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Professionalization of purchasing and innovation in hospitals: A promising duet

Appraising the efficiency of public hospitals in Tunisia

A study on user satisfaction with the Clinical Decision Support System for medication (CDSS) in Korea

Argentina’s health care is in good health

The issues and future of the health care delivery system in Japan

Health reform for dummies

Hospital reorganization and restructuring: The case of Kazakhstan
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- **Dr. Lydia Kapiriri**
  - McMaster University, Ontario, Canada
  - Int. Centre for Migration, Health and Development

- **Dr. Manuel Carballo**
  - The Aga Khan University Hospital, Pakistan
  - Using innovative technology for better quality and patient safety
Welcome to The 38th World Hospital Congress, Oslo2013

Pre-Congress events, 17th June
- IHF Members Forum
- Healthcare Excellence through the Power of Nursing, American Nurses Credentialing Center
- IHF Group Purchasing Chapter, France
- IHF Health Promoting Hospitals, Taiwan
- Innovative solutions for the future, KPMG

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Dr. Barrosetti Kumar, President, Scientific Committee, OSLO2013

Dr. Erik Normann, President of the International Hospital Federation

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In this first edition of 2013, the International Hospital Federation (IHF) brings you the best from its members’ publications. Past editions have been dedicated to specific subjects, but it is also important to give you a sense of the broad spectrum of health care providers’ activities around the world. As a platform for knowledge sharing among members and as an organization dedicated to the dissemination of best practice for improving health service delivery, it is our responsibility to expand the reach of valuable articles that would not usually be read beyond the tight circle of our affiliated organizations.

We are all operating under the restrictions and steady pressure of cost reduction. This makes it especially important to share sound evidence from health care providers that are at the forefront of innovation. The variety of these approaches reveals the dynamism of these providers who anticipate demand trends and proactively seek solutions. The IHF secretariat sincerely thanks the members who have sent us relevant articles for an international audience from among their 2012 publications.

It comes as no surprise that the renowned Mayo Clinic is continuing its relentless pursuit of quality improvements. Improving quality is not a concern solely of an organization that has established itself as an exemplar in this area but a goal for all health care organizations. The Mayo Clinic’s results demonstrate that its model works. It is a simple but extremely effective model as long as it is fully supported by a reliable information system.

A basic assumption is that high volumes and standardization will drive all group purchasing decisions. The article by Réseau des acheteurs hospitaliers d’Ile de France (Resah-IDF), the largest French group purchasing organization, explains its role as a driver of innovative practices in health care facilities while at the same time reducing costs. The article also reflects the work developed at the IHF by the Group Purchasing Chapter led by Resah-IDF. We hope this article triggers interest in developing group purchasing arrangements as a value-based approach. The existing IHF Group Purchasing Chapter is a perfect source of information and support for all interested peer organizations (http://www.ihf-fh.org/IHF-Chapters/Group-Purchasing-Organisations-GPO).

The media have covered many aspects of the Arab Spring, especially in Tunisia where it began, but it is also important to realize that, despite these difficult conditions, health care providers are moving forward in their quest for efficiency improvement. This article from Tunisia demonstrates that progress can be made, even in such a volatile situation. This assessment of results in Tunisian hospitals can be helpful for any country facing strong resource constraints or an uncertain political and social climate.

All countries are making efforts to ensure safety at every stage, but people often think that only dedicated health professionals should be involved in assessing technical processes in health care systems. In Korea, a decision was made to involve all health professionals in assessing the clinical decision-support system. This approach to assessment encompassing user satisfaction is critical because effective adoption of a process depends strongly on this. Incorporating user feedback into systemic improvement moves the assessment process a step further along. As described in this study, such a simple and effective approach could be adopted as a best practice all around the world.

For health care providers, probing user satisfaction is important on a broader scale. This is one reason why Argentina surveyed the users of its health services. The article shows that user surveys are easy to undertake and can be done systematically in every country at least once a year so that a “satisfaction index” can be set up. In addition to revealing specific results and pinpointing areas needing improvements in services, an overall satisfaction index can be an important negotiating tool for an health care industry seeking public funds: it can remind decision-makers that health care is a key priority for the voting public.

Even if user satisfaction is high, health care funding is tight, and most countries are trying to improve efficiency and service delivery. The articles from Australia, Japan, and Kazakhstan indicate that reforming health care is never easy. They also show that good results can be obtained when reforms are well prepared and designed to take into account all parameters. However, as in Australia, what can be reasonably achieved may be much less that what is promoted when there are too many players with different expectations. In addition, the breadth of reforms must take into account the nature of challenges, as described in the article about Japan, the first developed country to have to come to grips with the expected consequences of an ageing and aged population. Examples and ideas from all these articles can provide insights for most countries beset with similar challenges.

Jules Verne took us Around the World in Eighty Days in his famous novel. In this issue, we invite you to circle the world in eight articles. This journey is an appetizer for those of you who will attend the IHF World Hospital Congress in Oslo from June 18–20, 2013 (www.oslo2013.no). In just three days you will gain access to an in-depth knowledge of the latest developments in more than 15 countries.
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ABSTRACT: A data-driven, comprehensive model for improving service and creating long-term value was developed at Mayo Clinic Arizona (MCA). The seven-prong model was fully implemented and tested in five departments at MCA in which patient perception of provider-specific service attributes and/or overall quality of care were below the 90th percentile for patient satisfaction. Perception data rating various service attributes were collected from randomly selected patients and monitored over a 24-month period. The largest increases in patient perception of excellence were realized when all seven prongs of the model were implemented as a comprehensive improvement approach.

Paying for value is a pillar of health care reform. Under the value-based purchasing (VBP) programme, reimbursement for inpatient Medicare services is determined by a combination of clinical quality and service quality measures. To provide the best possible service and to ensure that Mayo Clinic Arizona (MCA) is well positioned for VBP, widely accepted service quality principles were incorporated in a seven-prong, data- and accountability-driven model.

Methods

Data collection
A national vendor draws a stratified random sample of approximately 8,000 MCA patients each year as part of an ongoing survey of patient perception of service quality. The 50-item telephone survey asks patients to rate on a five-point scale service quality related to the provider, the allied health staff, the facility, and global attributes, such as overall quality and likelihood to recommend. The service quality improvement model was fully implemented and tested in five departments in which patient perception of excellent provider-specific service attributes and/or overall quality of care were below the 90th percentile of clients in this vendor’s national database.

Service attributes that related specifically to the provider included thoroughness of exam (r = 0.57, p < 0.001), explaining the medical condition (r = 0.57, p < 0.001), involving the patient in health care decisions (r = 0.56, p < 0.001), demonstrating courtesy and caring (r = 0.53, p < 0.001), spending enough time (r = 0.52, p < 0.001), and using understandable words and terms (r = 0.49, p < 0.001). Service attributes that related to operations and other members of the health care team included efficiency (r = 0.62, p < 0.001), teamwork (r = 0.59, p < 0.001), and staff courtesy and friendliness (r = 0.51, p < 0.001). Qualitative data on staff performance in the pilot areas were collected through focus groups, direct observation, and unsolicited customer feedback. Operational data and physician and staff satisfaction data were obtained from existing source reports.

The model and implementation

The seven prongs in MCA’s service quality improvement model are as follows.

Prong 1: Multiple data sources to drive improvement
Metrics critical to the service strategy were identified and compiled into a single, department-level service performance scorecard. It includes operational metrics related to telephone service and appointment access, patient perception metrics, and staff perception metrics. This scorecard is emailed quarterly to the leadership to raise awareness of service issues.

Service quality is also tracked using a brand monitor study; referring physician surveys; focus group studies; point-of-care satisfaction surveys; and patient letters, comment cards, and complaints.

Prong 2: Accountability for service quality
Accountability for service quality is promoted through the ongoing involvement of multiple layers of leadership and has been advanced at the provider level as well (Figure 1). Seven provider-specific service attributes (thoroughness, spending enough time, listening, explaining, using understandable language, involving the patient, and demonstrating caring and compassion) that align with the promises made in the Mayo Clinic Model of Care, the fiscal year 2013 Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) dimensions, and the ideal physician behaviours identified by Bendapudi and colleagues (2006) are monitored. Provider-specific patient satisfaction data are combined with other provider-specific metrics, such as productivity, to manage performance. Providers with scores below the goal work with their department chairs to develop improvement plans that may include individual coaching, other forms of mentoring, and
behaviours with perceptions of overall quality of care, and focus on patient percent excellent ratings, correlations of provider and staff performance, and patient experience.

Prong 4: Service consultation and improvement tools
A workgroup was formed to identify service behaviours consistent with being a patient-centred and employee-driven organization. The resulting five behaviour standards are aligned with MCA’s core values and create a mnemonic (SERVE):

- Solutions-focused:
- Empathetic:
- Reliable:
- Valuing others:
- Exceeding patient expectations.

SERVE was incorporated into each phase of an employee’s tenure at MCA, from pre-hire screenings through exit interviews.

Prong 5: Education and training
Patient percent excellent ratings, correlations of provider and staff behaviours with perceptions of overall quality of care, and focus group data related to perception of teamwork and efficiency were used to assess training needs and design training content for physicians and allied health staff. Service quality fundamentals are supplemented with department-level material to make the service concepts relevant and meaningful.

Prong 6: Ongoing monitoring and control
After consultation, department managers are advised to develop tools and implement processes for ongoing monitoring of service performance. Prong 2 sets the tone at the top for service accountability in the organization and reinforces Prong 6, which helps ensure frontline staff accountability for performing to department standards.

Prong 7: Recognition and reward
Several awards for outstanding service are given at annual recognition events. Departments are recognized for achieving the 90th percentile goal for patient perception of overall quality. Individuals are recognized at an annual service awards event with a typical attendance of several hundred employees.

Results
Clinical departments
Trend data from the five pilot departments suggest that more frequent distribution of data to providers and a comprehensive approach to performance management result in greater improvements in patient perception of excellence. Departments with the largest and most sustained increases in service quality scores implemented all seven prongs in the model.

General services department
The patient satisfaction survey does not include questions specific to front-door service. Qualitative data for this staff’s performance were obtained through direct observation, in the responses to open-ended questions in the patient satisfaction survey, and in unsolicited customer feedback. The number of comments praising the staff’s kindness and observations of their patience, efficiency, and caring for the patients’ needs increased after service consultation and education and training.

Overall clinic performance
The clinic’s overall service performance, measured with four global perception metrics—value, outcome, quality, and likelihood to recommend—remained strong between 2008 and 2010. Perception of outcome and value of care are at their highest levels since measurement of patient satisfaction began in 2002.

Discussion
The pilot has several implications for health care managers. Implementation of the pilot afforded the opportunity to assess the interrelationships of the prongs. While quick fixes to maximize payment under value-based purchasing may be tempting, this pilot showed that the best results come from implementing all prongs in the model. Accountability for service quality has been enhanced with a coordinated partnership among key service leaders—executive and department leaders, the physician lead for service excellence, and the service coordinator. To complement the metrics and consultation activities, leadership must demonstrate a genuine commitment to service excellence.
A commitment to service excellence, communicate performance expectations, and create accountability for improvement.

Leadership should clarify roles and responsibilities. The service coordinator is an internal management consultant, responsible for facilitating improvement. Department leaders are process owners, responsible for implementing action plans to improve service.

Limitations and future research

While this model can be used as a roadmap of what to do to improve service, its implementation will likely depend on an organization’s culture, hierarchy, and attitudes about service. Leadership buy-in is essential.

Perception data has its own limitations. For example, a typical Mayo Clinic patient sees several specialists during a relatively brief episode of care. When responding to the provider-specific questions in the satisfaction survey, patients may be thinking about one provider when another is the object of the survey. This risk is mitigated by repeating the department name and date of service before each survey question.

Conclusion

Analysis of service quality data at the organization, department, and individual provider levels, supplemented with a comprehensive, research-based, seven-prong improvement model, has steadily improved the Mayo Clinic patient experience. A long-term approach that focuses on creating value by delivering an excellent service experience is the right thing to do for the patient. Under value-based purchasing, improving service quality will help sustain the organization into the future.

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References

Professionalization of purchasing and innovation in hospitals: A promising duet

DOMINIQUE LEGOUGE
DIRECTOR OF THE PUBLIC INTEREST GROUP RESAH ILE DE FRANCE AND VICE-CHAIRMAN OF ASSOCIATION OF PUBLIC AND PRIVATE HEALTHCARE PURCHASERS (ASSIAPS)

ABSTRACT: The buyer today is an essential gateway to hospital innovation through their cross-curricular competency and role as a professional interface between supply and demand. The creation of hospital central purchasing, capable of detecting emerging, for market operators and to accelerate the diffusion of innovative solutions, is a key to the future of the hospital purchasing.

Purchases represent, in many cases, a strategic gateway for innovation in hospitals. In most cases, the implementation of change within an organization is linked to the acquisition of a new product or a new service.

Paradoxically, hospital purchasers still play a minor role in the management of innovation. Despite its strategic importance and its direct impact on efficiency, innovation is not subject to any transversal coordination.

Usually, innovation monitoring is based on the direct dialogue of manufacturers with prescribers and users, e.g. doctors, nurses, engineers or managers. These professionals provide, essentially, the supply of innovative products, solutions and services in hospitals today.

Such a situation, unusual in the private health sector, is not satisfactory in terms of performance. Innovation needs to be driven and monitored.

Inside hospitals, the potential candidates to carry out this monitoring are the purchasing departments, which are being reinforced in France by means of an interdepartmental programme called PHARE (Hospital Procurement Performance). Their role as the dedicated interface between industry supply and internal demand of the hospital, as well as their transversal competences, turn them into the best operators to act efficiently in this field.

However, purchasing departments, in order to provide real added value, need to follow two key objectives:

- Ensure that have accurate expertise and a comprehensive understanding of their purchasers. They should use the whole “Procurement” toolbox, from market surveys to value analysis as well as the full cost approach.
- Make sure they pool their strengths, which are: purchasing volume, resources and expertise. Indeed, this is likely to enhance the relationship of hospitals with their industrial ecosystem.

Mission and tools of the hospital purchaser

As regards to innovation, professional hospital purchasers are responsible for the organization of internal and external dialogues. Implementing a rigorous and impartial professional methodology turns them into the guarantors of hospital purchases’ performance.

Through their mission of leading and coordinating the demand, purchasers are led to search for innovative solutions that might improve the quality of care for patients or medical staff working conditions, at a reasonable cost.

Their added-value is mainly based on their ability to establish and develop a fruitful dialogue between internal prescribers and external suppliers, to express “fair need”.

From this perspective, several tools are available to bring and question innovation at different stages of the purchasing process.

- Market study: By definition, market studies are business-oriented and aim to assess the existing offer as well as to identify other key players involved. For a given purchasing segment, a market study analyzes the state of the market and estimates innovation trends.

  At that stage, many questions arise: What are the existing solutions in the sector and how will they evolve? Is there a standard offer on the market? Are there alternative solutions and what are their distinctive features? Who are the main innovators in this area, what are the characteristics of their offer and what is their marketing strategy? What is the added-value of one solution compared to another? What are the risks and issues related to the proposed innovations? What were the previous experiences, with what outcomes? What is the price break down, what is the cost due to innovation? How to qualify the innovation available: is it related to the product, the economic model or the associated services? Who are the other purchasers of this innovation and which suppliers did they select?

  Within a market study, the purchaser should, ahead of the expression of the internal demand, monitor new developments and innovation.

- Expression of needs and internal demand management:

  This stage is both very crucial and related to the previous ones since market and demand are deeply interconnected, especially concerning innovation: novelty creates needs and vice versa.

  It is the role of purchasers to define the fair need based on the results of market studies and dialogue with internal prescribers. A progressive questioning process will match the
internal demand with the offer, existing or potential.

To reach this match, the following issues will need to be addressed: What are the real needs considering the organization’s priorities and dedicated resources? Is this functionality, this specification or this service really necessary? What is its added-value? Is it esteem value or use value? Which price can we afford to pay for it, given the prices on the market and the possible return on investment? Are we able to recoup the cost of the solution in the long run? Should we encourage the suppliers to innovate their economic models (e.g., pay-as-you-go) rather than in warranty levels (e.g., commitment on a maximum consumption rate)? It may happen that no satisfying solution exists on the market. The purchaser then has to provide answers and push competent vendors to proposing relevant innovative solutions, as for instance, in the frame of a competitive dialogue procedure.

♦ Analysis of the bids: This is about analyzing and comparing the value of the proposed solutions in relation to the expressed needs, in order to identify the best offer. The quality levels should be assessed in the light of the various choice criteria listed in the tender documents.

♦ Contractualization and execution follow-up: The implementation of the selected solution has to be closely monitored and secured, especially given its innovativeness. The legal framework has to be carefully established. It has to organize many aspects such as the progress plan, quality of service, reversibility of the chosen solution, levels of warranty, etc.

Special attention should also be paid to intellectual property (IP) rights. In case of co-innovation, more frequent than people think, IP rights have to be fairly distributed between a hospital and its supplier. This is why the purchasing department must monitor the whole supplier relationship. Even when the latter takes place a long time ahead of the selling and can thus be compared to a joint R&D phase.

Roles and assets of hospital central purchasing

Hospital central purchasing organizations catalyze and accelerate innovation for more performance.

On the one hand, organizing the internal and external dialogue around innovation and implementing the dedicated toolbox requires important resources which are sometimes not affordable for a single hospital.

On the other hand, needs expressed by one hospital, even big, can be unprofitable for suppliers who operate on globalized markets.

The future of hospital procurement lies in central purchasing, through the pooling of demand and expertise. Central purchasing organizations provide hospitals with a negotiation force against big health care operators and accelerate the dissemination of innovative solutions, arising mainly from SMEs and start-ups. These group purchasing organizations (GPOs) are meant to be, within the next ten years, the major players in innovation in hospitals.

In the US, the three biggest GPOs MedAssets, Premier and Novation, purchase respectively for 34 billion, 32 billion and 30 billion Euros each year.

The situation is very different in Europe where pooling of hospital purchases only just beginning. However, only hospital GPOs have the capacity to carry out more and more complex purchasing projects on industrial markets. This is due to the strategic, economic or legal challenges brought by these projects.

A GPO can be a great progress accelerator: it is likely to harmonize the innovation demand towards industry and to accelerate its distribution in health care organizations with an affordable cost. GPOs thus support the development of high added-value service providers.

The European Commission takes it for granted. Demand-side innovation policy tools that stimulate the demand for innovations now complement its usual funding schemes to support the supply of R&D and innovation.

GPOs and the acquisition of existing innovation

Pooling purchases facilitates the identification, assessment, sourcing and dissemination of innovation existing in the market. In France, this is for instance the role played by the Economic Committee of Health Care Products (Comité économique des produits de santé) for innovative and high-cost pharmaceuticals and medical devices. Acting like a national GPO, it negotiates with industry and concludes framework agreements specifying ceiling prices and volume clauses.

This is an interesting approach, but it can be enhanced with regards to purchasing strategy. And it is not replicable in all sectors.

GPOs and the acquisition of new solutions to cover unmet needs

This is a very important development strategy for GPOs. Hospital demand is too fragmented to make industry to offer tailor-made solutions in order to cover these needs.

The cost of the development of these solutions is too high to be amortized over a couple of customers, as hospital computer systems show.

That problem can be solved by the pooling of needs and the broad distribution of innovative products. GPOs can also co-finance innovation with industry. Several competitive calls are then launched (feasibility study, prototype, first series, etc.) with a fair distribution of intellectual property rights between the GPO and the selected supplier.

From this perspective, the European Commission supports the use of procedures called pre-commercial procurement (PCP).

The future belongs to GPOs investing in innovation

In a context of budget reduction, the future belongs to the GPOs which will be able to provide their members with additional performance, in terms of quality or costs control.

The competition between central purchasing organizations will probably occur at the European level: the European Union (EU) proposal for a directive on public procurement offers the possibility for public authorities to go to a GPO of their choice, wherever it is located in the EU.

As a consequence, innovation policies will become strategic for the development of GPOs. Most of them will probably have to pool their resources and members to remain competitive. Depending on the requested strategy, either regionally-based, activity-oriented (e.g., cancer fighting) or gathered on a specific project (e.g., HAPPi project on healthy ageing innovation coordinated by Resah-idf), these GPOs will be multifaceted.
Pooling the purchase of innovation fosters a dynamic and rich industrial ecosystem

In line with the European Commission strategy, professionalization and pooling of purchases, notably hospital purchases, will support European growth and boost its industrial competitiveness.

As a result, central purchasing policies should target first small businesses and medium size enterprises.

Hospital purchasers and their cooperation networks face a great challenge: it is for them to commit themselves to the field of innovation in order to become, through a comprehensive dialogue with prescribers, the scouts of tomorrow’s hospital.

Dominique Legouge is the Director of GIP Resah-idf (Réseau des acheteurs hospitaliers d’Ile-de-France) a hospital procurement network which leverages the purchasing power of 120 hospitals and nursing homes in the Ile-de-France region (procurement volume over 1.4 billion euros/year).

He is also the President of AsFAH (French Association of Hospital Purchasers), Vice-President of ASSAPS (International Association of Public and Private Health Care Purchasers) and member of the board of EHPPA (European Health Public Procurement Alliance). EHPPA stands for a strategic alliance between nonprofit health care procurement organizations in Europe.

He is the author of many reference books and articles on purchasing, and coordinates the activities of the IHF Group Purchasing Chapter.
ABSTRACT: Public hospitals are under increasing pressure to improve their efficiency and to fully utilize their production capacity. The purpose of this paper is to analyze inefficiency and capacity utilization of public hospitals in Tunisia through three case studies. Based on the findings, options aimed at improving hospital efficiency are discussed and offered to policy- and decision-makers. In view of important role played by public hospitals in the Tunisian health system, it is believed that efficiency gains in hospital productivity will have good implications on health outcomes and will support the move towards universal coverage.

Despite anecdotal evidence about limited hospital efficiency and productivity, no serious studies have been carried out to assess the breadth and depth of hospital inefficiency, except the published thesis of Arfa (2009). With financial and technical support from World Bank and other partners (World Bank 2006), some evidence has been recently been gathered about hospital performance. The case studies in this thesis give some insights in this issue and contribute to bridging that knowledge gap. They use innovative nonparametric approaches as applied to health care (Hollingworth 2003 and Chilingerian, Sherman 2004).

Output technical inefficiency of district hospitals
This study aimed at computing output efficiency scores for selected district hospitals in order to assess how much the production of outputs could be increased given a specific input using Data Envelopment Analysis (DEA) (Charnes, Cooper, Rhodes 1978). Data from the national survey on Tunisian district hospitals and rural maternities for 2001 was used to assess technical efficiency. Production technology was composed of inputs (personnel, budget, medical technology and beds) and outputs (outpatient and inpatient services).

Findings
It was found that district hospitals and rural maternities could increase their production outputs by 8% for a given level of input without using bootstrap procedures. When the latter is used (hence correcting for estimation biases) increases in productivity could reach 15% for any given level of input. The results have shown a relatively high statistical variability for calculated scores.

Fifty per cent of district hospitals and rural maternities have a technical inefficiency score equal or less than 8%. Moderate performers with an inefficiency level to output of between 8–20%. Bad performers with an inefficiency score to output of between 20–80%.

It was found that 37% of hospitals were well performing, 46.5% have a moderate performance and 21% have a high inefficiency score. In reviewing and analyzing these findings policy-makers and regional directors of public health could get some messages about ways and means of improving hospital performance at national and district levels.

Strategies to improve hospital efficiency
The lessons learned in performing the above mentioned studies and others are quite important as they point to the need to refine hospital performance assessment bearing in mind the multi-faceted aspects of hospital care and the level of sophistication of inputs used in terms of health workforce, biomedical technology and medical procedures.

Improvement of quality assurance and patient safety and the use standardized treatment protocols in health care facilities could lead to improved performance of hospitals by avoiding unnecessary admissions and complications. The development of accreditation system for hospitals should support quality assurance and the improvement of hospital care in both public and private sectors.

Use of production capacity in district hospitals
Ministry of Public Health (MoPH) officials have been using single indicators such as bed occupancy, average length of stay, bed rotation and hospital mortality to assess the performance of public hospitals. Such assessment has raised concerns over the future of district hospitals in the 1980s and 1990s as some policy-makers were inclined to close down some of the district hospitals and rural maternities and to change their function to become diagnostic centres and day care units despite their contribution to preventive and health promotion services and to primary health care in general.
In this study, a new approach to measure hospital performance capturing multidimensional indicators was used in order to assess the potential use of production capacity. Such measurement provides accurate information on the multiproduct nature of any public hospital. The idea of this approach was initiated by Johansen (1968) and Grosskopf and Valdmanis (1987).

Methods and data

The utilization rate is obtained using the nonparametric approach Data Envelopment Analysis. A DEA model was developed with restrictions on the shadow prices of inputs and outputs. Data was obtained from a national survey of district hospitals which provided information on physical facilities, the health workforce and biomedical technology. Statistical data was collected for the year 2000. Production of services was measured through a set of five outputs (number of outpatient visits: outpatient department, dentistry units, and emergency wards; number of admissions: general medicine, maternity) and five fixed inputs (number of physicians, number of dentists, number of mid-wives, number of nurses or equivalents and number of beds) and one variable input (budget). Once the outputs and inputs underlying the production function relationship were defined, specific empirical representations of the functions were constructed in order to provide a foundation for measuring capacity utilization.

Findings and policy implications

Overall production was typically less than the capacity output levels (Table 1) using the dual DEA model. District hospitals do not operate at full capacity. The average CUR 5 capacity utilization rate) is 0.87 with a standard deviation of 0.15. Seventy-eight per cent of district hospitals use more than 80% of their production capacity and the remaining hospitals (22% of the total) are characterized by low capacity utilization.

For the sample as a whole, 72% of hospitals did not operate at full capacity—given their fixed inputs. Indeed they could have increased their output had they had more variable inputs (recurrent budget) available for them. Overall, 28% of the hospitals in the sample operated at full capacity. Out of 101 district hospitals, 77 have a CUR based on observed production of less than 1. Half (55 hospitals of 101) has a CUR higher than 0.9, while 22 hospitals have a CUR less than 0.8. Using the ABOR (Average beds occupation rate) measure based on single observed output (beds) shows that no hospitals have capacity utilization higher than 0.9 and only 99 hospitals have a CUR less than 0.8. Only seven hospitals have a BOR value higher than 0.6. Large differences between CUR and ABOR (0.32 versus 0.87) are obtained.

The variable input utilization (VIU) rates have the same distribution as the CUR. About 21 hospitals should increase the use of variable inputs. The following three groups of hospitals were identified:

- The first group composed of 73 hospitals have VIU values superior to unit meaning that these hospitals have an excess budget.
- The second group composed of seven hospitals, have VIU values inferior to unit meaning that they these hospitals have an optimal use of their budget.
- The third group composed of 21 hospitals, have VIU value equal to unit meaning that they these hospitals need more budget.

The empirical results show that many district hospitals are not using their budget. The message is important for policy-makers willing to select better assessment tools and to direct health system and services research activities towards focusing on performance measurement. By expanding their recurrent budget, district hospitals can increase their capacity by 13%. An increase of district hospital budget could be achieved through increasing their own revenue (household’s direct payments and/or introducing social insurance refunds). It is also recommended that state subsidies for district hospitals be increased and that disparity is reduced among all public facilities.

The use of DEA instead of a single performance parameter such as bed occupancy rate is recommended to policy-makers and programme managers in MoPH. Efforts should be made to refine the performance analysis by introducing some new parameters including employee skills, staff qualification, cost of capital equipment, personnel costs, etc.

Productive performance of Tunisian cardiology wards

A nonconvex nonparametric methodology is used to measure the efficiency of five cardiology wards (Deprins, Simar, Tulken 1984). A weighted Färe-Lovell (Färe, Lovell 1978; Färe, Grosskopf 2004) at patient level and then aggregated to wards’ efficiency (Agrell, Tind 2001 and Leleu 2006) has provided the efficiency scores.

Data: Two sets of patient databases for the year 2002 were selected. Data were retrieved from the hospital morbidity and mortality survey (National Institute of Public Health 2002) and completed by additional information obtained from the patient’s invoices. Three inputs and one output were used to describe the production technology. The output is the patient’s health status.

### Table 1: Estimated scores of CUR

<table>
<thead>
<tr>
<th>DEA model</th>
<th>CUR with standard restriction of DEA model</th>
<th>CUR with Shadow prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.97</td>
<td>0.87</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.07</td>
<td>0.15</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.60</td>
<td>0.22</td>
</tr>
<tr>
<td>Maximum</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Number of observations</td>
<td>101</td>
<td>101</td>
</tr>
</tbody>
</table>

### Table 2: Descriptive statistics of ABOR and CUR

<table>
<thead>
<tr>
<th></th>
<th>ABOR (1)</th>
<th>CUR (2)</th>
<th>BIAS (2)-(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>0.32</td>
<td>0.87</td>
<td>0.56</td>
</tr>
<tr>
<td>Median</td>
<td>0.30</td>
<td>0.91</td>
<td>0.57</td>
</tr>
<tr>
<td>Mode</td>
<td>0.31</td>
<td>1.00</td>
<td>–</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.16</td>
<td>0.15</td>
<td>0.18</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.06</td>
<td>0.22</td>
<td>0.11</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.87</td>
<td>1.00</td>
<td>0.94</td>
</tr>
<tr>
<td>Number of hospitals</td>
<td>101</td>
<td>101</td>
<td>101</td>
</tr>
</tbody>
</table>
has worked as public health manager at the national institute of Institute of Labour and Social Studies, University of Carthage. He Professor and former Head of Research (2007–10) at the National Chokri Arfa PhD is an health economist. He is currently Assistant towards universal coverage by social health protection.

good implications on health outcomes and will support the move organization. The improvement of hospital efficiency shall have continue to be important partners of the social health insurance medium terms the major players in service provision and shall exercise is being contemplated.

capturing all facets of hospital production when an assessment system and service research and have indicated the importance of productivity in the Tunisian have opened new avenues for health The case studies described aimed at assessing hospital

Conclusion

a better refinement of the analysis of ward performance.

In view of multiple factors that can affect ward efficiency, there is a need for a better collaboration between all members of the assessment team including researchers, clinicians, hospital managers and decision-makers. Such dialogue shall contribute to a better refinement of the analysis of ward performance.

Policy implications

The three inputs are biological exams (B), specialized medical care (KE), and inpatient days (ID).

Findings

Inefficiency scores were obtained using the linear FDH model and reporting information on inefficiency for each used inputs as well as overall inefficiency for each ward (denoted W1 to W5). Results for wards’ inefficiencies are summarized in Table 3. This table gives the average inefficiency scores at wards level.

Targeting ward’s inefficiency was carried out using the concentration curve and the distribution of inefficiencies by patient’s diagnosis. The concentration analysis was carried out for each of the three inputs and the cumulated ward’s outpatient in order to better identify sources of input inefficiencies.

Policy implications

In view of multiple factors that can affect ward efficiency, there is a need for a better collaboration between all members of the assessment team including researchers, clinicians, hospital managers and decision-makers. Such dialogue shall contribute to a better refinement of the analysis of ward performance.

The case studies described aimed at assessing hospital productivity in the Tunisian have opened new avenues for health system and service research and have indicated the importance of capturing all facets of hospital production when an assessment exercise is being contemplated.

Public hospitals in Tunisia are and shall remain in the short and medium terms the major players in service provision and shall continue to be important partners of the social health insurance organization. The improvement of hospital efficiency shall have good implications on health outcomes and will support the move towards universal coverage by social health protection.

Chokri Arfa PhD is an health economist. He is currently Assistant Professor and former Head of Research (2007–10) at the National Institute of Labour and Social Studies, University of Carthage. He has worked as public health manager at the national institute of

### Table 3: Average technical inefficiency for each ward by input type

<table>
<thead>
<tr>
<th>Ward</th>
<th>Inefficiency B</th>
<th>Inefficiency KE</th>
<th>Inefficiency ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1</td>
<td>55.26%</td>
<td>57.51%</td>
<td>52.09%</td>
</tr>
<tr>
<td>W2</td>
<td>68.85%</td>
<td>74.20%</td>
<td>55.84%</td>
</tr>
<tr>
<td>W3</td>
<td>56.02%</td>
<td>55.85%</td>
<td>56.94%</td>
</tr>
<tr>
<td>W4</td>
<td>80.38%</td>
<td>40.65%</td>
<td>56.60%</td>
</tr>
<tr>
<td>W5</td>
<td>30.93%</td>
<td>42.96%</td>
<td>50.54%</td>
</tr>
<tr>
<td>Total</td>
<td>58.29%</td>
<td>54.17%</td>
<td>54.40%</td>
</tr>
</tbody>
</table>

### Table 4: Number of diagnoses responsible for inefficiencies for each ward by inputs

<table>
<thead>
<tr>
<th>Input</th>
<th>Wards</th>
<th>W1</th>
<th>W2</th>
<th>W3</th>
<th>W4</th>
<th>W5</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>38(95.4%)</td>
<td>25(93.8%)</td>
<td>36(97.3%)</td>
<td>14(99.3%)</td>
<td>28(95.5%)</td>
<td></td>
</tr>
<tr>
<td>KE</td>
<td>39(98.2%)</td>
<td>24(97.9%)</td>
<td>34(95.4%)</td>
<td>15(99.7%)</td>
<td>26(96.9%)</td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>36(98.6%)</td>
<td>23(97.3%)</td>
<td>32(94.9%)</td>
<td>15(96.6%)</td>
<td>29(95.6%)</td>
<td></td>
</tr>
</tbody>
</table>

References


ABSTRACT: Many medication errors occur at the time of ordering and dispensing medicine in hospitals. The Clinical Decision Support System (CDSS) is widely used in an effort to reduce medication errors. This study was focused on the evaluation of user satisfaction with the CDSS for medication at a university hospital. Specifically, this study aimed at identifying the factors influencing user satisfaction and to examine user requirements to improve user satisfaction and drug safety.

Methods: The study was based on survey data from 218 users (103 doctors, 103 nurses, and 15 pharmacists) at a university hospital that uses the CDSS. In order to identify the factors influencing user satisfaction with the CDSS, a multiple linear regression was performed. In order to compare the satisfaction level among the professional groups, an analysis of variance (ANOVA) was performed.

Results: The reliability of information, decision supporting capability, and departmental support were significant factors in influencing user satisfaction. In addition, nurses were the most satisfied group, followed by pharmacists and doctors according to ANOVA. Areas for further improvement in enhancing drug safety were real time information searching and decision supporting capabilities to prevent adverse drug events (ADE) in a timely manner.

Conclusions: We found that the CDSS users were generally satisfied with the system and that it complements the nationwide drug utilization review (DUR) system in reducing ADE. Further CDSS evaluation in other hospitals is needed to improve user satisfaction and drug safety.
The effect of success measures on user satisfaction

Table 1: The effects of success measures on user satisfaction

<table>
<thead>
<tr>
<th>Support function</th>
<th>User training support</th>
<th>0.364</th>
<th>0.276</th>
<th>1.319</th>
<th>0.189</th>
</tr>
</thead>
<tbody>
<tr>
<td>Related department support</td>
<td>1.210</td>
<td>0.414</td>
<td>2.922</td>
<td>0.004</td>
<td></td>
</tr>
<tr>
<td>Top management support</td>
<td>0.271</td>
<td>0.405</td>
<td>0.669</td>
<td>0.504</td>
<td></td>
</tr>
<tr>
<td>Information up-to-datedness</td>
<td>-0.489</td>
<td>0.408</td>
<td>-1.199</td>
<td>0.232</td>
<td></td>
</tr>
<tr>
<td>Information reliability</td>
<td>2.176</td>
<td>0.446</td>
<td>4.876</td>
<td>&lt;0.0001</td>
<td></td>
</tr>
<tr>
<td>Information timeliness</td>
<td>0.290</td>
<td>0.392</td>
<td>0.741</td>
<td>0.459</td>
<td></td>
</tr>
<tr>
<td>Usefulness of system UI</td>
<td>0.137</td>
<td>0.375</td>
<td>0.366</td>
<td>0.715</td>
<td></td>
</tr>
<tr>
<td>Ease of terminology understanding</td>
<td>0.748</td>
<td>0.405</td>
<td>1.848</td>
<td>0.066</td>
<td></td>
</tr>
<tr>
<td>System quality</td>
<td>Ease of system use</td>
<td>0.341</td>
<td>0.366</td>
<td>0.931</td>
<td>0.353</td>
</tr>
</tbody>
</table>

R-Square = 0.65, p-value < 0.0001

Table 2: Association between success measures and overall alignements system satisfaction

<table>
<thead>
<tr>
<th>Success measures</th>
<th>Overall system satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support function</td>
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<td>System quality</td>
<td>Ease of system use</td>
</tr>
</tbody>
</table>

The effect of success measures on user satisfaction

Among the success measures, information reliability, decision supporting factor, and related department support factor were significant factors influencing user satisfaction as shown in Table 1. The R-square of this model was 0.65.

Analysis of association between success measures and user satisfaction

To analyze the association between success measures and user satisfaction in detail, we selected overall system satisfaction from system satisfaction measures and drug satisfaction improvement from information satisfaction measures.

Association between success measures and overall system satisfaction

As seen in Table 2, positive ("yes") responses in overall system satisfaction had consistently higher positive ("yes") responses in all success measures. Specifically, the highest positive response was information reliability (92.9%), followed by usefulness of system user interface (81.6%) and information timeliness (77.6%) in order. Compared with system quality and information quality measures, however, all support factors had a lower percentage of positive satisfaction responses. The highest positive response on support factors was the related department support (48%), followed by user training support (44.8%).

Association between success measures and drug safety improvement

As seen in Table 3, positive (yes) responses in drug safety worked in one university hospital which has 1,170 beds. The survey was distributed directly during a visit to the hospital from 7–27 September 2011. Two hundred and eighteen respondents were collected based on a convenient sample and analyzed in the study. The study hospital did not require mandatory use of EMR for doctors and therefore most of doctors in the sample were young doctors.

Model and statistical analysis

Based on the DeLone and McLean framework (1992, 2003), we evaluated the user satisfaction of CDSS by using success measures as independent variables, and the sum of two satisfaction measures as dependent variables for a multiple regression analysis.

Associations between three success measures and system overall satisfaction was analyzed based on cross-tabulation. We also analyzed the associations between three success measures and drug safety improvement. However, a Chi-square test was not carried out because of a small cell size of many items. In addition, each of satisfaction measures was compared for the three professional groups by using ANOVA. The SAS 9.1 package was used for statistical analysis of the data.

Results

The effect of success measures on user satisfaction

Among the success measures, information reliability, decision supporting factor, and related department support factor were significant factors influencing user satisfaction as shown in Table 1. The R-square of this model was 0.65.

Analysis of association between success measures and user satisfaction

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Association between success measures and drug safety improvement

As seen in Table 3, positive (yes) responses in drug safety
and one supporting factor (departmental support) were significant. We found that two information quality management, department support, and user training) on (system quality and information quality) and its support factors (top

**Discussion**

This study examined the effects of quality measures of CDSS (system quality and information quality) and its support factors (top management, department support, and user training) on satisfaction factors (user satisfaction and information satisfaction) by using the information system success model of DeLone and McLean (1992, 2003). We found that two information quality factors (information reliability and decision supporting capability) and one supporting factor (departmental support) were significant factors influencing user satisfaction.

When user satisfaction was separately analyzed by system satisfaction and information satisfaction, ease of use and decision support capability significantly influenced both user satisfaction factors. This finding supported the ultimate goal of CDSS for medication, which provides information to help make a better decision in prescribing medicine.

In conclusion, we found that user satisfaction with the capability of enhancing drug safety was reasonably high. However, real time safety checking function, which was a major concern for doctors, should be improved further in order to increase the satisfaction level of doctors and reduce medication errors. In addition, Our study showed that the dimensions of success defined by DeLone and McLean for information management systems (1992, 2003) are applicable to the CDSS for medication, similar to a study on inpatient care information systems by Meijden et al. (2003).

**References**


ABSTRACT: At the request of the Fundación Sanatorio Güemes, IC Research conducted a qualitative and quantitative investigation to understand people’s perception of the health care system in Argentina. Through focus groups and polls, we analyzed how people felt about the health care system in Argentina, about what constitutes a quality health care, the level of satisfaction with the current health care system, and what aspects ought to be improved.

We found that the level of satisfaction with the health care system is very high, regardless of the type of coverage people had, and that the core of these positive perceptions are the doctors.

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Postgraduate Professor, Universidad de San Andres, and Universidad de Rosario, Argentina

Santiago Caputo
Investigator, IC Research Group, Argentina

Argentina’s health care is in good health

Rodrigo Lugones
Santiago Caputo
Postgraduate Professor, Universidad de San Andres, and Universidad de Rosario, Argentina

This report intends to describe the process of research conducted on the health care system in Argentina. The research was conducted at the request of the Fundación Sanatorio Güemes in order to study people’s perceptions of the Argentinean health care system. This investigation was made by IC Research, a public opinion polling company with 30 years of experience doing social research for NGOs, governments, private companies, international agencies and political campaigns.

The main goals of the research was to assess the public’s opinion on the health care system, to determine what constitutes quality health care in the eye of the public, the level of satisfaction with the current health care system, what aspects ought to be improved, what characteristics should an ideal health care system need to contemplate, and the actual use of the health care system by the people.

This research was conducted in two different stages. The first stage (2011) consisted of focus groups, a general public poll, and a poll among doctors in Argentina.

According to the 2010 census in Argentina, 46% of the population has OESS coverage (OESSs are nonprofit health care providers, operated by Unions); 11% has pre-paid medical insurance through their OESS; 5% has only pre-paid medical insurance; and 36% of the population does not have insurance and uses the public health care system.

First stage
Focus groups

The starting point of the research was focus groups. Focus groups are a form of qualitative research in which a group of people are asked about their perceptions, opinions, beliefs and attitudes towards a product or service. The goal is to compare and analyze the results of different groups in order to attain a notion of what the public thinks on some specific problem.

The results of the focus groups provided us with a lot of information on a series of topics – the high level of satisfaction with the health care system, the key aspects of quality health care, the importance of the family doctor, the value of a second opinion, the need for a unified digital medical history, the value of choice – being able to choose your doctor, your company – the high esteem for doctors in Argentina, the role of the government in health care and some other matters.

Due to the information obtained through the focus groups, the need for quantitative research became clear in order to complement the findings of the focus groups. This would also allow us to analyze our findings not only as the opinions of some specific group but as the perceptions of the general public.

Polls

Our findings in the focus group, led to the need for quantitative research – a poll. A poll is a form of quantitative research that consists of a survey of public opinion from a particular sample, in order to extrapolate the results to the general public.

For this particular research, two polls were conducted at the first stage: a general public poll in order to assess the perceptions of the public on the health care system, and a poll among Argentinean doctors, whom the people in the focus groups recognized were the heart of the health care system in Argentina.

Here we present the main results:

General public poll

The poll was conducted among 2,789 Argentineans of 18 year-olds or older. The study was finished by 15 July 2011 – it took 6 days – and has a +/- 3% margin of error. The data is presented according to the different topics of the questionnaire.

Profile

✦ Over half of the people were female (56.6%) and the rest (43.4%) were male;
✦ 28.9% were 18 to 29 year-olds; 26.9% were 30 to 44 year-olds; 22.9% were 45 to 59 year-olds; and 21.2% are 65 year-olds or more;
✦ 2.9% of the interviewees had no formal education; 31.1% received only elementary education (regardless if they had finished it); 33.4% attended high school (regardless of if they had finished it); 14% had attended higher education (regardless of if they finished it); and 18.5% had completed their education at a university;
✦ 22.9% used the public health care system; 57.2% used OESS;
One of the things that we thought was interesting to investigate

Doctor’s poll

76% claimed that they are confident in their doctors.

doctors, waiting times, and the clarity of the information provided,

the levels of satisfaction regarding the services provided by

claimed that they waited less than 30 minutes. Consequently with

how long they waited until the doctor saw them, half of them (50%)

satisfaction with the doctor’s performances. When asked about

they had last attended. The results show a great level of

request consultations by phone (85.2%).

satisfied. An interesting finding is that most people prefer to

the consultation schedule system, 82.9% said that they were

adequate”. When asked about the general level of satisfaction with

they were "adequate", while 25.3% said they were "very

important issue that needs to be dealt with. However, when asked about what type of disease or illness should

A vast majority (96%) thought that a federal health care bill is necessary to guarantee fair access to health care; and 87.9% thought that everyone should be able to choose the type of service – OOSS, public, pre-paid – that they want.

When asked about the ideal characteristics a health care facility or agent – OOSS, hospital, medical centre, etc. – should have; being able to get a consultation fast and the expertise of the health care professionals were at the top.

Use of the health care system

When we asked about the different characteristics of how people use the health care system, less than half (48.6%) said that if they were unsatisfied they would look for a second opinion.

Regarding their latest consultation hours, nearly 60% said that they were "adequate", while 25.3% said they were "very adequate". When asked about the general level of satisfaction with the consultation schedule system, 82.9% said that they were satisfied. An interesting finding is that most people prefer to request consultations by phone (85.2%).

We also asked their opinion on different aspects of the places they had last attended. The results show a great level of satisfaction with the doctor’s performances. When asked about how long they waited until the doctor saw them, half of them (50%) claimed that they waited less than 30 minutes. Consequently with the levels of satisfaction regarding the services provided by doctors, waiting times, and the clarity of the information provided, 76% claimed that they are confident in their doctors.

Doctor’s poll

One of the things that we thought was interesting to investigate was the perception of doctors of the health care system. In order to do that, we conducted a research poll among doctors so that we could understand their opinions.

One of the findings that caught our attention was that the vast majority (79%) have a positive opinion of the health care system of Argentina.

Additionally, when asked about how the health care system was compared to ten years ago, opinions were slightly more divided than the general public’s. Thirty-three percent percent thought that the health care system had improved, 30% thought that it stayed the same, and 33% thought that the health care system is worse now than it was ten years ago.

When asked about how the health care system would be ten years from now, 35% said it would be better, 22% said it would stay as is, and 29% said it would be worse. Additionally, regarding the different types of health care available – OOSS, public, pre-paid medicine – the public option got the best results (77% positive opinion), followed by the pre-paid medicine companies (71%) and the OSGSs (62%).

Second stage of the research

In the second stage of the research we performed a second poll (2012) in order to verify and compare the results we had from
the previous year.

Profile:
* 65.3% were women and 44.7% were male.
* 25.6% are 18 to 29 year-olds; 30.1 percent are 30 to 44 year-olds; 27.6% were 45 to 59 year-olds; 13.8% were 60 to 74 year-olds; and 2.9% are over 75 years old.
* 2.8% of the interviewees have no formal education; 27.9% attended elementary education only (regardless of if they finished it); 43.3% attended high school (regardless of if they finished it); 12.2% attended higher education (regardless of if they finished it); and 13.8% attended a university.

Opinions of the health care system
Among the interviewees, 34% used the public health care system; while 38% claimed to have an OOSS; 8% had OOSS and pre-paid medicine insurance; and 13% claimed they have some sort of government funded plan.

A vast majority (71.4%) has a positive opinion on the health care system, slightly better than the year before (65.7%). Similar to the previous year, most of them (90%) have a positive opinion of doctors, and most of them (88%) trust the doctors will be able to solve whatever problem they may have, becoming clearly, the heart and soul of the health care system in Argentina.

Considering the different types of coverage, OOSS had a positive rate of 67.5%, similar to the public option (67.3%); and to pre-paid medicine insurance (69.5%).

Another interesting fact is that yet again, the public seem to believe that everyone should be able to choose their type of coverage (87.2%). In addition to this, they thought that everyone should be able to choose their family doctor (97%).

Use of the health care system
Centring our attention on the use of the health care system, nearly 68% of the interviewees said that the consultation hours of the last place they attended were adequate, while 18% said they were very adequate. Additionally, 83% said that the consultation schedules were positive.

Turning our attention to one of the topics that achieved the highest scores in our research, 94% said that they were satisfied with the attention received from doctors.

Another interesting fact of our research is that nearly 83% said that the medical centre where they last received medical attention had all the resources and material they needed to treat them efficiently.

An interesting fact that came up is that nearly 30% of the interviewees said that they had to pay an additional fee when they attend a medical consultation (co-payment), and that 72% were against the co-payment system. When asked about the reasons, 49% said it was an additional cost they do not agree with and 50% said it represented additional and unnecessary paperwork.

Conclusions
As we have observed throughout our research, the health care system in Argentina is highly appreciated in spite of what people usually think. The three different types of coverage – OOSS, public, pre-paid insurance – are well appreciated.

It would seem that the core of these positive reviews are the Argentine doctors, who considered the centre and main asset of the health care system.

The results of the different stages of the research – focus groups, polls, etc. – tells us about a society that is satisfied with the different health care options at hand, that believes health care is a priority, that thinks that the Government should invest in it, and that they do not want any structural reforms to the system.

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The issues and future of the health care delivery system in Japan

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ABSTRACT: The Japanese Social Security and Tax Reform draft was made public on 30 June 2011. Structural reform of the health care delivery system is essential with an ageing society whose population of individuals aged 65 or above is expected to grow to 36.5% by 2040. However, there seems to be a wide gap between the current situation and Japanese government estimates. Health care costs need to be reduced and all services should be more transparent to facilitate the public's understanding. Japan must define and implement a groundbreaking design for effective health and nursing care services.

Imagine a future in which employees are enrolled in an early disease prevention programme as they enter the prime years of their working lives. The programme tracks their medical history through personal health records (PHRs). When a routine health screening reveals abnormalities at the cellular level, micro-surgery is scheduled to remove regions of tissue that have the potential to develop into cancer. The medicine that the doctors prescribe comes in one-dose packets, and cell phone reminders are sent when a dose is missed. Is it possible for such a dream to come true in the near future? Unfortunately, such a future is hard to imagine given the current state of Japanese health care, especially since the Great East Japan Earthquake. By 2040, the percentage of the population aged 65 or above is expected to grow to 38.5%. By 2050, the government estimates that the total population will shrink to under 100 million. Some are predicting that Japan's share of global gross domestic product (GDP) will drop to 4%, putting it in sixth place in the world. Successfully addressing these circumstances will require groundbreaking strategies.

Rehash of the so-called B3 scenario

One such attempt was the Social Security and Tax Reform final draft that was made public in 2011. Although the government insisted that the draft outlined a complete health care delivery system for FY 2025, it was just a rehash of the Social Security National Assembly Programme, or B3 scenario presented three years earlier.

The plan attempts to enhance functions, promote efficiency and change prioritization by concentrating medical resources on acute care, long-term care, and mental health care, and promoting home and nursing care. The government is planning to reduce the number of hospital beds, including clinic beds, from 1.66 million (as of FY 2011) to 1.59 million. The draft also calls for the creation of regionally-based general medical care beds that will encompass all categories of care, including recovery phase and rehabilitation, which the Council of Four Hospital Organizations has been asking for since 2002.

By FY 2015, the government plans to pour US$11 billion into reforms and hopes to save US$6.4 billion by shortening hospital stays. The government will systematically review medical and nursing care fees with plans to submit a draft by 2012.

The content of the revisions is of interest. For advanced acute phase inpatients, which tie up about 20% of general inpatient beds, the government intends to double the number of health care workers, increase the unit price (per diem cost of hospitalization) to 1.9 times the current rate, and decrease the average length of hospitalization by about 20% (15–16 days). For general acute phase inpatients, which account for about 50% of general inpatient beds, the number of health care workers is to be increased to about 1.6 times the current numbers, the unit price is to be increased by about 1.5 times, and the average length of stay is to be reduced by about 33% (9 days). For sub acute, recovery, and rehabilitation inpatients, which fill about 30% of general inpatient beds, the number of health care workers, mainly co-medicals, is to be increased by about 30%, the unit price is to go up by about 15%, and the average length of stay is to be decreased by about 20% (60 days). Further, the government intends to commit long-term care resources, currently focused on chronic phase care, to illnesses in disease classifications 2 and 3, increase the number of health care workers, mainly co-medicals, by about 10%, and up the unit price by about 5%. Through the promotion of home care and the enhancement of long-term care, the government plans to decrease the average length of stay by about 10% (135 days). Regarding psychiatric beds, the government plans to increase the number of health care workers, mainly co-medicals, by about 30%, and up the unit price by about 15%. At the same time, they hope to decrease the average length of stay by about 10% (270 days) and the need for hospital admissions by about 20% through the promotion of outreach (home visit care) programmes. Government measures for social reintegration have not changed. If the current trend were to continue, general inpatient beds totaling 1.07 million as of FY 2011 would increase to 1.29 million by FY 2025. However, restructuring under these reforms would see this number drop to...
1.03 million, with 0.18 million beds allocated to advanced acute care, 0.35 million for general acute care, 0.26 million to sub-acute care, recovery and rehabilitation, and 0.24 to regionally-based general inpatient care.

Meanwhile, the FY 2011 figure of 0.23 million beds for long-term care would increase to 0.34 if the current trend continues; however, the number will drop to 0.28 million with the reform. This restructuring will also reduce the number of psychiatric beds from 0.35 million to 0.27 million, while the demand would grow to 0.37 million if the current trend were to continue.

Feasibility of attaining estimated figures is the key

But these are all abstract numbers. The question is the feasibility of these reforms. For example, in Sweden, which the previous government considered as a model, family doctors are available to handle the initial visits. This system is possible because all physicians in Sweden belong to the public sector. In Japan where the majority of health care providers are in the private sector, we need to promote efficiency in the area of hospital admissions, which account for the majority of the health care costs.

How much of the health care costs for hospitalization can we save? According to joint research carried out with Boston Consulting Group (BCG) using DPC data, 0.299 million out of 1.609 million beds are currently unoccupied. In particular, 0.19 million general inpatient beds are unoccupied, which causes a tendency to extend the length of hospitalization. Taking into account the shortening of those hospital stays, it is possible to reduce the total by approximately 0.22 to 0.25 million beds. Coincidently, this number matches the government estimate exactly. Taking into account the impending super-ageing society, the slightly less than 0.04 million general inpatient beds will be insufficient in 2040, when those aged 65 or above will peak. However, the planned reductions in the length of hospitalization could result in a surplus of approximately 0.26 to 0.29 million beds.

Converting the excess number of beds into monetary terms, the amount already represents approximately a US$18 to US$20 billion saving of health care resources. One reason for such saving is social hospitalization, where stays are extended beyond the clinically required number of days due to the lack of facilities able to accept patients after discharge. This costs taxpayers US$2.0 billion. Another reason is inefficient management that actually causes patients to wait for admission due to extended hospitalization of other patients, which management feels is necessary to avoid having unoccupied beds. This is estimated to cost US$16 to US$19 billion.

Useless super-macro estimates

However, no matter how accurate the macro estimates are, the health care industry will not move. This we know from three years ago when similar estimates were provided by the Social Security National Assembly. The fundamental problem is that local governments and individual health care facilities do not know what to do. My comments to the government at that time were quoted in the Nihon Keizai Shimbun on 24 October, 2008:

“The Social Security National Assembly estimates provided three scenarios: 1) Slow reforms, 2) Bold reforms, and 3) Advanced reforms. However, the three differ simply in the number of health care workers providing medical and nursing care without any significant differences in financial resources. I would rather have liked a perspective on how the social insurance system would handle medical costs which, unlike pensions that factor in changes in commodity prices and wages, start off high due to medical innovations at least for a short period of time. “As I mentioned at a hearing held by the National Assembly on 31 July, 2008, I believe they should have sought an ideal model capable of achieving improvement in both quality and efficiency for the treatment of each disease using e-data collected by the national government, or aggregated micro data for use in macro estimations to arrive at the best model for each region using data collected by local government.”

Local governments with no motivation or know-how

It is said that history repeats itself. Does this mean that Prime Minister Abe’s new administration begun in 2012 will also repeat what previous administrations have done?

Such a situation would definitely be a waste of time; so at the request of Tokushima Prefecture, BCG and I created a hospital reorganization plan in accordance with the following four basic policies:

- Replace the current secondary medical regions with new medical service areas that can be covered by automobile with a minimum drive time of 30 minutes.
- Establish a health care system in each new medical service area that allows residents access to day-to-day health care services. One general hospital would be established as a regional health care support hospital in each of the relevant areas.
- Reduce excess beds by consolidation and reorganization of existing hospitals.
- Existing hospitals, not designated as general hospitals or subject to closure or consolidation, would aim to become clearly-defined specialty hospitals.

Ultimately, it was found that the financial burden could be reduced by approximately US$46.8 million per year through the reduction of approximately 1,800 general inpatient beds. Specifically, current medical regions would be restructured into eight medical care service areas, each defined as an area that could be covered in 30 minutes by automobile, the number of acute phase beds would be set at 4,754 and a general hospital would be designated for each area. A total of eight hospitals were designated as general hospitals, and Tokushima University Hospital would be maintained as an advanced treatment hospital.

I did my best to explain the plan to the people responsible for these matters at the prefectural office, including detailed information on the hospitals, as is shown in Figure 1. Imagine my surprise when the response I received was, “Professor Kawabuchi, I understand your enthusiasm, but just who do you have in mind to take on such a project?” Sadly, I suspect, the attitude I encountered may be the reality in local government.

Can we learn from what Scandinavian countries have been doing?

The Swedish government implemented welfare system changes in 1992 known as the “Elderly Reform,” which aimed to shift convalescent and rehabilitation care away from hospitals to other
was US$5,890. What we need next is a comparison of outcomes. However, at any rate, Japan is encountering an ageing of society at a speed and scale that no society in human history has yet experienced, and health care reforms cannot be postponed any longer. The Social Security National Assembly under Japan’s 91st Prime Minister, Yasuo Fukuda’s administration estimated that health and nursing care services will require US$1.1 to US$1.2 trillion in 2025. However, the discussion on who will shoulder the financial burden was passed down to the 92nd Prime Minister, Taro Aso’s administration and to the next, and the change of government took place before answers were found. Learning from the Scandinavian countries, we must ensure that the social security system does not become a political issue. The first baby boomers will be 65 years of age in FY 2012 to 2014, resulting in a significant reduction of the labour population in Japan. Although Korea and China are doing just fine now, they too will encounter the issues of a declining birthrate and an ageing population sooner or later. In order for Japan to become a model country in Asia, not a negative example, Japan must define and implement a groundbreaking design for real health and nursing care services.

Koichi Kawabuchi graduated in the department of commercial science from Hitotsubashi University in 1983 and received his MBA in Health Administration from the University of Chicago Graduate School of Business in 1987. He worked in Department of Health Economics (1989–1995) and became Senior Researcher of the Department of Health Economics at National Institute of Health Services Management (1996). He was appointed Chief Researcher at the Japan Medical Association Research Institute in 1998. He worked in Faculty of Economics, Nihon Fukushi University as Professor of Management Development in 1998–2000. He was accepted as Professor of Health Care Economics from Tokyo Medical and Dental University in 2000.

He also involved variety of activities, i.e. member of JCER-NBER for study of medical and welfare insurance system, Research Institute of Economy, Trade and Industry (RIETI), Adjunct Associate, Center for Health Policy, Stanford University, and a member of the study group for medical deregulation.
Health reform for dummies

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ABSTRACT: Health reform is undertaken periodically in the advanced economies because of changes in demography, technology, politics or society’s values. Reform in Australia is complicated by the division of responsibility between the national, federal government and the governments of the six states and three territories. There is presently an ambitious programme of reform under way in Australia in accordance with “national partnership agreements” negotiated between the federal government and the governments of the states and territories. This article provides a brief summary of the objectives of reform and what might realistically be achieved.

Health reform is undertaken periodically in the advanced economies because of changes in demography, technology, politics or society’s values. It is usually incremental and, as in the current case of reform in Australia, the initial objectives are met only partially because of political compromises.

Reform in Australia is always difficult because of the fraught nature of Commonwealth/state relations. The flavour of the current reform processes is documented in National Partnership Agreements between the Commonwealth and the states and territories.

It will be interesting to assess now what we might expect from the current suite of reforms and score our progress in five or 10 years.

Local health networks
From 1 July 2012 we have local hospital networks – a system of devolved governance which is intended to give communities greater control over hospital and community-based health services. It is also intended to give clinicians a greater say in the governance and management of health services.

The best we can hope for: A feeling of community ownership of health services, characterized by local involvement in planning, contribution to priority setting, understanding of rationing and rationalization of services and a vigorous, informed debate in the community about the future of services.

We’d settle for: Tokenism that doesn’t harm the work of health services.

We need to avoid: Parochial priority setting and political battles waged in the local media that distract governing bodies, clinicians and management from their duties.

Activity-based funding
Activity-based funding of acute services is intended to drive greater equity and openness in funding and efficiency. It is the worst way to fund acute health services, except for all the other ways.

The best we can hope for: Real openness in funding, improved equity in funding, greater efficiency and rationalization of some services which are financially unsustainable.

We’d settle for: Openness.

We need to avoid: A quasi-market that encourages decisions that are at odds with community values, and dogmatic application of a national efficient price which renders efficient services unviable.

National performance monitoring
Performance monitoring is essential to informing decision-makers and the community about the effectiveness and efficiency of their health services. In practice, every performance measure is criticized, especially by those closest to the issue being measured. Mannion and Brimble have identified 20 “salutary lessons from the English National Health Service” under the headings: poor measurement; misplaced incentives and sanctions; breach of trust and politicization of performance systems. Performance measures are now published online.

The best we can hope for: Measurable, improved performance in selected areas, reduced variation in performance among health services and improved understanding at political, management and community levels of what is good performance without collateral damage.

We’d settle for: Absence of collateral damage.

We need to avoid: Significant, widespread, adverse unintended consequences, extensive gaming, measurement fixation, tunnel vision and the other risks identified by Mannion and Brimble.

Medicare Locals
It is hoped that Medicare Locals will help strengthen primary care and rebalance primary, secondary and tertiary care. In particular, they will strengthen after-hours primary care services and strengthen continuity and comprehensiveness of care.

The best we can hope for: Measurable improvement in after-hours services, reduced attendance at emergency departments for category 4 and 5 patients.
Dental health

The best we can hope for: Regular preventive assessment and treatment for all Australians, regardless of means.

We'd settle for: Regular preventive assessment and treatment for all children and low-income adults. After nine years of campaigning, the Commonwealth Government has announced an entitlement scheme for around 80% of children who will receive AU$1,000 every two years (worth AU$2.7 billion over four years) and an additional AU$1.3 billion (over four years) for states and territories to provide dental care to low-income adults.

We need to avoid: Regarding dental care as less important than other forms of primary health care.

Australian National Preventive Health Agency

The best we can hope for: Significant, measurable reductions in the burden of disease as a result of some major, sustained, cost effective initiatives which are integrated with each other and the broader health services.

We'd settle for: Measurable reductions in the burden of disease for targeted groups.

We need to avoid: Funds being spent on programmes that are not cost effective, with priorities being determined by pressure groups.

E-health

The best we can hope for: Improved efficiency, safety and effectiveness through availability of fully electronic patient histories organized to meet the immediate needs of clinicians anywhere, any time; decision support for clinicians, anywhere, any time; ordering of investigations and review of results anywhere, any time; medication management; access by citizens to their own history anywhere, any time.

We'd settle for: An electronic health record and medication management.

We need to avoid: A fragmented approach in which different jurisdictions and agencies work along their own trajectories – i.e. a replication of the 19th century railway gauge problem.

Health Workforce Authority

There are many examples of innovative and very effective use of skilled clinicians undertaking tasks outside their customary professional roles in accordance with best practice guidelines and under appropriate supervision. They are usually isolated innovations which are dependent on leadership by individuals and interpersonal relationships and are not widely adopted.

The best we can hope for: Improved efficiency, safety and effectiveness through the application of appropriate skills to clinical tasks in accordance with evidence and best practice rather than occupational boundaries.

We'd settle for: A few large-scale, evaluated, systematic innovations in use of skills.

We need to avoid: Inflexible commitment to traditional demarcation of professional roles.

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Graeme Houghton holds degrees in science and health administration and is a fellow of the Australasian College of Health Services Management. He has been CEO of several Australian teaching hospitals, an adviser on hospital standards in Papua New Guinea and is now chair of three Tasmanian health Organizations.
ABSTRACT: The implementation of capital planning and restructuring strategies in the hospital sector is critical to the process of improving health system performance. As the Republic of Kazakhstan evolves from a provider-centric to a patient-centric health system, the hospital sector must be both modernized and rationalized through a population-based approach based on standards that ensure evidence-based policy and equity across the oblasts (regions). At the same time, over-centralization of specialized services and under-investment in technology has led to significant gaps in access and long travel times for rural patients to access highly specialized services. The aim of the master planning exercise initiated by the Ministry of Health was to develop a detailed restructuring plan for inpatient care services, to consolidate and convert existing structures and modernize outdated practices. Just two years after the process started, early results show promising returns: the provider network is no longer organized by administrative regions but by catchment areas; many oblasts have consolidated into smaller rural hospitals; non-acute care options, such as rehabilitation, are expanding; and public-private partnerships are rapidly filling the void for future investment.

Average length of stay (ALOS) across the Organization for Economic Co-operation and Development (OECD) countries has been steadily decreasing since 1960 (OECD 2009) for a variety of reasons, including changes in medical technology and customary medical practice with a drive towards ambulatory care, and financial pressures including salary demands and changes in hospital reimbursement, along with the more recent strains of the financial crisis. In the context of such seismic shifts, a strong case for new approaches to health system planning and hospital design has been made, underlining a paradigm shift in the industry (Rechel et al. 2009). Broadly speaking, the forces which influence the organization of hospital networks globally have been typified by three primary streams: (1) demand-side forces changing the need for services; supply-side forces which comes through technology, (2) training or infrastructure can shift the provision of services; or (3) wider societal changes, such as financial crisis, that pressure policy-makers and managers to change the hospital network. These forces are highlighted in Figure 1.

In central and eastern Europe and within the Commonwealth of Independent States (CIS), meanwhile, rates of hospitalization remain long, and the reduction in funding for the health system has only exacerbated the top-heavy nature of the system, rendering restructuring essential. This is especially true for transitional countries such as Kazakhstan, shaped by almost two decades of economic, social, and political transitions and now saddled with an outdated and ill-fitting hospital system.

The process of restructuring
In developed and developing countries alike, a broad array of
potential hospital reorganization and restructuring actions have surged in the last few years as a response to these driving changes. The hospital reform imperative in Kazakhstan is based on the principle of a population-based restructuring, which estimates the population’s needs and develops the hospital network through a patient-centred approach. This departs from the traditional approach, driven by bed-based standards, that currently dominates the regulatory framework for many countries.

The specific principles on which the restructuring process was developed encompass five core elements:

- timely access to hospital services for all;
- safe, quality hospital services delivered according to international standards of care;
- equitable distribution of resources between primary care and hospital services;
- development of a sustainable financing framework that adjusts services delivered to the resources available; and
- creation of hospital centres of excellence delivering the highest level of care to the entire population.

To ensure that the hospital network is patient-centred and built around the patient’s needs, the methodology accounts for demographic change based on population projections by age and sex through 2025. Moreover, the approach is by sub-specialty, with planning based on disease-related groups (DRG) or major diagnostic categories. The resulting framework thus allows for the corresponding changes in hospital demand that will occur as a result of population ageing and the epidemiological transition. Behind this approach, there is also a vision of adapting to the needs of the population not only in the present, but also into the future.

A core component of the reconfiguration strategy in Kazakhstan was to apply patient-centred, population-based planning parameters to estimate the network coverage required for each specialty. Together with these two planning parameters, volume and quality driven investing for a modern network, lie at the core of the process in improving integration (Figure 2). This then leads to improving operations by strengthening workforce planning, payer-provider incentives, technology needs and facility planning taking into account global information system (GIS) access times, all based on best practice. This included setting standards per 100,000 populations rather than by the number of beds, as has formerly been the practice, to determine the level of infrastructure required. Along these lines, the reconfiguration strategy proposes to structure the network around the population’s needs and access to services, rather than placing hospitals according to the administrative divisions of the country. The idea is to make the network more consistent with the principles of the “Unified Health System”, which aims to allow the patient greater choice along with the option to move across administrative boundaries for care.

The case of Kazakhstan

In 2008 public expenditure on hospital care was 2.6 times higher than expenditure on outpatient services. The high level of expenditure on hospital care is due to a number of factors such a relatively high level of unnecessary hospitalizations, as a significant proportion of inpatients could have been treated in alternative settings and a high average length of stay in all hospitals as evidenced in Figure 3 (Katsaga 2012). This highlights the importance for restructuring not only the existing infrastructure but also the processes related to hospitalization and patient care.

Similar to neighbouring countries in former Soviet Central Asia, the Republic of Kazakhstan has experienced rapid economic, social, and political changes over the past two decades (Habibov 2009). Since gaining independence in 1991, Kazakhstan, like many other countries, has faced a number of challenges, including rapid economic growth, social instability, and political transition. The reconfiguration strategy in Kazakhstan is aimed at addressing these challenges by improving the efficiency and effectiveness of the health system.
other countries, has been struggling to balance costs and available resources as it struggles to modernize and restructure an outdated health care infrastructure characterized by most of the usual features of a Soviet Gospplan-based system (i.e., funding based on capacity rather than activity, over-emphasis on specialist training, dependence on hospitalization with long lengths of stay, emphasis on penalties for failure rather than incentives for success). In particular, the Soviet health care system placed great emphasis on specialist hospitalization, whereas primary care was viewed primarily as a prophylactic, serving also to identify patients for admission to hospital. This led to long lengths of stay and unnecessary hospital admissions – burdens on the system which have persisted to the present day. (Ensor and Rittmann 1997, 1999).

Kazakhstan also inherited from the Soviet era an oversized network of health facilities and excessive numbers of health professionals out of touch with the current needs of the population (Kulshov and Rechel 2007). Though the health system has evolved through policies and programmes supported by the government and donor agencies, major economic constraints to the health sector have resulted in many non-functional facilities and the majority of rural primary health care facilities lacking staff, basic equipment and supplies. Quality of care has also declined since independence (World Bank 2004).

The strategy developed to address these imperatives assumed an urgent need to strengthen the primary care network. Given that the high level of hospitalization in Kazakhstan is caused by a weak primary care network, reducing the level of hospitalization necessarily requires that the capacity of the primary care network increase significantly (Rosano et al. 2012, Friedberg et al. 2010). Another important component of the hospital network redesign would ensure renewal of the ageing hospital infrastructure, aiming to achieve a goal of at least 75% of buildings with a post-1990 construction date. Investing capital to reduce the deterioration in the network in an evidence-based, cost-effective approach to planning future investment was a key priority within the restructuring process.

Amidst the transitional challenges facing the country, Kazakhstan has been making efforts to reform its health care system, from incremental reforms in the 1990s to the most recent health reform programme, the National Programme of Health Care Reform and Development for 2005–10. I 2009, Kazakhstan’s Ministry of Health (MOH) outlined a number of key directives aimed at restructuring the hospital network, focusing in particular on the following core objectives:

- Minimizing unnecessary hospitalizations by reducing average length of stay.
- Adapting the supply of services to the changing epidemiological and demographic profile of the country.
- Reducing the emphasis on mono-profile hospitals.
- Establishing minimum population standards for different levels of hospital care.
- Reorganizing the governance arrangements for hospitals to allow for greater autonomy and accountability in the management of resources.

Initiatives along such lines have been actively supported by numerous public statements from the country’s President (Nazarbayev 2011, 2012a, 2012b) and by its Minister of Health (MOH 2012), by which the government has promoted comprehensive health reform as a key component of an overall vision for the country’s socioeconomic modernization and development.

Based on the Government Resolution on the Network Structure (No 2131, December 2009) and Manifest’s recommendations, the task in Kazakhstan was to develop a consolidation plan for the following areas:

- Shifting mono-profile services, with the exception of oncology and tuberculosis (TB) care, into multi-profile hospitals and long-term care facilities.
- Incorporating the recommendations on minimum volume for the planning of key services such as childbirth and neonatal care intensive care units, among others.
- Developing medium- to long-term investment strategies that seek to consolidate infrastructure to achieve the target of bringing at least 75% of all hospitals into the optimum size range of 200 to 600 beds.
- Meeting the MoH Strategic Plan target of 1,500 bed-days per 1,000 inhabitants.
- Decreasing the average length of stay by 25% for all specialties, with particular emphasis on surgery, TB, and shifting from acute to non-acute, long-term care.
- Increasing ambulatory surgery to 40% of all surgery cases.
- Increasing access to non-hospital-based abortions, through improvements in ambulatory techniques and pharmaceutical alternatives.
- Decreasing ambulatory care sensitive conditions to 10% of all admissions.

Efforts to consolidate facilities were guided by the objective of achieving an average hospital size of 200–400 beds for acute, multi-profile facilities and 200–600 for tertiary-level facilities providing the highest level of specialization. Careful consideration was required to arrive at the appropriate volume of services in each region (oblast) hospital, and specialty, in light of the intent to reduce unnecessary hospitalization and reduce average length of stay.

The implication of the reduction in bed-days to meet the government target is evident in applying the new standard and re-estimating the number of beds required. Table 1 illustrates the discrepancy between the current level of bed-days and the number of beds prescribed by relevant standards, both set and desired by presenting existing figures for bed-days by oblast, along with the estimated number of beds required; the projected figures assuming the new MoH target is reached; and similar extrapolations in line with the long-term target of achieving Canadian levels of utilization per 1,000 population (assuming 570 bed-days per 1,000 people).

The application of the MoH standard would already imply a significant reduction in the number of beds required to meet the level of demand – an estimated 30,000 fewer beds. Clearly, the application of a Canadian-type standard would imply an even more severe reduction in the total number of beds required per oblast (by two-thirds, in fact) and is not an achievable condition given the current living and travel conditions faced in Kazakhstan.

The challenge of the master plan exercise, therefore, is to find a reasonable structure for the supply of infrastructure that aims to achieve best practice with feasible implementation expectations while providing the population with appropriate
access to hospital care.

Based on these and similar calculations, we first presented all estimates based on the rate of beds, discharges, staff, or equipment per 100,000 inhabitants (not per 10,000). Secondly, we reconceived the specialties and sub-specialties according to international standards. In order to do this, we followed an approach for the development of new guidelines based on the corresponding European Union (EU) Directive (EU55/2004). Then, to compare Kazakhstan with other countries, a mapping was used to allocate the existing specialties in Kazakhstan into the internationally accepted groups of care. Thirdly, we analyzed the needs according to the major medical specialties (internal medicine, surgery, paediatrics, obstetrics and gynaecology, psychiatry, and long-term care) to allow for greater flexibility in the distribution of inputs by oblast (Sanigest Internacional 2010).

This framework was supported through key initiatives to shift care within the system from hospital to ambulatory and from mono-profile to multi-profile, reinforced by volume contracts, payment mechanisms incorporating incentives to providers to change practices, and performance evaluation systems (including pay-for-performance programmes) that would monitor specific targets in the reconfiguration strategies. The application of set standards for beds, staff, and technology to the population of each oblast constitutes a first step in estimating the need for supply of services in each region. At the same time, the needs assessment and benchmarking contributed to an understanding of the demand for care and opportunities to improve the overall performance of the health system in each region (Sanigest Internacional 2010).

**Supporting measures for the implementation of restructuring initiatives**

The health system reform approach carried out in Kazakhstan encompassed a core set of complementary measures that should be considered when restructuring a hospital network, while also taking into account the particularities of each region. This includes basic principles to develop a new vision for the hospital network and greater integration across the different levels of care, but also specific actions and rationalized parameters based on regional contexts and assessed needs. Ultimately, the work done in Kazakhstan points to some of the critical factors for success, along with implementation issues that should be considered as part of any restructuring process.

While ultimate accountability rests with the Ministry of Health, the magnitude of the change process under way, and the rebalancing required to support this change, will require that local providers and organizations to assume a high degree of responsibility and accountability for the appropriate allocation of investments. Traditionally, responsibility and accountability for local service provision rested with those organizations who received the funds. On principle, Sanigest believes that the coordination of implementation should be achieved locally, with the full support and understanding of the Akims and local health authorities. In this regard, we have a number of final considerations for implementation.

**Conclusion**

The success of the overall restructuring will depend, in part, on the careful sequencing of the change process, and careful monitoring of the changes and their impact. Ensuring proper timing and sequencing of activities will demand that future planning and management of home care, for example, does not occur in isolation from other sectors of the health care system, such as acute care, long-term care, mental health, rehabilitation and complex continuing care.

Overall, Kazakhstan is still undergoing a process of transition in all sectors of its national development. In its health sector, the country is taking steps to meet international standards by addressing the various shortcomings inherited from the Soviet era. While it will take some time to fully realize the benefits of the restructuring process, there are signs that reform is gradually having some positive results. In 2011, Kazakhstan ranked 68th out of 186 countries with a Human Development Index (HDI) score of 0.745, indicating a high level of human development. Compared to 2009, Kazakhstan had moved up 14 positions (UNDP, 2011). By systematically tackling issues in the hospital system in Kazakhstan, Sanigest Internacional has worked integrally with the MOH in its mission to provide the population with a stronger health system. Our technical assistance has helped not only to resolve the immediate issues faced by the MOH, but also positioned the country to better plan for and address future challenges. Though there are considerable challenges still ahead on the road to comprehensive reorganization and restructuring, Kazakhstan has the opportunity and the impetus to rationalize and modernize its health sector.

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References


Une piste pour l'amélioration des services de santé

Un modèle complet guidé par les données et axé sur l'amélioration des services et la valeur à long terme a été mis au point par la Mayo Clinic Arizona (Clinique Mayo d'Arizona, MCA). Un modèle à sept volets a été pleinement mis en œuvre et mis à l'essai dans cinq services de la MCA. Il a révélé que la perception par les patients, de caractéristiques de services spécifiques à des prestataires, et/ou la qualité générale des soins, étaient inférieures aux 90 pour cent de satisfaction des patients. Des données de perception évaluant différentes caractéristiques des services ont été réunies auprès de patients choisis au hasard et suivis sur une période de 24 mois. Les élévations majeures de perception d'excellence selon le point de vue des patients étaient obtenues lorsque les sept volets du modèle étaient appliqués dans le cadre d’une approche d’amélioration globale.

Professionnalisation des achats et innovation dans les hôpitaux: un duo prometteur

L’acheteur est aujourd’hui une porte d’entrée incontournable de l’innovation à l’hôpital de par sa compétence transversale et son rôle d’interface professionnalisée entre l’offre et la demande. La création de centrales d’achats hospitalières, capables de détecter des besoins émergents, d’être entendues par les opérateurs du marché et d’accélérer la diffusion de solutions innovantes, représente une des clés pour l’avenir de l’achat hospitalier.

Evaluation de l’efficience des hôpitaux publics en Tunisie

Les hôpitaux publics sont soumis à des pressions sans cesse plus fortes pour améliorer leur efficience et utiliser au maximum leur capacité de production. Cet article vise à analyser l’inefficence et l’utilisation de la capacité des hôpitaux publics tunisiens au moyen de trois études de cas. Sur la base des résultats observés, les options visant à améliorer l’efficience des hôpitaux étaient discutées et proposées aux décideurs politiques et autres. Vue l’importance du rôle joué par les hôpitaux publics dans le système de santé tunisien, on considère que l’amélioration de l’efficience au niveau de la productivité hospitalière aura des répercussions positives sur les résultats de santé et soutiendra l’évolution vers la couverture universelle.

Etude de satisfaction des utilisateurs à l’égard des systèmes d’aide aux décisions cliniques (Clinical Decision Support System, CDSS) pour les médicaments

Beaucoup d’erreurs sur les médicaments ont lieu au moment de la commande et de la délivrance des médicaments dans les hôpitaux. Le système d’aide aux décisions cliniques (CDSS) est largement utilisé pour réduire les erreurs d’administration de médicaments. Cette étude a axée sur l’évaluation de la satisfaction de l’utilisateur avec le CDSS pour les médicaments dans un CHU. Cette étude tendait spécifiquement à déterminer les facteurs influençant la satisfaction de l’utilisateur et à examiner les besoins de l’utilisateur pour améliorer la satisfaction de l’utilisateur et l’innocuité des médicaments.

Les services de santé en Argentine, en bonne santé

A la demande de la Fondation Sanatorio Güemes, IC Research a effectué une recherche qualitative et quantitative afin de mieux comprendre la perception de la population à propos du système de santé en Argentine.

Par le biais de sondages et des groupes de discussion nous avons analysé ce que les gens pensent du système de santé en Argentine, sur ce qu’à leurs yeux constitue un service médical de qualité, leur niveau de satisfaction par rapport au système actuel et les aspects et les améliorations nécessaires.

Nous avons trouvé que le niveau de satisfaction avec le système actuel est très élevé quel que soit le type de couverture utilisé et qu’au centre de ces perceptions positives se trouvent les médecins.

Problèmes et avenir du système de prestations de santé au Japon

Le projet japonais de réforme de la sécurité sociale et des taxes a été rendu public le 30 juin 2011. Une réforme structurelle du
système de prestations de santé est essentielle dans une société vieillissante dont la population d’individus âgés de 65 ans et plus devrait augmenter de 26 pour cent d’ici 2040. Cependant, il semble exister un écart considérable entre la situation actuelle et les estimations du gouvernement japonais. Il convient d’abaisser les coûts de santé et de rendre compte de tous les services avec plus de transparence pour faciliter leur compréhension par le public. Le Japon doit définir et mettre en place un concept révolutionnaire pour assurer des services médicaux et infirmiers efficaces.

Réformes de santé pour les nuls

Les économies industrialisées se livrent périodiquement à des réformes de santé visant à prendre en compte des changements démographiques, technologiques ou politiques et de nouvelles valeurs sociales. En Australie, les réformes sont compliquées par la répartition des responsabilités entre gouvernements national et fédéral et gouvernements des six états et trois territoires. Un ambitieux programme de réforme est actuellement en cours en Australie dans le cadre des "accords de partenariats nationaux" négociés entre le gouvernement fédéral et les gouvernements des états et des territoires. Cet article donne un bref aperçu des objectifs des réformes et des résultats auxquels on peut s’attendre de manière réaliste.

Réorganisation et restructuration hospitalières : le cas du Kazakhstan

La mise en œuvre de la planification des immobilisations et des stratégies de restructuration dans le secteur hospitalier est essentiel au processus d’amélioration du rendement des systèmes de santé. Tandis que la République du Kazakhstan passe d’un système de santé centré sur les prestataires à un système centré sur les patients, le secteur hospitalier doit être à la fois modernisé et rationalisé au moyen d’une approche basée sur la population reposant sur des critères garantissant une politique basée sur les faits et l’égalité parmi les oblasts (régions). En même temps, la sur-centralisation de services spécialisés et le sous-investissement technologique ont abouti à des écarts importants du point de vue de l’accès aux services, et de traduire par de longs trajets pour les patients de zones rurales vouant accéder à des services hautement spécialisés. L’exercice du plan directeur lancé par le ministère de la santé visait à développer un plan de restructuration détaillé pour les services de soins des patients hospitalisés, orienté vers la consolidation et la conversion de structures préexistantes et la modernisation des pratiques désuètes. Deux ans à peine après le lancement du projet, les premiers résultats sont prometteurs : le réseau de prestataires n’est plus géré selon les régions administratives, mais selon la zone desservie ; beaucoup d’oblasts se sont réorganisés au sein d’hôpitaux ruraux plus petits ; les options de soins non critiques comme la réadaptation se développent, et les partenariats publics-privés combleront rapidement le vide au niveau des investissements futurs.
Resumen en Español

Una hoja de ruta para mejorar la calidad de los servicios de salud

En la Clínica Mayo Arizona (CMA) se desarrolló un modelo integral, basado en datos para mejorar el servicio y la creación de valor a largo plazo. El modelo de siete puntas se aplicó completamente y se probó en cinco departamentos en la CMA en el que la percepción del paciente acerca del proveedor de servicios específicos o de la calidad de la atención estuvo por debajo del 90 por ciento de la satisfacción del paciente. Se recogieron datos de percepción evaluando varios atributos de servicio de pacientes seleccionados al azar y monitorizados durante un periodo de 24 meses. Los mayores incrementos en la percepción del paciente sobre excelencia se hicieron realidad cuando todas las siete puntas del modelo fueron implementadas como un enfoque de mejora integral.

Profesionalización de las compras e innovación en los hospitales: un dúo prometedor

El comprador es hoy en día una puerta de entrada fundamental de la innovación al hospital por su capacidad transversal y su papel de interfaz profesional entre la oferta y la demanda. La creación de centrales de compras hospitalarias, capaces de detectar necesidades emergentes, de ser escuchadas por los operadores del mercado y de acelerar la difusión de soluciones innovadoras, representa una de las llaves para el futuro de la compra hospitalaria.

Evaluando la eficiencia de los hospitales públicos en Túnez

Los hospitales públicos están bajo una creciente presión para mejorar su eficiencia y para aprovechar al máximo su capacidad de producción. El objetivo de este trabajo es analizar la ineficiencia y la utilización de la capacidad de los hospitales públicos en Túnez a través del estudio de tres casos. Se discutieron las opciones destinadas a mejorar la eficiencia de los hospitales basándose en los hallazgos y se les propusieron a los responsables políticos y de decisión. En vista del importante papel desempeñado por los hospitales públicos en el sistema de salud de Túnez, se cree que el aumento de la eficiencia en la productividad del hospital tendrá buenas repercusiones en los resultados sanitarios y apoyará el movimiento hacia la cobertura universal.

Un estudio sobre la satisfacción de los usuarios respecto al Sistema de Soporte de Decisión Clínica (SSDC) para medicamentos

Muchos errores de medicación se producen en el momento de ordenar y distribuir los medicamentos en los hospitales. El Sistema de Soporte de Decisión Clínica (SSDC) se utiliza ampliamente en un esfuerzo por reducir los errores de medicación. Este estudio se centró en la evaluación de la satisfacción del usuario con el SSDC para la medicación en un hospital universitario. Específicamente, este estudio estuvo dirigido a identificar los factores que influyen en la satisfacción del usuario y a examinar sus necesidades para mejorar así la satisfacción del usuario y la seguridad de los medicamentos.

Los servicios de salud en Argentina, en buena salud

A solicitud de la Fundación Sanatorio Güemes, IC Research efectuó una investigación cualitativa y cuantitativa con el fin de entender la percepción ciudadana sobre el sistema de salud en Argentina. A través de grupos de enfoque y encuestas analizamos lo que piensa la gente acerca del sistema de salud en Argentina, sobre lo que constituye una atención médica de calidad, el nivel de satisfacción con el sistema actual y los aspectos que deberían mejorarse. Encontramos que el nivel de satisfacción con el sistema de salud es muy alto, independientemente del tipo de cobertura que tenga la gente, y que el centro de estas percepciones positivas son los médicos.

Cuestiones y futuro del sistema de prestación de servicios de salud en Japón

El proyecto de la Seguridad Social del Japón y de la reforma fiscal
se hicieron públicos el 30 de junio de 2011. La reforma estructural del sistema de prestación de salud es esencial para una sociedad que está envejeciendo y cuya población de individuos de 65 años o más se espera que crezca al 36,5 por ciento en 2040. Sin embargo, parece que hay una gran brecha entre el estado actual y las estimaciones del gobierno japonés. Es necesario reducir el costo de los servicios de salud y presentarlos de forma más transparente para facilitar la comprensión del público. En Japón se debe definir e implementar un diseño innovador para ofrecer un servicio de salud y de enfermería eficaz.

**La reforma de salud para los tontos**

Periódicamente se llevan a cabo reformas de salud en las economías avanzadas debido a cambios en la demografía, la tecnología, la política o en valores de la sociedad. La reforma en Australia se complica por la división de responsabilidad entre el gobierno nacional, el federal y los gobiernos de los seis Estados y tres territorios. Actualmente hay un ambicioso programa de reforma en curso en Australia según "los acuerdos de Asociación Nacional" negociados entre el gobierno federal y los gobiernos de los Estados y territorios. Este artículo ofrece un breve resumen de los objetivos de la reforma y lo que de manera realista podría lograrse.

**Reorganización y reestructuración de hospitales: el caso de Kazajstán**

La aplicación de la planificación de capital y las estrategias de reestructuración en el sector hospitalario son fundamentales para el proceso de mejorar el rendimiento del sistema de salud. Como la República de Kazajstán evoluciona de un sistema de salud centrado en los proveedores a un sistema de salud centrado en el paciente, el sector hospitalario se debe modernizar y racionalizar a través de un enfoque basado en la población a partir de estándares que garanticen políticas basadas en la evidencia y equidad a través de las provincias (regiones). Al mismo tiempo, el exceso de centralización de servicios especializados y la baja inversión en tecnología condujeron a importantes lagunas en el acceso y en alargar el tiempo para que los pacientes rurales puedan acceder a los servicios más especializados. El objetivo del ejercicio de planificación maestro iniciado por el Ministerio de Salud era elaborar un plan de reestructuración detallado de servicios de cuidado para pacientes internados, para consolidar y convertir las estructuras existentes y modernizar las prácticas obsoletas. Apenas dos años después de iniciar el proceso, los primeros resultados muestran informes prometedores: la red de proveedores no está organizada por regiones administrativas sino por áreas de influencia; muchas provincias se han unido en pequeños hospitales rurales; se están expandiendo opciones de atención no agudas, tales como la rehabilitación, y la colaboración público-privada está rápidamente llenando el vacío acerca de las futuras inversiones.
What IHF Accomplishes

The IHF is a unique arena in which all major hospital and health care associations are able to address and act upon issues that are of common and key concern.

Our vision and objectives

The founding philosophy of the IHF is that it is the right of every human being, regardless of geographic, economic, ethnic or social condition, to enjoy the best quality of health care, including access to hospital and health care services. By promoting this value, the IHF supports the improvement of the health of society.

The objective of the IHF is to help international hospitals and healthcare facilities work towards improving the level of the services they deliver to the population regardless of the ability of the population to pay. The IHF recognizes the essential role of hospitals and health care organisations in providing health care, supporting health services and offering education.

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What IHF Accomplishes

- Projects aimed at supporting and improving delivery of hospital and healthcare services.
- Regular and extensive collaboration with governmental and non-governmental organizations in developing health systems.
- Creation of “knowledge hubs” through its international conferences, education programmes, information services, publications and consultations.
- In official relations with the World Health Organization (WHO) and the Economic and Social Council of the United Nations (ECOSOC), it is strategically positioned as a bridge between IHF members, the United Nations and governmental and non-governmental organizations.
- Acts as a crucial facilitator for health care delivery among and between key governmental and non-governmental stakeholder organisations.

Who We Are

Founded in 1929, the International Hospital Federation (IHF) is the leading global body representing public and private national hospital and healthcare associations, departments of health and major healthcare authorities, with members from some 100 countries.

What Is the Corporate Partnership Programme?

The IHF Corporate Partnership Programme, launched in 2009, is an opportunity presented to major corporations seeking to join IHF members in working to improve hospital and healthcare performance around the world.

The Corporate Partnership is open to a limited number of companies who are fully engaged in the global healthcare sector.

Partnership is open to a limited number of companies who are fully engaged in the global health sector and have a good reputation as providers. Affiliation with this Partnership Programme gives a strong signal to the global community that the Corporate Partner is a major world player in the hospital and healthcare sector.

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- Provides access to hospital and healthcare decision makers from around the world.
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Application

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2013 Corporate Partners

[Image]
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IHF events calendar

2013

**IHF**

**38th World Hospital Congress**
18–20 June 2013, Oslo, Norway
Theme: Future health care: The opportunities of new technology
Email: Sheila@ihf-fih.org / kine.martines@nh.no
Website: http://oslo2013.no

2014

4th IHF Hospital and Healthcare Association Leadership Summit (By invitation only)
Seoul, Korea For more information, contact sheila.anazonwu@ihf-fih.org

2015

IHF 39th World Hospital Congress
6–8 October 2015, Chicago, USA
For more information, contact sheila.anazonwu@ihf-fih.org

2016

IHF 40th World Hospital Congress
Durban, South Africa For more information, contact sheila.anazonwu@ihf-fih.org

2017

IHF 41st World Hospital Congress
November, Kaohsiung City, Taiwan
For more information, contact sheila.anazonwu@ihf-fih.org

2013

**MEMBERS**

**FRANCE**

Les salons de la Santé et de l’Autonomie
28–30 May 2013, Porte de Versailles, Paris
For more information: http://www.salons-sante-autonomie.com/fr/accueil

**USA**

American College of Physician Executives - Annual Meeting
26–27 April 2013, Hilton New York, NY

American Hospital Association’s Annual Meeting
28 April–1 May 2013, Hilton Washington, Washington, DC
For more information: www.aha.org

Healthcare Financial Management Association’s Healthcare Finance Conference
16–19 June 2013, Orange County Convention Center, Orlando, FL
For more information visit http://www.hfmaconference.org/general-information/

American Hospital Association's Leadership Summit
27–29 July 2013, San Diego Hyatt, CA
For more information http://www.healthforum.com/healthforum/html/conferences/13Summit/Summit_home.html

American Nurses Credentialing Center (ANCC) – National Magnet Conference
2–4 October 2013, Orlando, FL
For more information: http://www.anccmagnetconference.org/
Reference

University HealthSystem Consortium (UHC) – Annual Conference 2013
17–18 October 2013, Hyatt Regency Atlanta
Atlanta, Georgia

LUXEMBOURG

24th EAHM Congress
28–30 November 2013, Kirchberg
For more information www.eahm-luxembourg2013.lu

NETHERLANDS

HOPE Exchange Program 2013
13 May – 16 June 2013, The Hague
For more information: http://www.hope.be/04exchange/exchangeprogramme2013.html

SWITZERLAND

Congress 2013 H+
7 November 2013, Bern
For more information http://www.hplus-kongress.ch/index_fr.php

KOREA

Healthcare Congress
13–15 November 2013
Grand Hilton Hotel Convention Center, Seoul

GERMANY

German Hospital Day (Deutscher Krankenhaustag)
20–23 November 2013
Düsseldorf (on the occasion of the fair MEDICA)

COLLABORATIVE

International HPH Conference 2013
22–24 May 2013
Gothenburg, Sweden
For more information: http://www.hphnet.org/index.php/events

Hospital Management Asia 2013
12–13 September 2013, Bangkok, Thailand
For more information: http://hospitalmanagementasia.com

ISQua’s 30th International Conference
13–16 October 2013
Edinburgh, Scotland
For more information: http://www.isqua.org/conference/edinburgh-2013

For further details contact: IHF Partnerships and Projects, International Hospital Federation,
151 Route de Loex, 1223 Berne, Switzerland, E-mail: sheila.anazonwu@ihf-fih.org or visit the IHF website: http://www.ihf-fih.org
ABOUT HIMSS ANALYTICS EUROPE

HIMSS Analytics Europe (HAE) is a wholly-owned subsidiary of the Healthcare Information and Management Systems Society (HIMSS). The company collects and analyzes healthcare information related to IT processes and environments, products, IS department composition and costs, IS department management metrics, healthcare trends and purchase-related decisions.

HAE’s offerings include comparative Hospital IT adoption benchmarking and a European-formulated EMR Adoption Model (EMRAM) scale to help hospital directors, IT executives and clinicians compare and measure their progress in the adoption and use of healthcare information technology. Country level and application specific reports also provide insights into major IT adoption trends.

OUR POSITIONING STATEMENT

For HIT stakeholders who want or need to meet specific business objectives the HAЕ portfolio provides support and guidance. Unlike all other efforts HAЕ has the most comprehensive and continuously updated objective contextualized market intelligence in the EU market.

// Our European Products and Portfolio

EMRAM

European EMR Adoption Model (EMRAM)
Understanding the role of electronic medical record (EMR) adoption in healthcare is a challenge in the European HIT market today. HIMSS Analytics Europe (HAЕ) has developed a European EMR Adoption Model based on the value healthcare model created by HIMSS Analytics and validated across the US and Canada. The model defines the levels of electronic medical record (EMR) adoption ranging from basic to advanced features.

EMRAM Consulting and Certification / EMRAM Workshops
Our experts evaluate the EMR adoption of hundreds of European hospitals and the most comprehensive feedback is provided on strengths and weaknesses, of EMR products and portfolios. Like no one else in the market we customize the hospital specific portfolio with HIT vendor portfolios and free support vendors to match their portfolio towards the development of HIT in European countries.

Hospital IT Competency Reports
HIT affects your business strategy how to navigate the changing HIT landscape in Europe. We help you capture trends and possibilities, and the most effective tools and best practices to improve your efficiency and effectiveness for all HIT scenarios. Compiled from the HIMSS Analytics market reports, this is the industry’s most comprehensive, up-to-date, and balanced market offering.

Market Intelligence Reports
Our best practice EU awarded market intelligence reports are the complete source to view details on the latest in EU IT solutions as well as an extended graph of the entire hospital markets.

European Hospital Database
We offer you access to the most comprehensive source of HIT market intelligence. Exclusive to HIMSS Analytics Europe, this is a valuable resource for hundreds of institutions—helping you identify the right products and effectively structure and target your sales and marketing efforts.
Welcome to Oslo2013, Norway

The Congress is the forum in which leaders, policy makers and clinicians from all over the world will share their experiences and best practices in healthcare delivery.

Modern technology improves access to high quality healthcare for patients, both within and beyond the realms of hospitals. During the congress you will be able to explore opportunities of new technology within healthcare.

Register today at www.oslo2013.no