sites or locations. Hence, the total data set includes 1,013 hospital sites. The autonomy status of these sites varies widely. The individual sites have their own management in 16% of the multiple site hospitals.

On the other side of the spectrum, 243 of the participating hospitals are themselves part of a larger group or network, which was defined as any type of formalised affiliation which has a considerable impact on the top decision-making process of the respondent's organization. Figure 2 shows the profiles of the other members of such groups or networks. When asked to describe the daily practice of their membership of a group or network, the top answers were "shared vision or ideological policy" (129 respondents) and "continuity of care" (128 respondents). Only 38 respondents state that "price setting" is a central function of the group or network.

Transparency

One of the major themes of the survey was public accountability. A specific question contained a list of five information sources (meeting reports governing bodies, hospital budget specifications, annual financial statements, hospital activity data and external assessment reports) and asked the CEO to indicate which of these sources are open to the public. Overall, large differences were found between the different countries. As a general trend, hospitals from Northern-European countries show markedly higher openness scores than those of Southern-European countries. Figure 3 displays the results for one of the information sources: "annual financial statements of the hospital". In about half of the countries, financial statements are open to the public in almost all hospitals. In Spain, Belgium, Germany and Greece, they are open to the public in half of the hospitals. As for France and Portugal, financial statements are open to the public in only a quarter of the hospitals.

The questionnaire also asked whether the same five information sources could be accessed freely by the physicians of the hospital. As regards the annual financial statements, it is interesting to note that in almost all countries, the figures are more or less the same as for openness to the public (see figure 3), except for Belgium and France. In contrast to the relatively low openness to the public, financial statements can be accessed by the physicians in nearly all hospitals in these two countries. This can be explained by the fact that hospitals are obliged by law to convey these statements to the physician representatives of the hospital (respectively Conseil Médicale/Medische Raad (BE) and Commission Médicale d'Etablissement (FR)).



Figue 1: Data sample, legal form and hospital type

'...LESS AND LESS HOSPITALS CORRESPOND TO THE ARCHETYPE OF A ONE-BUILDING, ONE-MANAGEMENT AND ONE-HIERARCHY ORGANIZATION.'

Austria	27
Belgium	88
Cyprus	1
Czech republic	2
Denmark	11
Finland	5
France	87
Greece	66
Iceland	1
Ireland	11
Italy	10
Lituania	2
Luxembourg	3
Malta	1
Norway	4
Poland	10
Portugal	20
Spain	25
Sweden	4
Switzerland	26
The Netherlands	20
United Kingdom	33

Table 1: Number of participating hospitals per countries

Autonomy

An extensive part of the survey dealt with hospital autonomy. The underlying reasoning for this approach was that one cannot have a clear idea of

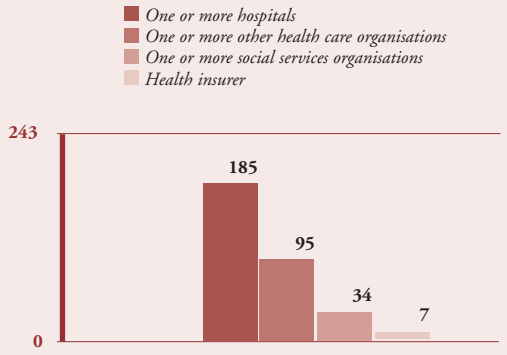


Figure 2: Groups or networks

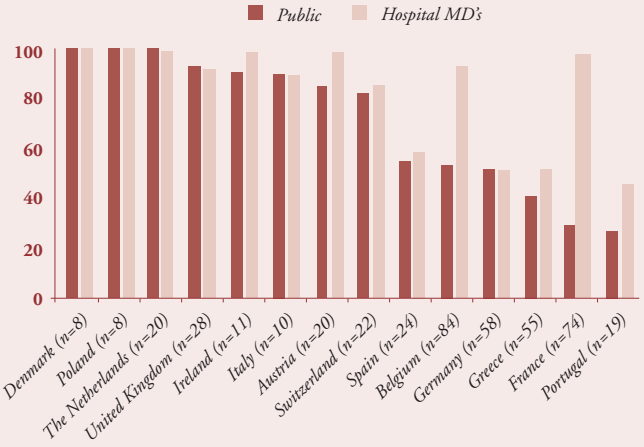


Figure 3: Free access annual financial statements, in % of hospitals

the decision-making processes within a hospital, without insight into the content and the actual scope of the decision-making power at hospital level.

The survey used an instrument to measure hospital autonomy in six decision-making domains: setting outcome targets, strategic planning, management, procurement, capital and human resources. For each of these domains the CEO was asked to rate the level of decision-making autonomy vis-à-vis the government (national or regional) or other third parties, on a four-point ordinal scale (from no autonomy to full autonomy).

Each combination of the decision-making domain and level of autonomy was further defined. For example: high autonomy in the field of human resources was defined as "Staff appointed by hospital, with extensive discretionary power regarding staff number, qualifications and remuneration".
The use of this instrument has been very useful in explaining differences in governance practices (see also further). Clear patterns within the different countries were found.

At a general level, autonomy scores of public hospitals were significantly lower than those of private non-profit and private-for-profit hospitals, in all six domains (Wilcoxon $p < 0.05$). Between private non-profit and private-for-profit, no significant differences were found, except for human resources, where for-profit hospitals appear to have more autonomy than non-profit hospitals; and for procurement, where for-profit hospitals appear to have actually less autonomy than non-profit hospitals. The latter can be explained by the fact that in for-profit hospitals procurement arrangements are often embedded in commercial contracts that exceed the level of an individual hospital.

As could be expected, the level of autonomy is also negatively associated with group or network affiliation. Hospitals that belong to a group or network have significantly lower autonomy scores (Wilcoxon $p < 0.05$). However, this is true for only four of the six domains: setting outcome targets, procurement, capital and human resources. This gives us more insight into the rationale of these groups or networks: it is mainly about benchmarking and what we could call "economies of scale". ■

The second part of the results of the study dealing with the concept of the Administrative Council will be included in th next edition of Hospital (Hospital III/2007.

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CREATING MODERN MANAGEMENT STRUCTURES IN HOSPITALS THROUGH CENTRE FORMATION

The Example of the University Hospital Hamburg-Eppendorf

By Christoph Schmitz and Susanne Quante

The economic pressures facing hospitals are set to intensify in the years ahead. Studies carried out by a range of consultancy companies predict that the viability of as many as one in four hospitals will be jeopardised in the next 15 years. It is highly unlikely that the German university hospital sector will emerge unscathed at the end of this process. The privatisation of patient care in the Universities of Marburg and Giessen gives an early indication of how this process of change will proceed. In order to survive, university hospitals must consolidate and enhance their competitive position in national and international markets in the areas of patient care, research and teaching. With competitive pressures mounting and public funding declining, change has become imperative, particularly in the management structure of Germany's third-level medical institutions. A key tool in this process is the formation of decentralised departments or centres. The University Hospital of Hamburg-Eppendorf (UKE) decided at an early stage to pursue this course of action. The interim balance sheet is impressive.

1. The Evolution of Centre Formation at the UKE

The UKE was quick to recognise the need to shift to a decentralised organisational and management structure. A pilot project in the department of psychiatry carried out between 1999 and 2001 served as an information-gathering exercise. The lessons learned from this initial experience were incorporated in the hospital's structural law and statutes between 2001 and 2003. Paragraphs 6 and 7 of the UKE statutes defined the fundamental structure and roles of bodies operating under the aegis of the centres as well as the core areas of the hospital. The centres were subsequently established and the statutes for each of the respective centres approved in 2003. At the end of that year, with all the management teams for the centre appointed, the new organisational and management structure finally took shape. Now that the process has had four years to settle down, it is possible to draw some early conclusions in respect to the hospital's strategic development on the basis of the new centre structure.

3. Configuration of Centres in the UKE

In terms of basic structure, the UKE centres are organised around two bodies: the executive committee and board. The members of the executive committee are the director of medicine and science, his or her deputy and the commercial director. In the case of centres with in-patient beds, the nursing director is also a member of the committee. The role of the committee is to manage the centre internally and externally. In this context, co-operation with the board is vital, as is providing support to the department on issues related to research and teaching. The principal function of the centre's medical director is to monitor perfor-

mance and quality targets and ensure optimal utilisation of resources in the delivery of medical services. The role of the commercial director is wide-ranging and extends from service, cost and budget planning to monitoring and managing the implementation of these plans on behalf of the clinics and institutes operating under the aegis of the centre. The nursing director is responsible for tasks such as personnel deployment and for the nursing and functional units, including quality assurance. In addition to the executive committee, each centre has a board which advises the committee on key issues. The board consists of the directors of the various clinics in each of the centres.

The different centres operate as units of the UKE and pursue teaching, research and patient care with a view to furthering the collective interests of the university hospital. They have full responsibility for outcomes in their respective disciplines. The hospital board is responsible for the oversight of the centres and may issue directives to a centre in the event of a conflict of interest arising between two or more centres.

4. The Impact of the New Management Structure on the Development of the UKE

The establishment of decentralised management structures in the UKE centres removed the burden of administrative and cost control tasks from the directors of clinics. At the same time, the change also created greater scope for influencing and enhancing the transparency of budget and performance figures in centres and, as such, the entire university hospital. Greater professionalisation and the consolidation of the role of commercial director allowed senior clinicians to concentrate on their core medical and patient care functions.

As a result of the decentralised organisational form, coupled with increased decision-making autonomy, the hospital's central services were faced with a substantial increase in demands. On the one hand, they were forced to change how they perceived their own role, from one of centralised resource administrator to one of internal service provider. On the other, they experienced a significant increase in the demands imposed on them in the areas of IT and cost control. The requirements of the centres set in train a dynamic process which has created enormous challenges for the entire organisation. It has led to a state of permanent evolution in which the centres, as internal "customers", benchmark the central service providers and requisition the information they need for decentralised business management. Through this process the UKE has taken major strides towards transparent cost and revenue structures and, in so doing, significantly improved the quality of decisions on structures, processes and outcomes.

Improved transparency in hospital data and clearer communications structures have helped create greater trust between the core departments and the clinics and institutes operating on the frontline. This has laid bare the strengths and weaknesses on both sides. This pertains as much to deficits in the areas of research, teaching and patient care as it does to inefficient structures among the central services. As a result the hospital is experiencing a transparent shift in focus in the medical field. Moreover, the allocation of resources in research and teaching has become more focused on performance. Improvements have also been secured in the central services, for instance, through the involvement of external partners in areas such as logistics and facility management. It soon emerged that the hospital had to offer services which matched the quality and price levels available on the market.

The role and configuration of the centres' commercial management function is closely connected to the allocation of central administrative functions. Whereas activity, as laid down in the statutes, was predominately focused on financial control, strategic issues have since come to the fore in the management of the centres. This is evident in the goal and performance agreements concluded with the board. These force the centres to implement measures such as bonus and penalty arrangements to foster competition (e.g. performance development and maximised use of internal resources) and address specific internal strengths and weakness. It also manifests itself in the area of strategic management and initiatives aimed at "marketing" the centre both internally and externally. Internal marketing entails creating a distinctive profile for the centre vis-à-vis other centres, the central services and the board. The board must focus its attention on the most important strategic projects for the overall organisation and cannot offer equal support to all initiatives and projects. From the perspective of the centres this means they may be prevented from pursuing certain desirable goals because the board, having considered the hospital's overall requirements, decides it is unable to offer the necessary support.

In terms of strategic development, the individual centres can rely on the reputation of the hospital and the support of the central service units. This is conditional, however, on the centre's objectives conforming to those of the hospital. The internal "rivalry" fostered by centre-formation provides an opportunity to mobilise performance reserves through benchmarking. However, these competitive energies have the potential to trigger

mechanisms, for instance in the context of the internal exchange of services, which do not advance the overall objectives of the organisation. In these circumstances, the board is compelled to carefully monitor developments in the centres and, where necessary, introduce timely, countervailing measures.

For the management of the centre, external marketing is a logical extension of the need to develop an internal profile. As the board's control has diminished, the centres have been encouraged to embark on new initiatives which have been steered in such a way as to benefit the hospital as a whole. This is evident in the manner in which the UKE has opened up to the outside world and set about conquering new markets. It has, for instance, entered into strategic co-operation agreements and partnerships with other hospitals and hospital groups, and built strategic networks with doctors in private practice. In has also moved into new markets by developing a medical care centre, entering into integrated care contracts and offering secondary and tertiary services in areas such as laboratories.

5. Summary and Outlook

Following a protracted period of often emotional debate throughout the hospital, but specifically within the Faculty Council and those organs of the hospital under the direct remit of the office of the dean, on the potential conflict between university medicine and the profit-centre approach, the various statutes, regulations and legislation emerged as the foundation on which the new centres would be built. After four years, it is possible to take a positive all-round view of the decentralised centre structure in the UKE. Resolving more fundamental structural and staff conflicts with the assistance of the centres has been only partially possible, but these types of conflict would require the intervention of the board irrespective of the type of organisational structure in place. The introduction of centres has had the following effects on the UKE:

- A pooling of interdisciplinary medical competence;
- Patient marketing;
- Decentralisation of management competences;
- Optimisation of resource deployment and enhanced process quality;
- Delegation of responsibility resulting in better management of all larger departments; and
- Professionalisation of the ongoing strategic deliberations in the UKE.

In addition, the centre structure has had a lasting impact on the development of the UKE in that it has changed its organisational culture. Instead of choosing isolation in the ivory towers of academia, the UKE chose, through the centres, to open up both internally and to the outside world and laid the foundations for the future strategic development of the organisation.

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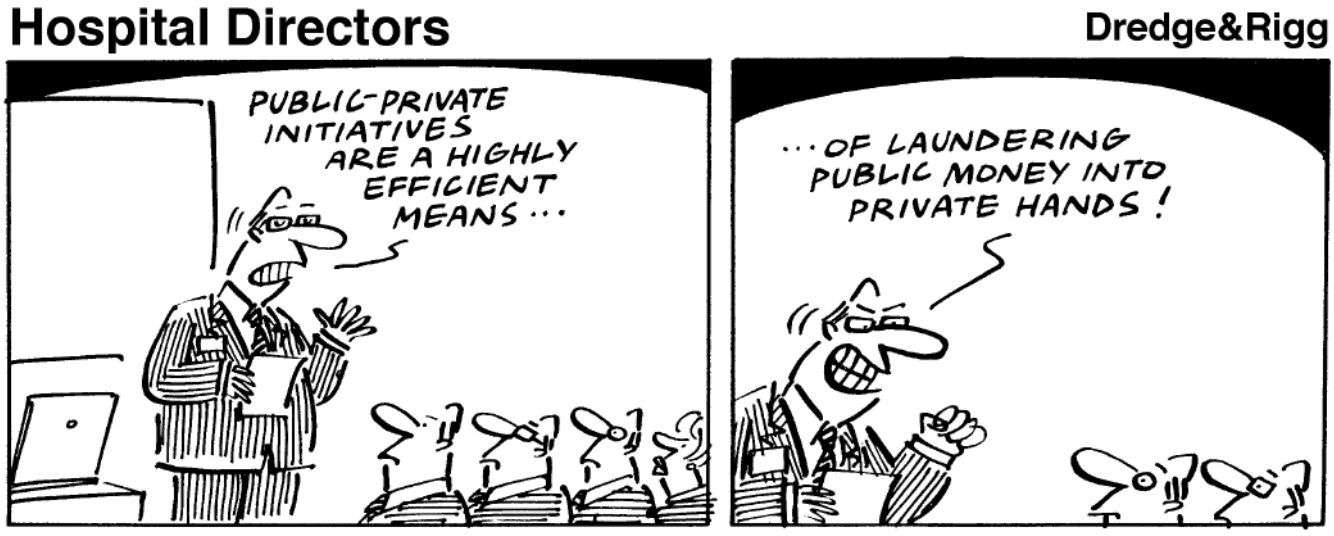


THE INVESTMENT DILEMMA FACING HOSPITALS

Public Private Partnership or Co-operation Models as a Solution

By Oliver Rong

The current position in Germany

The Hospital Financing Law, KHG, of 1972 provided that investment in German hospitals would be allocated from public moneys (Section 4, Paragraph 1 of the KHG). The legislation established the principle of dual financing, under which capital funding is paid from the public purse while hospitals' operating costs are covered by the health insurance providers.

The amount of funding provided by the federal states has declined sharply in recent years. In 1995, the overall financial contribution from this source amounted to €3.8 billion but by 2005, the figure had dropped to €2.7 billion, a reduction of 28%.

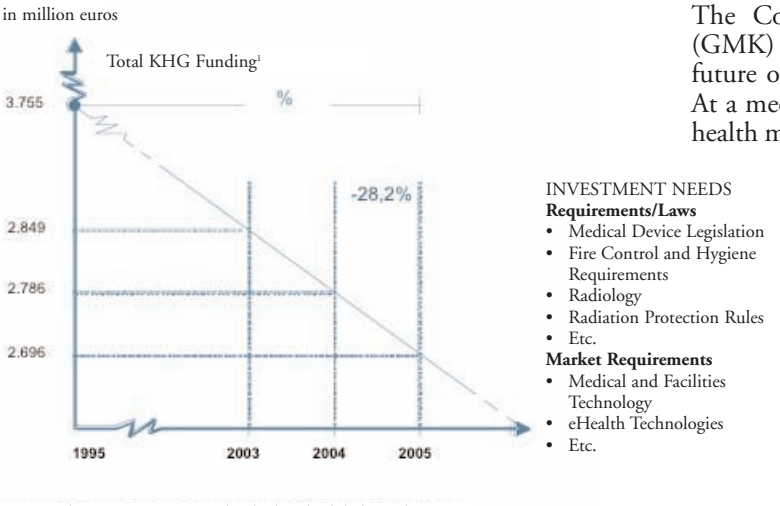


Figure 1: Funding under the Hospital Financing Law and Determinants of Investment Requirements

The sharp decline in financial support from the federal states has been shadowed by an increase in investment requirements. A number of factors have contributed to rising capital costs. They include the imposition of new conditions and legal requirements and pressure on hospitals to consolidate their position in the healthcare market. Economic studies have shown that the current shortfall in investment is between **€30 billion and €50 billion** (Source: The German Hospital Institute – DKI). Even assuming the maintenance of the status quo, i.e. the number of hospitals and volume of infrastructure will remain the same, substantial investment requirements are still anticipated. However, it must be borne in mind that the number of hospitals is set to significantly decline as competition in the market intensifies. This trend will impact first on hospitals with high investment needs arising from infrastructural deficits.

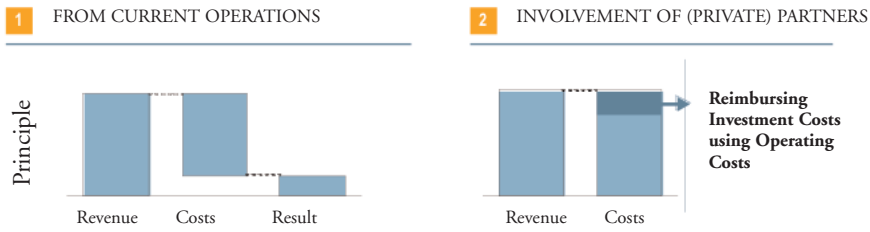
The Conference of German Health Ministers (GMK) is engaged in an intensive debate on the future of the dual financing system for hospitals. At a meeting in Stuttgart on 8 March 2007, state health ministers reached agreement on key steps to be taken to underpin hospital financing arrangements in future.

Under the agreement, an expert group will carry out a detailed investigation of the feasibility of switching to a single-source financing system. The group will study the key features of single-source funding and report back to the conference by the end of the year, at which point it will become a matter for political decision.

The alternatives for hospitals

When public funding is no longer sufficient to fund necessary investment, hospitals must find alternative means to cover costs. Two options are open to them; they can either fund investment programmes:
- from current operations or
- transfer the costs to new partners.

Focused investment frequently delivers improvements in operational processes and procedures, which in turn delivers better financial results for the organisation. It therefore allows hospitals to



- Securing an operational profit > 0
- Funding investments using the operational profit (cashflow), effective charging of write-offs

- Funding of investments by third parties
- Effective increases in charges/operating costs in the utilisation/contract phase

Figure 2 : Source of financing of investments

exploit the positive impact on their bottom line to extend the options available to them.

Involving partners in certain areas of the hospital's operations can shift investment costs to the partner because it undertakes investment projects, thus delivering improvements in processes and reducing costs. This form of co-ooperation creates a win-win situation for everyone involved.
Evidence gathered in a number of strategy projects in hospitals shows that private partners can be integrated into all aspects of the business system. Public/Private Partnership models (PPPs), long-term, contract-based co-operation arrangements between public or private hospitals and private companies, are an attractive option.

Every aspect of a hospital's business system can and should be examined to identify potential areas of co-operation with industry partners. For example, in the **medical supplies** division, PPP models could make economic sense in the area of medical technology (for instance, in delivering complex diagnostics and therapies). In the medical services division, hospitals could consider introducing a PPP for laboratory services. In **infrastructure**, it is conceivable that a hospital might enter into a PPP arrangement with construction companies or service providers operating in the field of infrastructural facility management. Hospital **administration** also offers the potential to engage private partners in PPPs. From the perspective of the hospital, it is a matter of identifying the most suitable partner for the relevant task and then establishing a contractual relationship with the company in question.

The first step is to identify the model to be used (the type of co-operation arrangement and the area in which it will operate). The right partner must then be found. The hospital shortlists potential partners it believes to be best suited to achieving a set of defined goals. The final and most important step is to carry out an economic appraisal of the project, which entails comparing two variants – one with the participation of a private partner and one without external participation (see Figure 4).

Depending on the form and content of the selected project, it is possible to differentiate between **financing models**, **management models** and **operator models**. A systematic evaluation, using a specific project, should be carried out to determine the most appropriate model for addressing the problems of the individual hospital.

Figure 3: Options for involving business/ private partners in the hospital's business systems.

POSSIBLE MODELS

BUSINESS AREAS	(Part) Privatisation	PPP	Outsourcing	Management Contract
Inpatient KV	Heart Centre	Proton Therapy Centre		
Outpatient KV			Medical Supply Centre	
Med. Service			Laboratory Medicine	
Infrastructure	Non-medical Services	Digital Hospital		
Administration				Accounts

(Part) Privatisation
Sale of discrete and complete clinical areas or, where applicable, shareholdings.

PPP Public Private Partnership/Private Private Partnership
Long-term, contractually agreed co-operation between a public or private institution and a private company, generally involving an investment role for the private company.

Outsourcing
Award of individual services to a private operator for a specified period.

Management Contracts
Private partner assumes temporary responsibility for management service.

Summary: Exploiting the Potential of PPP Models

In our view, involving partners in the business system of a hospital creates opportunities to significantly reduce investment requirements. Every hospital should critically examine its value chain and identify the points at which positive effects might be expected from collaboration with private partners using a Public/Private Partnership or

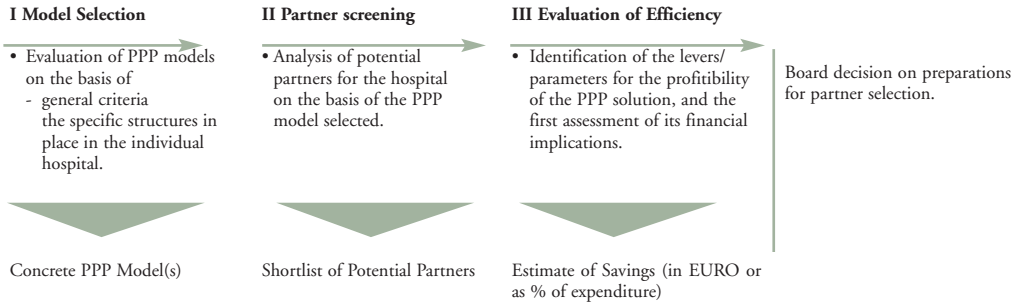


Figure 4: Steps in preparing a PPP project

Private/Private Partnership model. These effects should be quantified in advance to ensure the expectations of partners can be pinpointed during discussions on co-operation. False and unrealistic expectations are one of the greatest obstacles hindering the implementation of sensible co-operation plans.

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INTEGRATED CARE

Careful Financial Planning Enhances Possibilities for Future Development

By Hindrik Vondeling

In many countries of the industrialised world, healthcare systems are faced with a common challenge for the future. An ageing population implies an increase in the number of elderly people with several complex, chronic conditions. An appropriate answer to this new generation of elderly is integrated care that provides a broad spectrum of comprehensive, tailor-made health care and social services in institutions and in the community at large (1).

Definition of integrated care and application at hospital level

It is care which appears seamless to the service recipients and which is devoid of overlaps or gaps to service commissioners and providers. Both across and within countries, integrated care appears in a variety of forms: 'shared care', 'continued care', 'disease management', 'transmural care', 'comprehensive care' and so on. These forms have in common that they are aimed at creating a coherent and coordinated set of services which are planned, managed, and delivered to individual service users across a range of organisations and by a range of cooperating professionals and informal carers (1). By engaging in integrated care arrangements, (university) hospitals create synergistic relationships that should secure their (academic) ambitions for the future (2). This may be all the more important for the position of hospitals in healthcare systems which have implemented regulated competition between care providers.

Challenges of integrated care

As a consequence, the challenge of integrated care is increasingly recognised. For example, it has been reported that in the Netherlands, general hospitals

are involved in six integrated care arrangements on average, with a maximum of twenty initiatives. And of the eight university hospitals, three have been reported to be working on community-based integrated care arrangements. However, securing integrated care is complex as integration requires interorganisational and interprofessional relationships across sectors: public; private; voluntary; service areas (health, social care, housing, transport, education); levels of government and different models of governance.

One also has to take into account legislative frameworks, organisational arrangements, competencies of providers and issues of funding .

At a more aggregate level, three broad categories of factors can impede the creation of integrated care arrangements. These are financial barriers, organisational divides and 'cultural' differences between care providers or institutions (3). The remainder of this article will address financial barriers, and how to overcome them, focusing on the role of hospitals.

Financial barriers for integrated care arrangements

As recently illustrated in a contribution to this journal (4), financial barriers or problems may arise at one or a combination of stages in the development of integrated care arrangements (5):

1. At the time of the planning and running of a preparatory or pilot project. If a new care arrangement results in new types of provision of care or new types of consultations it is important to include the associated costs in the budget for the project. If such new forms of care cannot be sufficiently covered by e.g. local insurance companies, this may result in budget deficits while the project is ongoing.
2. After completion of the initial project, pertaining to the financing of its permanent continuation as a regular care provision. Already at the time of initiating the (pilot) project, the possibilities for permanent financing need to be addressed in case the project turns out to be successful, otherwise the arrangement may be short-lived. For example, perhaps changes in a DRG (diagnosis-related group) or DTC (diagnosis-treatment combination) are needed, or changes in existing fees or an entirely new fee for a new service is needed. Of course, there is also a possibility that no changes at all need to be made, e.g. in case the project results in cost-savings. Ideally, at the time of decision-making relevant information is available.
3. After completion of the initial project, pertaining to the budgetary or general financial consequences to particular categories of care providers involved, or of a certain specialty. Integrated care arrangements may often have implications for patient flows in the health care systems. Changes (reductions) in numbers of patients may result in changes in income, which may result in particular groups of professionals opting out. Ideally, the financial consequences of the arrangement for all stakeholders is documented at the time of decision-making.

Expectations and evidence of effectiveness, cost-effectiveness and budget impact of integrated care arrangements

It is often assumed that integrated care results in increased effectiveness and quality of care, while being cost-effective or even cost-saving at the same time. Although many authors agree that integrated care holds great promise, they warn against expectations that may be unrealistic, while supporting an evaluative approach. When searching the major electronic databases, such as Medline and Embase, it shows that relatively few studies have been carried out to date. Furthermore, the results of studies can often not be directly extrapolated to other settings. It can therefore be said that there is a need for evaluation in general, and a need for economic evaluation in particular as, as outlined above, and perhaps due to the relative immaturity of the field, many integrated care programmes are short-lived after initial funding by temporary subsidies and grants at either local or national levels runs out. A positive decision on long-term financing or reimbursement of services can be facilitated by a timely and high-quality economic evaluation demonstrating 'value for money' of the programme in question (see ref. 6). Likewise, an economic evaluation combined with a budget impact analysis could support decision-making on permanent reallocation of some share of, for example, existing hospital and/or home care budget on behalf of an integrated care arrangement, thus contributing to its long-term survival.

Conclusion

In summary, it is recommended to start projects aimed at the development of integrated care arrangements on the basis of careful financial planning right from the start. Analytical tools that may prove to be extremely helpful include the techniques of economic evaluation of healthcare programmes and budget impact analysis. If such research is carried out alongside the pilot project the results may contribute to a timely input to arrive at an informed decision on the future of the arrangement when the initial project has finished.

Integrated care is part of the redesign of healthcare systems, aimed at reflecting the needs of an ageing population and a change to the traditional ways of providing care. This is not only communicated by patients but is also high on the agenda of policymakers in the developed world. Healthcare systems of the future are likely to reflect moves away from services geared to acute episodes of care and towards self-care and co-production of health. And healthcare systems of the future are likely to be characterised by a redistribution of work and the creation of new types of healthcare workers (7). If hospitals adopt a pro-active approach to the challenge created by these anticipated changes, e.g. by engaging in integrated care arrangements, the rewards will be many. Perhaps more importantly, hospitals, by taking the lead in reorganising the healthcare system they are part of, will secure their relevance in treatment of future generations of patients.

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ETHICS CONSULTATIONS IN HOSPITALS – MORE THAN JUST A TREND?

Structural and methodological support for making joint decisions

By Dr. Alfred Simon

Ethics consultations are becoming increasingly important in German hospitals. For example, hospitals must offer such consultations to qualify for KTQ certification (Co-operation for Transparency and Quality) or receive a proCum certificate. Some 200 German hospitals and healthcare providers already offer ethics consultation services. Recently, the Central Ethics Committee of the German Medical Association issued a statement welcoming this development as a practical and appropriate contribution to better patient care and calling on all healthcare institutions to establish these structures. Clearly, ethics consultation is in vogue but is it more than just a trend?

Goals, roles and models for ethics consultation

Ethics consultation in the hospital setting may be understood as a service provided by an individual or group for the purpose of supporting patients, relatives, patient advocates, hospital staff and other actors to address uncertainty or conflicts which arise when dealing with value-related issues. The consultation is intended to assist the person who has sought advice to better identify and understand the value conflict or uncertainty. In addition, it is intended to make a contribution towards finding a practical solution to the conflict or uncertainty. This can take several forms, ranging from advice on a single issue, to the production of ethical guidelines (recommending specific courses of action in the hospital) to the provision of ethics training and education.

A series of models has been developed for ethics consultation. The clinical ethics consultant intervenes to provide guidance and mediation in the decision-making process where difficult conflicts arise in arriving at a decision. The advantage of this consultation model is that intervention takes place in a timely fashion and in situ, with the result that all parties have an input into the process. Its main disadvantage is that outcomes are predicated to a large extent on the personality of the consultant, who must possess significant ethical, communications and organisational skills. The clinical ethics committee is composed of representatives from the various departments, for example, medicine, nursing, administration, social work, chaplaincy, ethics, law, patient advocates etc. Members are appointed by hospital management for a fixed term of normally two to three years. A request for intervention is made to the committee and the consultation generally takes place outside the ward setting. The advantage of this model is that the interdisciplinary and inter-professional character of the committee allows it to tap into

and exploit a wide range of skills and experiences as part of the consultation process. The main shortcoming of the model is its lack of flexibility and the committee's distance from events, i.e. from the ward.

In light of these advantages and disadvantages, it makes sense to combine the two models. Some German hospitals have established ethics committees to draft guidelines and co-ordinate training and education, while leaving the case consultations to two or three members of the committee or specially trained moderators who carry out their work on the wards. The ethics committee and ethics consultants co-operate closely, with the committee receiving ongoing briefings on questions and problems arising in the hospital.

The potential for ethics consultations to improve the decision-making culture

The practice of offering ethics consultations can contribute in a variety of ways to improving a hospital's approach to addressing ethical conflict and uncertainty, as I would like to illustrate using the following example. A 75 year old woman has been unconscious and is being ventilated on a hospital's intensive care ward four days after suffering a stroke. The patient's son asks for the ventilator to be switched off, citing the contents of her living will, in which she declines all forms of treatment in the event that she suffers irreversible serious brain damage. Opinion differs among members of the team in the intensive care unit about how to respond to this request and their views also vary on whether it is legally permitted to switch off the ventilator. Faced with these circumstances, the ward team turns to the hospital's ethics committee and a case consultation is held on the ward.

A key first step in the consultation process is to bring together everyone involved in the case with a view to creating a space within which a common approach to decision-making can be found. The second step is to develop a structure for the decision-making process. In this context, it has been shown that it is preferable to first ensure everyone involved is apprised of the facts (e.g. assessment of the prognosis, clarification of the legal situation, identification of different courses of action), before proceeding to an evaluation of the case and an assessment of the different options available. The latter process includes consideration of medical-ethical principles such as autonomy, the right to care and patient dignity. Where possible, a joint decision on how to proceed should be taken at the end of this discussion. The third key contribution of the consultation lies in the facilitator or mediator role performed by the consultant. As ethics consultants are not directly involved in the case, they are able to act as neutral arbiters and their competence in the areas of ethics and communications means they can help clarify moral concepts and shape a moral consensus.

In the case I have outlined, the final decision on how to proceed could take the following form. All those involved in the process agree that the patient's living will must be taken seriously. Clarification is provided and it emerges that, under German law, switching off a ventilator is considered a form of admissible, passive euthanasia. It emerges from discussions with the patient's son that the overriding concern of his mother in making a living will was to exclude the possibility that, in the event of losing consciousness, she would be kept alive for a prolonged period. The medical team forms the view that a sufficiently reliable prognosis will not be possible for several days. Based on these facts, it is decided to continue ventilation for a further week – insofar as no complications arise – after which the patient's son and the medical director will make a further decision. If it becomes clear during the consultation that staff lack knowledge or are uncertain about particular issues, for example, they are unable to differentiate between active and passive euthanasia or are unsure of whether living wills are binding, the consultant may ask for training courses or guidelines to be provided on the issue.

Summary and Conclusion

Given the complexity of the ethical decisions taken in hospital, it is necessary to develop a common approach to decision-making, which enhances rather than replaces the responsibility of the individual. Ethics consultations offer a form of structural and methodological support for joint decision-making processes. Ethics consultants must have appropriate qualifications if consultations are to be successful and effective. Moreover, members of staff and management at the hospital or institution must be willing to engage in the ethics consultation process and must be supported in doing so. While certification is a valid reason for introducing a framework for ethics consultations, this should not be a hospital's sole or primary motivation. Whether ethics consultations deliver sustained improvements in the decision-making culture in hospitals or are little more than a passing trend will largely depend on the approach adopted by individual institutions. H

For further information (in German) refer to: "Ethics Consultations in the Hospital", by the Academy of Ethics in Medicine in Göttingen, Germany: www.ethikkomitee.de

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Arras Hospital of tomorrow: view of new buildings, completion date start 2007

RE-ENGINEERING OF HOSPITAL PROCESSES AT ARRAS HOSPITAL

A humanely digitized hospital organised for a more personalised, more welcoming, surer, shorter and more efficient service in medico-economic terms

By Arnaud Hansske, Jean-François Cros and Alain Lecherf

Arras hospital, like all healthcare establishments, either public or private, had to evolve in line with expectations. In 2002, rather than adapting by necessity, Arras Hospital chose a path based on improvement, development, and re-organization, while attempting to see the new constraints as opportunities. The 'process' approach, and Information and Communication Technologies (ICT) took a special place in the projects implemented notably in the impact of the reconstruction of the hospital which opens in the first trimester of 2007.

The principle objective: an efficient offering, integrated into the social health network of the Arras area

Arras hospital, a 1200-bed hospital, at the centre of a catchment area of 230,000 people marked by a traditional organisation dating back to the 1960s, undertook a complete overhaul in three major directions :

- an opening-up to the partners of the hospital: patients, relatives, health professionals, social and health services – profound cultural evolution realised notably through a system of transmisssion and secure and reliable exchange of information, an exchange platform conceived as the departure point for extra-hospital actions.
- The development of diversified care (medicine, surgery, gynacology/obstetrics, after-care, re-adaption, long-stay and live-in, psychiatry) which offers the local population a service combining proximity, security and quality to the local population.
- The quest for medico-economic efficiency based on the optimisation of the flow of patients and information which allows for the internal re-deployments necessary for the funding of modernisation and investment. And thus, to control

costs while diversifying its service offer, it is essential for the Arras Hospital to optimize the different resources – human, logistical, financial, and architectural – which it uses on a daily basis for its activities.

HOSPITAL RESOURCES: PROPERTY; LOGISTICS; HUMAN; FINANCIAL; AND INFORMATION.

These three directions were defined by a very important phase of the projects, initiated in 2001 with the arrival of new management. The following paragraphs present the principal areas of work: the optimisation of buildings and infrastructures serving a new organisation. The optimization of resources, formed by buildings and infrastructure, relied on the construction of new buildings, which consisted of a new main building and a psychiatric building opened in 2004, both of which are equipped with IP (Internet Protocol) and wifi. In addition, the construction followed the principles of 'High Environmental Quality' ('HQE', Haute Qualité Environnementale)

THE OPTIMISATION OF 'INFORMATION RESOURCES': INTEGRATED INFORMATION SYSTEMS

Traditionally, hospitals recognised four types of resources: property; logistics; human; and financial. The team in charge of the project highlighted another resource: information. The optimisation of information resources relied on the implementation of an integrated IT system. The solution was a system which is both medical and administrative.

A compromise was found for the implementation of an IT system, between a collection of precise, but compartmentalized applications (the 'best of breed' approach) and the adoption of a tailored solution (the 'integrated' approach).

Arras Hospital chose an approach which is closer to 'integrated' than 'best of breed'. This approach resulted in SISAS ('Système d'Intégration de l'information en Sante' or 'System of Integration of Health Information' for Arras).

THE PROCESS ORIENTATION OF FLOW CHANGES

The project team established a 'road-map' for the principal processes necessary for the care service at Arras Hospital. For each of the key services, a study for the means to optimise each resource (architectural, logistical, human, financial, and informational) was undertaken. The information and communication technologies were key in the optimisation of these resources.

The principal processes (or 'circuits') are: managing admission; managing transfer; managing release; making internal appointments for technical facilities; writing, validating and sending medical letters; requests and results for biological analyses; requests and results for imaging examinations; surgical intervention; from the anesthetic consultation to the operating realization; lodging logistics; bedroom allocation; meals; cleaning; patient transport; stretchering; transport arrival/departure; etc.

The particularity of the processes identified is that they are transversal: they transcend the usual compartmentalized logic, ignoring the frontiers between services.

THE IT SIMULATION TOOLS TO VALIDATE THE CONCEPT AND THE MODEL, AND TO COMMUNICATE

For this final point, a phase of studying needs and simulation permitted both to obtain guarantees on the feasability of the study, and to communicate with the teams concerned. It also served to counter the often too classic visions of architects and consultants.

The IT simulation tools of linear programming and programming limits allowed to measure, under different scenarios, the key indicators of expected performance.

The investment necessary for these preliminary studies was immediately covered by the choice of an optimised series of scenarios of organisation of machines, the performance of each scenario being measured by indicators.

...TRANSVERSALITY MAKES A DECOMPARTMENTALIZATION OF THE HOSPITAL NECESSARY...

CHOICES MADE

The principal formative choices in the new building were:

- a very high capacity, secure and reliable network (20gb), totally convergent, apart from fire security (one could note the strong impact on this type of project of an indispensable, very high technical quality integrator)
- a steep reduction in paper documents, audio (dictation) and a HIS (Hospital Information System) used in the optimal fashion
- A completely wi-fi hospital, which allows portable tools, IP telephony and the evolution of geolocalisation.
- Integration of AGV (Auto-Guided Vehicles) in the logistical organisation

- Integration of sick calls by IP telephony (direct patient-nurse link)
- Internal hospital architecture oriented and organised by patient flow
- A specific organisation of bedrooms, with zoning and specialisation of spaces
- The installation of multi-media terminals for each patient allowing him/her single-point access to the telephone, digital television, radio, internet, the patient intranet, and to educational medical videos. These terminals also allow staff to connect if necessary to the hospital intranet.

Conclusion; Transversality and decompartmentalization

The experience of Arras Hospital demonstrates the necessity of a transversal approach, in rethinking both the physical and informational flows because the care processes are often transversal at the hospital. This transversality makes a decompartmentalization of the hospital necessary, which the organisation by poles facilitates.

A patient-centred transversal information system, coupling the administrative and the medical approaches, is an essential condition for the success of the decompartmentalization, which forms the basis of the new organisations. The opening-up to the outside is more delicate, depending notably on the existence and the use of technical exchange standards, without which the technical means of communication would prove to be too expensive. In 2006, more than 45,000 pages of electronic medical files were exchanged between the hospital and private doctors.

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FEEDING IS NURSING

The therapeutic aspect of a hospital diet

By Dr Alain Pradignac and Professor Jean Louis Schlienger

Feeding, just like drinking, breathing or sleeping, is a fundamental need for all human beings. In the event of a pathology requiring hospitalisation, the patient's diet is often regulated secondary to the priorities of care, the bulk of the healthcare professionals' concerns being focused on taking care of the disease at the origin of the hospitalisation.

The lack of investment by nurses in nutritional problems is due to their lack of availability, and sometimes to their lack of knowledge. As a result, 30 to 50% of hospitalised patients are undernourished in varying degrees.

Diet: an administrative/ management factor?

A recent study highlighted that up to 60 % of patients are undernourished upon their departure from hospital, demonstrating the appearance or the worsening of undernourishment at the time of their hospital stay. Obviously, hospitals are structures supposed to improve the state of health of patients who remain there. This defect in nutritional care worsens the state of health of patients by the co-morbidities favoured

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by undernourishment (infections, healing defects, loss of autonomy…). Consequently, it threatens the often precarious budgetary balance of hospitals, insofar as these induced pathologies are at the origin of an excessive medicinal consumption and an increase in the length of stay. It is today well documented that the majority of complications and cost overruns induced by undernourishment could be prevented by adequate nutritional intervention, often not very expensive, which will be all the more effective as it will have been adapted to the needs of the undernourished patient.

The experience of CLAN

One of the major difficulties of being responsible for optimal nutrition stems from the non-detection of undernourishment. This is a real problem within our hospitals, identified as of 2002 at the University Hospitals of Strasbourg. The results of a survey had then led the Liaison Committee for Food Nutrition (Comité de Liaison Alimentation Nutrition - CLAN), operational since 2000, to set up a multi-professional think-tank with the aim of improving this situation. This working group recommended the deployment of a "nutrition consultant" within each functional unit of adults. These voluntary carers (care assistants, nurses), are responsible for practising daily nutritional vigilance at the patient's bedside. They underwent a day's training in nutritional diagnosis and in the methods of assuming nutritional responsibility according to the recommendations of the National Programme for Health Nutrition (PNNS) published in 2003. On that occasion, a guide for good practice in nutritional care was developed, as well as an information tool available via the intranet and accessible to all, in order to facilitate the calculation of anthropometric parameters and nutritional indexes recommended by the experts of the PNNS. Two evaluations (in June 2005 and in June 2006) of this innovative action highlighted a noticeable improvement in the evaluation of the nutritional state of hospitalised patients. However, progress remains to be achieved in the knowledge of the usual weight of patients and in the calculation of Body Mass Index, for example.

Improving nutritional responsibility/care

The consultants in nutrition were required to locate the identified nutritional symptoms of patients during their annual training. This training even made it possible to improve the standard of the nutritional headings of health records, often neglected in daily practice. These efforts, carried out in the nutritional evaluation and the assumption of responsibility, should facilitate and strengthen communication between the various actors of care with regard to the nutritional problems of their patients. The work of the dieticians is somewhat improved with a refocus on advice and dietary prescriptions and the care teams are more receptive to recommended nutritional orders. These actions should contribute to reducing the indifference shown by a number of hospital doctors with regard to nutritional problems. The common use of validated tools and of a precise and concise vocabulary make it possible to convey nutritional information in a minimum amount of time, thus encouraging doctors to react or to call upon a nutritional doctor who will advise or ensure nutritional care of the undernourished patient.

The nutrition unit

The coherence of this device should be completed by the installation of a transverse and mobile nutrition unit, the real keystone of this innovative action which is still in a phase of experimentation, with the aim of providing, upon request, all of the hospital's functional units with a specialist and relevant opinion at the patient's bedside, validating the prescriptions of the previous actors and ensuring therapeutic nutritional advice, in particular when an assisted nutritional prescription becomes necessary. The overall success of the experimentation with consultants in nutrition in hospitals results moreover from a strong involvement of the CLAN and of the installation under its control of a multi-professional steering committee in charge of setting up evaluation surveys and developing the results, as well as the preparation of future actions of internal communication arising from the data obtained.

Conclusion

An accurate nutritional diagnosis constitutes an essential prerequisite for any responsibility for nutritional care. The behavioural modifications necessary for a better nutritional evaluation undergo a regular evaluation of accomplished progress. Through the setting up of corrective actions, the aim is to reduce the variations noted compared to the recommendations made by the evaluation of professional practices. This procedure is already in place in our hospital, where improvement in the nutritional care of patients also constitutes one of the strengths of the new medical project. The aim is to improve the state of health of hospitalised patients while progressing the efficiency of care, of which nutrition is a part, which can only favourably influence good management of the hospital.

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MANAGEMENT CHALLENGES IN A NEW HOSPITAL

Problems and omissions from the first moment of relocation from an old building

By Xenophon Karageorgiou

It happens all too often, although illogical, that a relocation from an old and smaller hospital to a new and bigger one takes place without modifications on the operational basis of departments obligations, numbers of all personnel categories (*you still have the figures of the past, but now for higher demands*) and required (*increased*) number of equipment and devices, mainly medical ones.

The 3rd CSF (*Community Support Framework*) to the National Economies was focused on the reorganization and completion of structures and infrastructures (*foundations*) of the National Health Systems, and on the utilization of the new biomedical technology that will lead to the improvement of effectiveness and quality of health services.

Where is this concept headed? The new hospital usually has many new devices, that give more accurate results than those of the old installation, new accommodation facilities, better than the old ones, better measures of safety and hygiene, better allocation of patients' beds than the previous building, better arrangement of space in relationship to transfer and treatment of the patients, better directions and better quality of food. All of this results in an improved service offering.

Unexpectedly perhaps, the new hospital also has higher maintenance costs (*rooms, medical and other equipment, etc.*), relative difficulty in solving technological problems, as there are modern, computerized, electronic devices, possible absence of admission of and/or information on patients, relatives, etc. These reduce the initial improved situation, reducing it to a minimization process.

So what we face are two different and contradictory routes. The consequences of the accomplished actions are, if the transfer to the new and bigger building is done without a timely increase in required personnel, then the new requirements are heavier, and hence:

a. You do not only have gradual disappearance of all the positive results described previously, but,
b. You also have undesirable growth of the negative phenomena (see before), and
c. You lose the reason for your existence, which is the aim to serve the needs of people well, sending them to other health units, public or private.

So, the role of the manager is to decrease the negative consequences, confronting the existing problems from the very beginning and increasing the positive points of the new situation at the same time.

The tools?

1. Timely hiring and training of the required senior staff, i.e. capable of helping from the first moment of starting the job. Sometimes the obstacle is not only the excessive bureaucracy, but the actual 'colleagues'.
2. Rapid installation of the entirely new medical and other electronic equipment. The main obstacle here is not having experienced staff to operate them.
3. Education and training of a certain number of persons. The obstacle to overcome is the probable unwillingness to attend.
4. The creation of a ''culture of change". The obstacle here may be all those who reject every proposal of change for their self-interested reasons.
5. And of course the required amounts of money, and political support.

The strictly medical part of the project

As one of the requirements is the minimization of medical errors, and thus the longer duration of human life, significant importance and care should be taken of this. Not only subconsciously, but consciously, the new hospital is expected to give better service to all its users, so the unavoidable mistakes will not be easily forgiven. This means a new obstacle to be overcome.

And what about the cost effectiveness? At the beginning it is hard to achieve good financial figures, but, as time goes by, this should start happening. Cost effectiveness has to be a permanent goal, whose attainment will give wider possibilities. Possibilities not only for the manager, but mainly and essentially for all of the users, on a medium and long-term basis.

Conclusion

The challenge is great, the effort should be strong. We will reap the benefits, they are going to be the highest ever achieved. The joy of creation will be our reward for the persistent attempts. It is worth the effort, even if it is followed by conflict during the on-going transition period of replacing the inadequate with 'state of the art'.

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REQUIREMENTS FOR VoIP IMPLEMENTATION: A EUROPE-WIDE ISSUE

Making the transition from a conventional telephone system to voiceover IP in a hospital using wireless networks (WLAN) and IP-based mobile telephony

By Professor Wolfgang Riedel

A growing number of hospitals are finding it either necessary or desirable to replace their telephone systems. When the opportunity arises, many of them also consider whether adopting voiceover IP technology could be a feasible and useful solution.

Using voiceover IP (VoIP) means voice conversations are no longer routed over the telephone network but over an internal data network or the internet. In the internet protocol (IP) system speech is divided into data packets, before being transmitted over the data network and reassembled in the correct sequence at the call destination.

It is estimated that roughly two-thirds of German hospitals will need to replace their conventional telephone networks in the next five years. Given the international dimension of telecommunications solutions, the figure for other European countries is likely to be broadly similar. The only sensible solution for hospitals is to introduce VoIP with speech and data integration. The problem, however, is that many healthcare providers are completely unprepared for acquiring VoIP and for this reason, hospitals frequently make the wrong call in terms of future viability when choosing a speech and data network.

Starting Point

The majority of hospitals still use traditional ISDN telephone systems with analogue and digital connections for telephones, fax machines and so on.

The world of telecommunications is, however, experiencing rapid change:

- A global transition is underway in telephony (from analogue and ISDN to IP telephony)
- We are switching to the "IP world"
- Speech and data are merging in
  - Applications and
  - Networks (shared network for speech and data)
- This has major implications for hospitals.

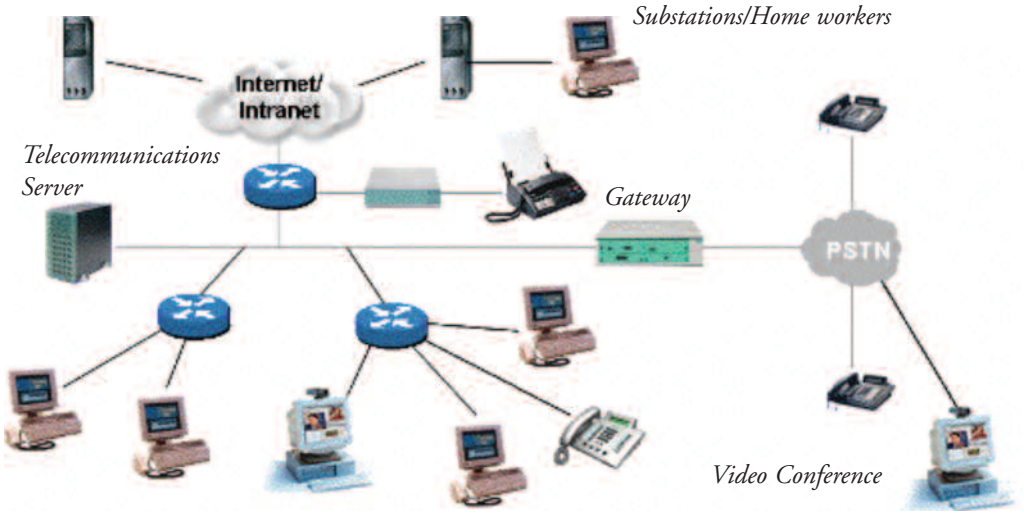
Why VoIP?

The single network structure used in IP telephony is significantly more flexible and cost-effective than operating two separate networks for speech and data. Moreover, IP telephony solutions are relatively simple to use. Nevertheless, in choosing a system it is vital to consider some crucial factors at the outset. For example, should the hospital make a complete transition to VoIP or opt for a gradual migration to VoIP.

VoIP solutions should accelerate internal and external processes and reduce hidden costs.

The advantages of voiceover IP lie first and foremost in process optimisation

- The use of a single network infrastructure and availability of centralised services and applications;
- More efficient system- and user-support;
- Cost savings in speech transmis-



sion are achieved in the convergent data network as dedicated telephone network lines become obsolete;
- Cost savings area secured as a result of reductions in procurement costs when integrating smaller substations;
- Investments are protected and value is maintained by adopting simple expansion solutions;
- Optimal utilisation of resources and infrastructure;
- Simple integration of new entrants;
- Simple transfer of participants (mobile workplaces); and
- Low infrastructure costs per workplace.

In many cases, the introduction of IP telephony in hospitals delivers much more than simply reduced costs in the areas of maintenance, administration and connection. The focus of many hospitals is on achieving process optimisation and centralised management of IP resources.

Implementation of VoIP

Separate networks, e.g. the hospital's data and telephone networks, are merged in a common data network for speech and data. This delivers the following benefits:
- A single network for voice and data (low investment requirements);
- No additional equipment needed for speech services;
- Interplay of voice and data services on a single end unit;
- Interface for multiple locations via internet/intranet; and
- Free telephone calls over the intranet.

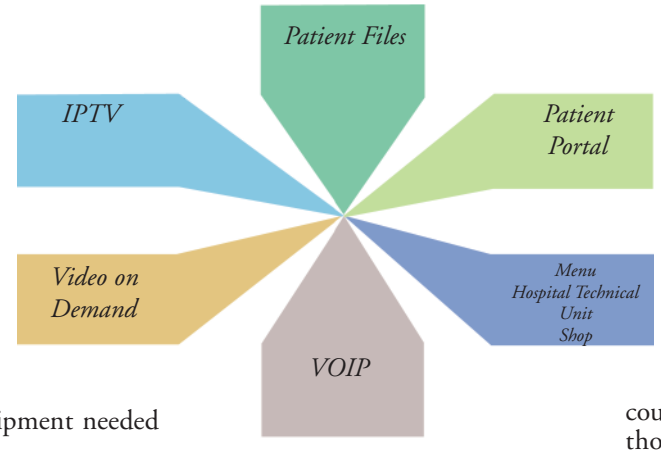
The conventional telephone system in place and the new voiceover IP system are connected via a gateway (migration).

Migration of antiquated telephone system and the VoIP

Migration in this context means the integration of old technologies with new technologies. A new technology is implemented making extensive use of existing technologies, structures and resources.

It is still relatively uncommon to install completely new telephone systems. In the normal course of events, the equipment used in a hospital will be replaced or augmented. What strategies can hospitals deploy to perform a migration?

A range of options are available for adopting VoIP:
- Continued use of the old telephone system: ISDN connections are replaced by an IP connection. This option is uncommon in hospitals as it offers minimal potential for reducing costs and IP connections are exposed to substantial risks.



- Systematic replacement: All telephones and units are replaced with IP hardware. A structured cabling system is employed.
- Use of an external service provider: Management of the system is outsourced to an external provider who charges a monthly fee calculated on the basis of the services used and the number of substations.
- Hybrid solutions: The telephone system is expanded using a VoIP gateway. This gradual form of migration benefits from all the advantages of VoIP, offers a backup medium and is relatively cost-effective. Older telephones are used alongside the new IP telephones.
- Mixed form: Of course, it is open to hospitals to implement elements of all four options.

For example, the existing telephone system can be connected to an IP-enabled network. This option is widely used, notably for substations or external offices which can then be converted to IP at a later date. The existing telephone units can be used until the telephone contract elapses. In tandem with this, a universal VoIP solution can be implemented in other locations. This usually means using IP telephones or soft phones for computers.

Wireless Networks in Hospital

Complementing the VoIP installations in hospitals with IP wireless networks (WLAN = wireless LAN = wireless networks) can be extremely advantageous. These latter systems facilitate the use of voiceover WLAN (**VoWLAN**). VoWLAN is a new trend towards mobile VoIP, that is, mobile voice communication via wireless networks. A new generation of mobile telephone could prove a useful alternative for those who currently use digital portable telephones with VoWLAN while in the hospital and mobile wireless networks (GSM) while outside the hospital.

Over time, dual-use units could replace the DECT handsets currently prevalent in hospitals. Members of staff would only require one mobile handset – presumably a Smartphone

with the features available on current PDAs - for two networks.

Patient Solutions with VoIP

Most of the conventional telecommunications systems in use in hospitals have been complemented by communications information systems to facilitate patient access to telephone, television and internet services. This requires the installation of bedside cables for telephone, television and internet connections. A separate cable is also needed to operate the alert mechanism at the bedside, at least in acute wards. The integration of speech and data services at the bedside would clearly deliver benefits.

One option is to provide a range of IP applications on a single unit.

Security from Start to Finish

In order to guarantee continuous security throughout the system, the route from the virtual telephone socket to the telephone unit must be made secure. A range of security features are available to this end. For instance, the telephone unit must be authenticated on the organisation's network before voice data-transfer can commence.

Conclusion

The merging of speech and data in convergent systems is becoming a top priority for an increasing number of hospitals and other healthcare organisations. IP data networks can now reliably transfer speech data. A series of new applications have the potential to increase productivity. Furthermore, organisations are spared the cost of operating and maintaining two separate networks.

It is hardly surprising then that VoIP has emerged as a leading technology. A range of useful applications protect previous investments and cut costs, while enhancing efficiency and improving customer care. VoIP is, in a nutshell, a technology of the future. The Institute for Hospital Studies (IfK) in Braunschweig, headed by Professor Wolfgang Riedel, has developed a practical guide for hospitals seeking to complete the change over or migration to VoIP. The institute's "road map" sets out the fundamentals involved and details a series of practical examples of the solutions provided by the technology of the future. The guide can be downloaded from the IfK website at www.ifk-Braunschweig.de.

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REDUCING THE PERCENTAGE OF "NO-SHOW" FOR APPOINTMENTS

By Georges Zanellato

The problem of "no show" of patients to fixed appointments is an issue that a lot of healthcare organisations have to face. Moreover, it keeps increasing because it is self-perpetuating, and the overbooking principle, while helping, does not really solve the problem.

What alternatives exist to tackle this problem?

Queue management + IVR

A first, simple, independent and cost-effective solution to the issue consists of installing an IVR ('Interactive Voice Response') system in the front-end of the telephone system. Several proposals exist for this, being dependant or independent from the installed PBX ('Private Branch Exchange'). In general, the latter are less expensive solutions.

Basically, the principle consists in partly automating the management of the calls related to appointments: when a caller is connected to the desired service, he/she is first invited to select between cancelling and registering an appointment. In the first case, the caller is directed to an automated system inviting him/her to leave a message. Such a message will then be routed, as a voice e-mail, towards the processing agents, who could process it during non-peak hours. The corresponding slot can then be freed-up in the appointment agenda, which offers a better management of the service. In the second case, the caller is, as before, connected to the waiting queue of the said service.

Appointment reminder service

The second alternative is an automated service, contacting the patient for an appointment reminder a few days before the visit. Such a service can be implemented as a multi-modal one, making use of one or several modes, depending on the hospital or patient preferences. Confirmation can be implemented by phone, e-mail or SMS.
When confirmation is requested, different levels of insistence can be implemented. For instance, if the order is e-mail first, SMS second and phone-call third, then if no confirmation is received within X hours after sending the e-mail, the system will generate a reminder through SMS. If again there is no confirmation within the next Y hours, the system will call the person.

This type of service is automated, quick, cheap, simple and precise. The knowledge by the healthcare organisation of the patient's communication infrastructure enables the system administrator to select the most appropriate information media.

The same service can be used for specific messages notifications:
- schedule changes, requested by the hospital,
- follow-up on missed appointments,
- recall regular blood donors when needed, and
- notification of any other type of information, such as overdue payments, non-delivery of documents, etc.

Messaging service concept

Such a messaging system can be obtained as a service operated from an externally hosted platform (ASP mode), meaning that there is no physical installation, hence no capital investment, at the level of the healthcare organisation or office premises. The service is accessed through an Internet link.

The interaction between the system and the hospital appointment database is organized as follows:
- A Web interface enables the hospital's administrator to set up service-specific configuration settings for one or several messaging task(s), such as reminder settings (how long before the visit must the reminders be sent, whether confirmation is requested or not, etc.), text of the different reminders, administrator's e-mail that will receive regular reports, etc.
- For each messaging task, the client extracts, from its main database, the data to be processed: there is no direct interaction between the hospital appointment database and the messaging system.
- These data include patient name, date, time and location of the appointment, optional instructions or notes from the doctor, preferred language and communication channel, etc.
- They are then posted on a URL of the Web interface of the messaging system; the received data will then be used by the system to automatically generate the different reminders, notifications and/or confirmations, following the rules selected by the hospital for specified messaging rules (e.g. phone calls, SMS and/or e-mails).

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GS1 HUG™ : THE 6TH CONFERENCE IN BERLIN GIVES THE FLOOR TO HOSPITALS

By Christian Hay

The 6th conference of the GS1 HUG™ (Healthcare User Group) took place in Berlin from 30st January to 1st February. About 160 delegates came from all over the world to be informed about GS1 HUG's progress and to exchange information with hospital representatives from several countries.

Comparatio Health LLC is a common organisation for 6 teaching hospitals, grouping around 7,300 beds in the North of Germany.

Comparatio Health's mission is to contribute to cost reduction in supplies, essentially in the internal processes and the management of catalogues. Comparatio Health helps hospitals to develop new harmonised purchasing rules, analyses market segments according to hospital needs, and shares specific expertise with its hospitals.

	Identification	Classification	Nomenclature
EAN_UCC	■		
HIBC	■		
UNSPSC		■	
NHS-eClass		■	
ATC/ DDD		■	
GPI		■	
EGAR		■	
GMDN			■
UMDNS			■

More than 40 presentations were made to the delegates. User's perspectives (manufacturer of pharmaceuticals or medical devices, wholesalers, health authorities, hospitals) were first highlighted. The components of the GS1 system, used in the healthcare industry, as identification, authentication, data synchronisation or classification have been detailed by specialists.

Objectives and ongoing work-fields at the GS1 HUG were commented upon by their respective leaders. Then national GS1 organisations informed everyone about the involvement of local users in their area.

Here are some highlights from this meeting.

Hospital needs

Unit of use marking

Hospital representatives explained that patient safety can be enhanced by a last check before drug administration, so-called "bedside scanning". Dr Albert Lenderink (Tilburg Hospital, Netherland), Frankie Meulemann (Hospital St Jan, Bruges, Belgium) and Dr Pascal Bonnabry (University Hospital of Geneva, Switzerland) shared their experience with the floor. The two first made pioneering work in this field, developing their experience for more than 10 years. To achieve their goal, they implemented processes to re-pack and/or re-label the drugs in a way which becomes compatible with what the suppliers start to supply. When drugs are supplied with their unit of use bar-coded according GS1 (DataBar (RSS) or Data Matrix), the repackaging process in the hospital becomes unnecessary as the hospital uses the same system as its suppliers.

Geneva provides a newer experience with a similar approach. The University Hospital of Geneva has decided to use the GS1 system with its own productions, the preparation of cytostatics being the first step.

Although the implementation is much more recent than in the two other hospitals, Dr Bonnabry has additionally made a cost-benefit analysis. This demonstrates that RFID or Data Matrix labelling to allow bedside scanning, is cost-efficient compared to any single medication error avoided.

The three speakers asked manufacturers to label the units of use with GS1 barcodes, as their IT environment is ready to make use of these at the patient bedside. Marking units of use during the manufacturing process is the most secure way, compared to re-packaging or re-labelling, both being additionally expensive and a possible source of error for the hospital.

As a representative of the German Hospital Pharmacists Association, Werner Kittlaus explains that his colleagues at the European Hospital Pharmacists Association work on a common memorandum. This will request the pharmaceutical manufacturer to label the units of use with GS1 marking (Data Matrix), including product identification, lot number and expiry date. The memorandum will be published during the first half of 2007.

'...GS1 LABELLING IS BECOMING A PRE-CONDITION...'

Hospital supplies and the GS1 System
Several delegates from Spanish regions visited the Berlin conference. Representatives of Andalusia, Cataluña and Galicia explained how the hospital supply chain, with the suppliers, and within the hospitals, can become more efficient with the GS1 System. This enables automatic data capture of identification, lot or serial number and expiry date. Combining optical labelling and electronic messaging (EDI, electronic data interchange), both standardised, the GS1 System facilitates traceability.

These three regions may be the most dynamic in the Spanish peninsula; other regions share the same vision and work in the same directions. Not only is GS1 labelling requested from the suppliers, it is becoming a pre-condition in the tendering processes.

The combination of labelling and EDI for purchase orders, despatch advices and invoices is built on the same identification keys and has demonstrated its adequacy and efficiency in the retail sector for many years*.

To maximise the potential, product catalogues have to be set up and managed directly by the suppliers. According to one of the suppliers, the product catalogue in a given region should be exhaustive for any supplier concerned by a tendering process.

During a strong debate with the floor, hospital purchasers and logisticians stress their need to address cost-containment requirements from public bodies. Hospital suppliers expressed their concern about the short delay they have to comply with the rules imposed by their customers, this includes non-coordinated product catalogues which are cost-intensive to keep updated.

In this context, the contribution of Comparatio Health is welcomed by all. Comparatio Health is a common organisation for German university hospitals, and one of the most dynamic participants of the GS1 HUG™.

For Frank Brüggemann, CEO Comparatio Health, there is a real need for a uniform product-information source. This is crucial in regards to the over 1,000,000 medical devices on the market, often with a fast renewal cycle.

But not only the large number of devices or different languages challenge the hospital purchaser. The classification of healthcare products is very complex, as there are several classification scheme and nomenclature systems, none of them covering the whole product range. Frank Brüggemann invites all parties to adapt one global solution, to which the existing classification scheme will be linked.

A new Work Stream has been set up by the GS1 HUG™ to respond to this need. Obviously, manufacturers are not only facing requirements from Spanish Regions, but also from other places (Australia, South America, etc.), where catalogues are planned. The kick-off meeting, in February, is ahead of the working program the GS1 HUG™ presented last September in Paris. It belongs to GS1 HUG™'s vision to anticipate market needs, to facilitate the deployment of one single and global standard in the healthcare industry across the world.

THE GS1 HUG™ WORK STREAMS

AutoID data Work Team
The team, set up in September 2006, is lead by representatives of Pfizer and Tyco Healthcare. It is collecting business requirements from all parties in the healthcare industry. All healthcare products (pharmaceuticals, vaccines, biologicals, medical devices) are within the scope: from the end of the manufacturing process, to the administration, to the patient. The team is grouping around 30 participants in weekly conference calls, to analyse, validate and classify business requirements, according to their impact on patient safety and AutoID relevance. One of the difficulties has been to collect user's needs. To address this, a web-questionnaire has been developed in 8 languages (including Chinese and Japanese), and submitted to users all around the world. 117 responses, representing about 250 hospitals and 244,000 hospital beds have been received, analysed and presented at the Berlin conference. It allows the Team to understand that hospital representatives concentrate their interest in product identification, lot number and expiry date, whilst serial numbers are important for surgical instruments and implants.
The Team will deliver its report in Spring 2007.

Serialisation Work Team
Serialisation of healthcare products – pharmaceuticals as a priority - responds to several needs noticed by the manufacturer. One of the needs is to fight counterfeiting. Lead by representatives from Merck and GlaxoSmithKline, the team started work recently. It

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THE LEADING E-PRESCRIBING STATE IN THE US

A model also for Europe?

By Dr John Halamka

Over the past 5 years, payers and providers in Massachusetts, US have implemented web-based, handheld and electronic medical record integrated e-prescribing.

As a result of early pilots, the RxCollaborative and the e-Prescribing Gateway, Massachusetts was named the leading e-prescribing state in the US as of February 2007.
A first pilot in 2001 was implemented by the Tufts Health Plan, Caremark (a pharmacy benefits management company) and Zix Corporation's PocketScript launched to distribute software to Tufts Health Plan network providers on handheld devices, enabling physicians to electronically write and securely fax prescriptions. The software was piloted at 15 physician sites by 77 primary care physicians and 36 nurse practitioners/physician assistants.

The pilot demonstrated:
- A reduction of 8.93 medication errors per physician per year,
- A reduction in the rate of increase of inpatient admissions,
- A decrease in hospital days,
- Verification that patients had filled their narcotic prescriptions for those situations in which patients would call to say a prescription had been lost and needed a new one,
- Improved provider office personnel efficiency,
- Pharmacist time savings,
- Decrease in rejection of prescriptions due to illegibility and drug interactions, and
- Cost savings for generic over brand prescriptions.

Our second pilot in 2002 included Blue Cross Blue Shield of Massachusetts (BCBSMA), Zix Corporation as the sponsoring software application, and Express Scripts Inc. (ESI), a pharmacy benefits management company. Recognizing the value of collaboration to minimize confusion in the marketplace and the possible economies of scale, BCBSMA, Tufts Health Plan, and Zix Corporation merged their efforts in 2003 to create the Massachusetts eRx Collaborative.

The BCBSMA and Tufts Health Plan initial investment in the eRx Collaborative was $3 million and the plans have continued providing financial support to increase adoption.

To further encourage e-Prescribing, BCBSMA offered a pay-for-performance program to participating primary care providers (PCPs). Those eligible earned $1 per member per month based on their e-Prescribing use. In 2004, approximately $1.5 million in physician incentive monies was awarded for e-Prescribing use out of $4 million for pay-for-performance technology use overall. Analysis indicated that PCPs who were given incentives adopt and e-Prescribe at higher levels than other PCPs. At the beginning of the program, practices with high-volume prescribers were targeted, but by late 2004, the focus changed to contract with any interested PCP or specialist, with targeted specialist recruitments in early 2005.

The most recent eRx Collaborative update indicates that there were more than 2.6 million electronic prescriptions transmitted in 2005 alone and three million electronic prescriptions sent through the program overall. The eRx Collaborative exceeded its goal of deploying e-Prescribing technology to more than 3,400 prescribers. Our lessons learned include:
- *One-on-one training* and support upon initial deployment is needed to set expectations.
- *Strong marketplace sponsorship* is required to move e-Prescribing initiatives forward while sustainability requires a longterm view of marketplace needs. Payers/health plans must clearly communicate the benefits of e-Prescribing as a vehicle to improve quality and affordability of care not only for the Plans, but also for the provider and the patient.
- *Pay-for performance* incentives can be significant catalysts for the e-Prescribing movement.
- *Vendor monitoring and outreach* is essential to ensure clinicians have functional software and hardware platforms. Proactive outreach and "high touch" support ensures that the application is used over time. There are significant gaps between those who have the tool

available to them, those who are actually using it, and those who use it at a high rate.

- *Workload impact on the physicians*. Although manual prescribing workflows are delegated to office staff in many practices, e-Prescribing is done by the physician directly. This requires an adjustment to new work flows and new workloads by the clinician. Once the e-Prescribing application is deployed, pages/calls to physicians to clarify prescription details decrease dramatically, so the initial increase in workload does stabilize over time. High-volume prescribers, generally in primary care, internal medicine and its subspe cialties, as well as pediatrics and obstetrics/ gynecology, tend to reap the earliest benefits. Office staff generally finds their time associated with processing refills to be dramatically reduced when true electronic two-way pharmacy connectivity is available.

We also learned that a community-wide, unified approach to e-prescribing among all payers and providers would accelerate the adoption of e-Prescribing. In 2006, we implemented a statewide Rx Gateway which enables all stakeholders to connect to a single electronic point of contact for all e-Prescribing operations. Some of the key features of the Rx Gateway include:

- *Robust e-Prescribing capability*. Working in concert with the clinician's Electronic Medical Record (EMR) application, the Rx Gateway enables the exchange of prescription data among providers, payers, and pharmacies. Prescribers are able to complete in real time all of the key functions underlying the electronic prescription, including reviewing the patient's health plan eligibility and coverage, reviewing the payer's formulary, reviewing consolidated dispensed medication history, creating new prescriptions, and approving pharmacy-initiated requests for medication renewals and refills.
- *Standards-based exchange*. Through its adherence to standards-based information exchange, the Rx Gateway provides connectivity to a large variety of payer, provider, and vendor services and data.
- *Flexible integration options*. The Rx Gateway provides flexibility in the way it integrates with the great variety of commercial, custom, and proprietary solutions. While the Rx Gateway encourages the use of industry standards, and common protocols where industry standards are not adequate, it also supports custom interfaces and message translation for partners who are not in a position to use current methods.
- *Insulation from change*. The Rx Gateway insulates net work participants from changes in industry standards and other connectivity requirements. With the expansion of the use of e-Prescribing to satisfy performance requirements and industry demand, there is a concurrent expansion and evolution of industry standards and connectivity protocols. The Rx Gateway translates among versions of standards

used by its partners, and it offers simplified interfaces whereby one participant may communicate with the Rx Gateway using a simplified protocol which the Rx Gateway translates into a standards-based format for communication with another partner.

- *Connectivity to a variety of business partners*. The Rx Gateway provides connectivity to the key national e-Prescribing service providers as well as regional, state, and local partners such as regional health plans, state agencies, and local data and service providers and consumers. Using a community utility for connectivity rather than a vendor solution allows the community to set direction for which partners will connect to the community network to derive the greatest mutual benefit.
- *Compliance with state, regional, and local requirements*. The Rx Gateway may be configured by the community to satisfy requirements imposed by the community and the jurisdictions in which it operates, and the results support compliance for the participant organizations.

The e-Prescribing Gateway currently serves the physicians of Beth Israel Deaconess in Boston and will soon include the physicians of Brigham and Women's Hospital By connecting EMR and hospital information system products to the gateway, we expect to offer standardized e-Prescribing services to the majority of physicians in the state over the next 3 years.

We believe that end to end medication management, facilitated by e-Prescribing, is our most important initiative for the next several years. Quality imperatives, pay for performance initiatives and stakeholder awareness of the benefits of electronic prescribing provide a powerful sense of urgency for these projects. We will continue to monitor the impact of our efforts and measure the impact on our patients, providers and payers.

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INDUCED HYPOTHERMIA AND FEVER-CONTROL IN NEUROLOGICAL INJURY

Cost-effectiveness issues

By Kees H. Polderman

In recent years the issue of temperature management in critically ill patients, in particular those with neurological injuries, has gained increasing attention from the critical care community. An increasing body of evidence has shown that the development of fever in patients with various types of neurological injury is associated with an increased risk of adverse outcome. This has been shown most clearly in patients with ischemic stroke, where the absolute risk of adverse outcome (death or permanent neurological impairment) increases by 2.2% for every degree of temperature increase. A link between fever and adverse outcome has also been reported in patients with other types of brain injury, such as traumatic brain injury, subarachnoid haemorrhage, and post-ischemic injury following cardiac arrest. The fact that these associations persist after multivariate analysis suggests that the relationship is causal, i.e. that fever generates additional brain injury. This view is reinforced by observations from various animal experiments, which have shown that the extent of experimentally-induced neurological injuries increases significantly if the animal is (externally) warmed. The risk conferred by fever appears to be independent of its cause; infectious fever, "central" (neurological) fever, and fever occurring during reperfusion injury are all linked to increased neurological injury.

Protectiveness of hypothermia

If hyperthermia is harmful to the injured brain, it seems reasonable to assume that perhaps hypothermia could be protective. Indeed, it is becoming increasingly clear that induction of mild hypothermia (lowering of body temperature to between 32°C and 34°C) in the hours following injury can be neuroprotective, particularly in patients with post-anoxic injury. Hypothermia can be applied in numerous clinical situations; it has been used to decrease intracranial pressure (ICP) in patients with traumatic brain injury or ischemic stroke, to mitigate myocardial injury following myocardial infarction, to reduce the inflammatory response in ARDS, and in numerous other situations. However, positive effects of hypothermia have been most convincingly demonstrated in patients with

global post-ischemic brain injury. Two multi-centred RCT's have shown improved outcomes associated with cooling in newborn babies with post-anoxic injury due to perinatal asphyxia; two RCT's have shown benefits in adult patients who remained comatose after a witnessed cardiac arrest, who had an initial rhythm of ventricular fibrillation (VF) or ventricular tachycardia (VT). Regarding the latter category, the European Resuscitation Council (ERC) has recently incorporated the use of induced hypothermia in selected patients following cardiac arrest into the ERC guidelines for resuscitation.

In the United States around 400,000 patients/year have a cardiac arrest; the number in Europe is similar. Between 20% and 38% of these patients have VF or VT as the first recorded rhythm. With appropriate emergency care around 70% of these patients can reach the hospital alive. Thus the group of patients with a potential indication for induced hypothermia is fairly large, particularly if all cardiac arrests patients admitted to the ICU were to be treated with induced hypothermia (as is the current policy in most units already using hypothermia as a medical treatment).

Calculations regarding the number needed to treat (NNT) to achieve one additional patient with favourable neurologic outcome have put this number at six. This figure is likely to be conservative, because in the abovementioned studies the time intervals until initiation of cooling and achievement of target temperature were relatively long (8 hours in the largest adult study, 6 hours in the neonatal studies). The effects of hypothermia are likely to be greater if treatment is started earlier and cooling rates are faster. However, using the NNT of 6 as a basis for calculations, hypothermia treatment appears to be highly cost-effective in most settings. The prices of the currently available cooling devices range from €10,000 to €48,000, roughly comparable to the price of a mechanical ventilator.

Cost-effectiveness of cooling devices

The efficacy of the different cooling devices varies considerably; efficacy can be judged based on the speed of cooling, ability to maintain target temperature within a narrow range, ability to achieve slow and controlled rewarming, and absence or low frequency of side effects. Most cooling devices use disposable materials (surface cooling pads or intravascular catheters) to cool patients; one device uses (partly) re-usable cooling pads. The prices for these disposable materials range from €90 to €800 per patient.

However, the cost-effectiveness of cooling devices should not be judged solely on the basis of their purchase price and the price of the disposables. The associated workload of the medical and nursing staff is of equal and perhaps even greater importance. The amount and type of workload required for effective use of the cooling devices that are commercially available varies considerably. Which device is most appropriate and cost-effective in a specific setting will depend strongly on that setting. In this regard, there will be considerable differences between low-volume and high-volume ICU's. High-volume units may simply be large hospitals with large numbers of ICU beds, and/or units that treat many patients with hypothermia, perhaps for different indications. Units that use cooling devices for indications other than cardiac arrest, to treat patients with traumatic brain injury or to control fever in patients with neurological injuries, will usually need more than one cooling device, as these patients usually require treatments of longer duration.

Naturally, the costs per patient will vary considerably, and will be determined by the factors listed above. For high-volume units a relatively expensive device, with cheaper disposables, may be the best choice, whereas a low-volume unit may opt for a cheaper device with more expensive disposables. Depending on the volume of patients, the costs per patient may vary from €1,000 per patient in a very low-volume setting to less than €200 per patient in high-volume units. With a NNT of 6 for one additional patient with a favourable outcome, without an increase in the length of stay, it becomes clear that hypothermia is indeed one of the most cost-effective treatments currently available in intensive care. Even when using the price at the top end of the range above (€1,000 per patient) to calculate the overall costs, this would require an investment of €6,000 to save one patient; the price per quality-adjusted life-year would still be less than €900. This compares highly favourably with many routine interventions in the critical care setting. As the actual price per patient will be significantly lower in most settings, cooling devices will be a worthwhile investment.

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REFORMS OF HEALTHCARE DELIVERY IN SLOVAKIA AND THEIR IMPACT ON PERFORMANCE OF HOSPITALS

Wrong policy or wrong implementation?

By Prof. Juraj Nemec

The Slovak government in the post-Soviet era started massive reforms, focusing on maintaining the access to, and increasing the quality of healthcare systems. Other priorities were to improve outcomes, especially life expectancy, and to control the costs of healthcare systems.

The most important goals of the reforms were healthcare for everybody, a guarantee of 'essential' healthcare for everybody, cancellation of a state monopoly in healthcare, plurality of provision of healthcare, privatization, increased participation of self-government in healthcare systems, the introduction of comprehensive compulsory (social) health insurance, multi-resource financing of healthcare, and to stop an impairment of health status of citizens.

These goals did not change during the entire period, but in the later phase after 1995, health finance and the necessity to balance costs and resources became an increasing priority, and from 2004 additional new market type elements were incorporated.

The two most important reform dimensions were the development of the insurance system and privatization. Slovakia introduced a system of social health insurance, to replace the old general taxation system of finance. The main laws regulating health insurance were passed in 1994, laying the foundation for establishing thirteen health insurance companies. Most of these disappeared from the "market" leaving only five by 2002.

The privatization of the Slovak healthcare system started in the middle of the 1990´s, mainly in out-patient care and pharmacies. The objective of privatizing in-patient care was proclaimed several times, but by 2001 there were only three non-state hospitals in the whole country. In 2002, the management of hospitals was decentralized, and some hospitals were given self-governing status. During 2003/2004, some hospitals became non-profit, semi-independent bodies.

The privatization of specialized, ambulatory care was slower, but already by 2001 the state sector accounted only for 26 % of facilities (see Zajac, Pazitny, 2002). The semi-radical shift after 2002 to limited marketization of the system was concluded in June 2004, when the health minister Zajac prepared and submitted the set of new health laws to the Parliament, expected to significantly change the system, by increasing the level of co-payments, the introduc-

	1996	1997	1998	1999	2000	2001	2002
Health insurance system resources	35.4	38.4	41.4	43.0	45.3	49.6	55.0
Resources from the Ministry of Health	4.6	4.9	4.7	4.4	4.5	4.9	4.8
Resources from Social Insurance Company	1.0	1.2	1.3	1.3	1.0	1.1	1.2
Direct payments from inhabitants	2.6	3.8	4.1	5.4	5.9	6.3	7.0
Total resources	**43.6**	**48.3**	**51.5**	**54.1**	**56.7**	**61.9**	**68.0**
• Primary care costs	4.3	4.5	4.2	4.4	4.7	4.9	5.1
• secondary ambulatory care costs	0.2	1.3	1.5	1.8	1.9	2.1	2.2
• In-patient care costs	21.4	24.0	25.6	25.0	26.0	28.1	29.5
• Medicaments and health aids costs	12.2	14.4	16.1	18.8	20.6	22.8	24.1
Other costs	1.1	3.4	5.0	4.1	6.9	7.7	8.0
Ministry of Health costs	4.6	4.9	4.7	4.4	4.5	4.9	4.8
Total costs	**43.8**	**52.5**	**57.1**	**58.5**	**64.6**	**70.5**	**73.7**
Balance	-0.2	-4.2	-5.6	-4.4	-7.9	-8.6	-5.7
Deficit coverage	0.2	4.2	5.6	4.4	7.9	8.6	5.7
External debt	0.2	4.2	5.6	4.4	4.4	5.2	2.1
Privatisation grants	0.0	0.0	0.0	0.0	3.5	3.4	3.6

Table 1: The Economic Performance of the Health Care System in Slovakia (in billions of SKK)
Source: Nemec, Ginter, 2003

tion of commercial voluntary health insurance, and changing health insurance companies into joint-stock companies. All six draft laws were approved and were valid from January 1st, 2005.

Health reform outcomes and the problem of their measurement

One of the most difficult public policy and public finance issues is the assessment of the level of success of any reform measure. The NISPAcee Working group II (www.nispa.sk) indicated in its call for papers several crucial questions concerning this aspect, such as: "What methods and techniques are available for monitoring the process and outcomes of implementation? Are there viable systems of indicators that are or could be useful in monitoring and evaluating implementation?"

In our paper we try to provide partial answers to this challenge, using two dimensions as the base: quality of hospital services, and quality of hospital financial management in Slovakia and their trends, as two potential dimensions to evaluate what was achieved during the reformation of the Slovak healthcare system from 1990 to 2002. We have to stress immediately that our view is only a short-term view. Respective reform measures were in force for relatively short periods, and their long-term consequences might differ from short-term perspectives. However, relatively radical changes from 2005 represent discontinuity, preventing long-term outcomes occurring.

Quality of hospital services

It is very difficult to assess developments in the quality of care in Slovakia after 1989, as there are no available effective indicators. Even the term quality has many dimensions, preventing its unified use. In the following, we focus on two dimensions: clinical quality of care, and organizational (patient's) quality of care.

Concerning clinical quality of care, there have been significant and measurable quality improvements on the supply side. These have been mainly in the structure and quality of equipment available in health establishments, and in the range of medicines available and used for treatment. After 1989, several barriers limiting the possibility of importing top "Western" technologies were dismantled, and the regulations concerning what can be purchased and prescribed were weakened. Such trends delivered contradictory outcomes; on the one hand, there were improvements in the technical aspects of quality of services, on the other hand, there was a relative "oversupply" of technologies and expensive drugs, which was one of the causes of financial problems in the system.

Compared to positive technical developments, the trends in other aspects of clinical quality are more controversial, however difficult to prove. In spite of many promises, the Slovak government was not able to introduce a systematic medical and organizational audit of health providers, which would tell us more about how the care is delivered.

Only in October 2002, with the appointment of a new health minister, has the government been willing to accept that problems with the clinical quality of care exist and probably increase year by year, as the consequence of the persistence of many unsolved internal problems in the system (for example not only low, demotivating wages for personnel, but also the non-existence of required technical clinical standards).

The case of the mistreatment of the Slovak President in 2000 (see Zajac, Pazitny, 2000) clearly showed basic weaknesses in the daily delivery of care, but it was not used as an impetus for changes. Trying to limit some healthcare quality problems, the Slovak Ministry of Health initiated from 2002 several actions to improve the situation, like the creation of special unit for patients´ complaints in the ministry, the promise to introduce medical standards for all levels of healthcare; and the immediate inspection of cases of mistreatment by the Ministry. In most cases the doctors responsible were suspended, and the respective hospital departments were even temporarily closed.

To document existing problems in clinical quality of care, we use two sets of indicators in our paper. One of them is the increased frequency of reporting (by media) on the misconduct of medical personnel when treating patients, and the related increase of court cases suing medical professionals for mistreatment. In 2004 alone, the media reported on four cases where the death of the patient was clearly caused by the hospital; the highest number ever. In the beginning of 2005, a patient won a case against a doctor, concerning mistreatment for the first time in Slovak history. In 2006, again for first time in Slovak history, the official statistics of the established cases when patients died in hospitals because of apparent mistakes of the medical personnel was published (23 cases – www.udzs.sk).

However, these indicators do not directly prove that clinical quality is decreasing; they just indicate increased awareness about the problem (moreover official longer sets of data are not available to define trends). The second suggested indicator - frequency and structure of patient's complaints - is common for clinical and organizational aspects of quality and existing data prove that the level of dissatisfaction increases. The weakness of this indicator is connected with the problem of expectations in two directions:

- if there are no expectations, no claims would occur,
- if there are expectations that complaints would not help, the number of complaints decreases.

There is some evidence to prove that the organizational (patient's) quality of care improves, but very slowly. Compared to the old system, there is a choice of provider, but the patient is still very far from becoming the central subject of the system. In Slovakia

the document "Patient Rights" was prepared and published in 2000, and some establishments have not yet adapted it fully to local conditions. Queuing for treatment without the option of a precise appointment is typical with most providers, including private ones. As mentioned, an important indicator of both clinical and organizational quality is the reactions of patients. As part of developing the governance and e-governance system in Slovakia, all patients have now the possibility to complain about healthcare-related problems to a special unit in the Ministry of Healthcare: the Unit for Protection of Patients´ Rights. The number and structure of such appeals is telling, and shows that there are major quality problems that need to be solved.

Quality of financial management

Taken together, the governmental statements identify the improvement of efficiency as one of the main aims of transition. But in practice this aim has not been consistently realized, and by 2002 the hospital and insurance sectors in Slovakia were heavily in debt. In addition, several crucial and chronic weaknesses remained, specifically: low economic efficiency; a lack of evidence-based decisions; low relative pay and the attendant labor-retention problems; over-large drugs bills; and insufficient effectively-managed capital programs, and a general underdevelopment of preventive medicine. Shortage of funds led hospitals to proliferate the range of services, and to pay low wages. Drug bills exploded, and the lack of overall control of the system led to inefficient capital investment programs, and insufficient resources were devoted to preventive medicine.

Wrong policy or wrong implementation?

We may conclude without much doubt, on the basis of the indicators used, that the first decade of health reforms in Slovakia did not bring enough positive outcomes. The quality increased only in certain aspects, mainly because of more resources. The financial management is better perhaps than under the old regime. It is too early to predict the future, after major changes in the beginning of this century. Taking this situation into account, we may ask the question: wrong policy or wrong implementation?

If the policy is already improperly formulated (or not effectively formulated at all) it is very difficult to achieve positive outcomes. When implementation fails, policymaking loses its purpose, mission, credibility and effectiveness. Evidence on the practice of policy-making shows that both stages (policy formulation and policy implementation) are extremely weak in Central and East European countries.

In the case of Slovak healthcare reform, we are able to provide some evidence showing that the original problem was connected with the policy formulation phase and that the implementation was not able to cope with the original starting failures, and that it just increased the scale and scope of the problems.

One of the crucial issues of the reform was the idea of replacing the former general taxation-based model of financing of healthcare by a new social health insurance model. This change was supported by typical arguments about plurality, independence and competition as main factors stimulating positive changes in the system. Such an idea could be the subject of objections to the general economic and health economics theory, especially for transitional periods, which are beyond the scope of this article (for detail, see for example Nemec and Lawson, 2003). The crucial issue is that basic preconditions for the functioning of the insurance market were not created, either by

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analyses needs, capacity and structural requirements for serial numbers. It further integrates similar concerns addressed in the US, as some US regulations require authentication across the supply chain (Pedigree). This leads to item serialisation.

This Team collects user's needs by sub-market and by user-group. These will be presented in a single report, after validation and semantic cleaning.

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The number of hospitals using the GS1 System will now grow fast across the world. The ultimate goal is to contribute to patient safety.

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*On 16th February 2007, the Department of Health in the UK decides to join GS1 for all the NHS activities. In France a similar approach is currently in deployment by University Hospitals.

the reform contents, or by its implementation.

Plurality and Competition

In Slovakia the Parliament lays down the level of insurance payments in relation to wages. The influence of the state on insurance companies does not stop at parliamentary finance votes. The Ministries of Finance and of Health determine most aspects of companies' payments, from the structure of the reimbursement system to the point values of all medical services, and set maximum levels of administrative costs. Furthermore, the Slovak Parliament also deliberately decides on the level of the state contribution for economically inactive citizens, representing an important part of insurance funds. The level of equalization between insurance companies was a matter of permanent dispute between different actors in both republics, involving frequent changes in the system, but ending with 100% equalization in Slovakia from 1999. The financial and especially the reimbursement, rules changed almost every year.

Reimbursement Systems for Providers in Slovakia

The impacts of such tight regulation of freedom of insurance systems are straightforward. The change saw a proliferation of companies followed by a rapid consolidation and final domination by a single player: the Slovak General Health Insurance Fund (SVZP). By late 1995, twelve insurance companies were operating in Slovakia, including the SVZP and separate companies covering the Ministry of Internal Affairs, the railways and the armed services, corresponding to their previously-noted, separate healthcare systems. However, the situation changed rapidly. In Slovakia, both government and economic pressures led to a fall in the number of competing companies. Basically, the eleven, non-general companies were cherry-picking i.e. segmenting the market. The SVZP ended up with 75 % of the patients, but with the least attractive ones from a medical and hence profitability viewpoint. After several bail-outs, by early 2002 the system had been reduced to only five companies. To remove the impact of cherry-picking, once the companies have collected their contributions, all of the funds are pooled and redistributed according to the company clients' age and sex profile. In effect competition has been removed.

Independence

Depending on the legislation covering the regulation of the companies, the insurance-based system multiplied politicians' possibilities for intervention.

Such a path was frequently chosen by the Slovak Parliament, which has repeatedly used its powers of intervention in an unwise manner. For example, under Act No. 374/94, Parliament determines the annual payments to the insurance system for two-thirds of the population who are either civil servants or are inactive. From 1995, Parliament withheld significant amounts of those payments for no discernable good reasons, forcing the healthcare system to delay payments and waste resources in lobbying politicians for their release. Under subsequent legislation, the private sector lost any real legal chance of being repaid for "compulsory crediting" of health establishments, in the form of non-paid invoices for delivery of goods and services to the health sector.

Conclusions

The Slovak healthcare system after 1989 was influenced by differing reforms. The first ten years of reforms did not deliver enough positive outcomes. To cope with increasing economic efficiency and deficiencies of the system, major market-based reform was introduced after 2000, with most of the important reform laws passed by the Parliament in 2004, effective from 2005. The brief analysis of processes and outcomes of past health-reforms clearly indicates that several goals were not achieved. We argue that both ineffective policy-making and ineffective policy implementation processes might be one important factor lying behind this situation. It is difficult to realize effective reforms in an environment of transition from centralism to democracy and the market as there was no experience of such change. However, if it is politics and not policy that is the main determinant of the reform contents, inefficiencies are inevitable.

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Conclusions

The solution presented here, especially the appointment reminder and confirmation one, is the most efficient answer to the problem. It offers an automated while flexible way to contact the patients to remind and/or notify them of given events. Moreover, it is well accepted by both the patients and the hospital; it gives the former the feeling of receiving better (follow-on) service and it improves the image of the latter.

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