International Hospital Federation

World Hospitals and Health Services
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Editorial

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Public-Private Partnerships in the Portuguese health sector
Evidence informed decision-making in healthcare: the case for health technology assessment
“Megatrends” driving healthcare facility design: a look at the major trends that will shape medical facility design

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Although it was expected that 2010 will be the beginning of the recovery of the crisis, we are not yet there. This is a global crisis to which countries are responding differently. Some continue in their steady grow to becoming the world’s leading nations; some are showing resilience to the situation whilst others are encountering major difficulties. In the main, however, the effect of this crisis has been the introduction of an overarching attitude of fear with regards to the unknown future, which has led to a marked restraint in risk-taking. Donors as a result have been unwilling to invest in innovative projects. The IHF, as with many other member-based organizations, is affected by such behaviour.

The launch of new as well as sustaining of on-going activities is proving difficult. Crises accelerate the need for re-organisation by abandoning some activities and putting more effort on others.

Solidarity can, at the same time, still be present and make a difference in the midst of an economic crisis. The earthquake which devastated Haiti has put the population under an unbelievable strain but our Haitian colleagues working in health facilities have responded over and above the call of duty, and have been supported by health workers from all around the world. As we think of the people of Haiti and express our compassion to them, we must also praise the solidarity movement around this disaster. The spirit that has mobilized both the population and health workers is evident. Organizations such as the IHF should not forget that it has a role to play not only in advocating for disaster preparedness but also in mobilizing solidarity amongst its own members.

The shut down of air space over much of Europe, proved a critical moment for all. It has had economic consequences and has made life difficult for all those caught in it. Concern over safety, however, guided the decision and fortunately involved no casualties. The number of people grounded at ‘home’ or away from ‘home’ exposed the degree to which traveling as part of our daily lives, is taken for granted. Such a phenomenon should also trigger some thoughts on how much we live in an interconnected world. Readers of World Hospitals are among those who consider that understanding what is happening in the rest of the world may influence what is delivered at home.

Although these observations are about three different events their common denominator is that they all made headline news, proving further that no matter the nature of stress there are always resources to respond to priorities. Another lesson learnt, is that it is impossible to believe that what is done locally can sustain itself regardless of what is happening in the rest of the world.
# World Hospitals and Health Services readership survey

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<td>☐ Africa ☐ Australasia ☐ Caribbean ☐ Europe ☐ North America ☐ South America</td>
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<td>Are you male or female?</td>
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<td>Please give one/two suggestions for improvement</td>
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<td>With how many others do you share the electronic copy within your institution?</td>
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Health technologies, health systems, and health outcomes in the 21st century

DR CARISSA ETIENNE
ASSISTANT DIRECTOR GENERAL FOR HEALTH SYSTEMS AND SERVICES, WORLD HEALTH ORGANIZATION

With every year that passes, more new, exciting, and potentially life-saving health technologies appear – ranging from advances in new vaccines and better medicines to more appropriate medical devices. At the same time, our ability to store, manage and share information accelerates and expands. Indeed, as Margaret Chan, Director General of WHO has pointed out: “the world has never possessed such a sophisticated arsenal of interventions and technologies for curing disease and prolonging life. Yet the gaps in health outcomes continue to widen… [because] the power of existing interventions is not matched by the power of health systems to deliver them to those in greatest need, in a comprehensive way, and on an adequate scale.”

The task today is to harness all these new developments to strengthen health systems and services and improve health outcomes – now and in the future.

Five years from the target date for the Millennium Development Goals, it is increasingly evident that the world’s ability to improve health outcomes – specifically to improve maternal and child health and combat AIDS, tuberculosis and malaria – is directly related to the strength of its health systems and the quality of the services those systems provide. It is no coincidence, for example, that progress on maternal health is slowest in sub-Saharan Africa and South Asia where years of under-investment have left many countries’ health systems and services fragile and ill-equipped.

At the same time, health systems all over the world, in rich and poor countries alike, face new challenges on a number of fronts. First, the epidemiological situation is evolving rapidly. In 2004, the leading causes of global disease burden were lower respiratory infections and diarrhoea. In 20 years’ time, respiratory infections are likely to have been replaced by chronic non-communicable diseases – notably depression and heart disease. HIV/AIDS will have dropped from fifth to ninth place in the list of global causes of death.

Second, and closely linked with this, is the fact that populations all over the world are ageing. High income countries have got used to the fact that people are living longer, and that fewer children are being born. Low and middle-income countries are going through the demographic transition – often at a faster rate and over a shorter period of time. By 2050, it is estimated that one in five people living in developing countries will be over 60 – a trend that will be accompanied by increased incidence of cardiovascular diseases and chronic illnesses.

Third, populations are, increasingly, urban. By 2035, it is estimated that more than half the population of low and middle income countries will be living in urban areas. Urban environments present their own health challenges, particularly those linked to water and sanitation and air pollution, and close physical proximity which can accelerate the spread of communicable diseases. Meanwhile, those who remain in rural areas find themselves living in increasingly isolated, and under-served, communities. As more people gravitate to towns and cities, it becomes more difficult to get health workers to live and work in rural areas, and many hospitals and healthcare facilities in developed countries have been closed.

Strong health systems have to keep abreast not only of new developments like these, but ahead of them, and to ensure that they respond to people’s real needs and expectations.

First and foremost, people need to be able to access medical devices, vaccines, and drugs that work – whoever they are, wherever they live – and be able to afford to use them. Second, they need to be treated with dignity and respect, and without getting lost between the various parts or levels of the system. They need to be able to consult healthcare workers who are knowledgeable, caring and who listen to them as individuals – and don’t just treat them as cases. As William Oster, one of the founders of modern medicine, pointed out: “It is much more important to know what sort of patient has a disease than what sort of disease a patient has.”

Technology has a part to play in making all this a reality – in rich and poor countries alike.

Simple rapid tests for HIV and TB can and do speed up diagnosis and treatment, lengthening millions of people’s lives.

The task today is to harness all these new developments to strengthen health systems and services and improve health outcomes – now and in the future.

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Low-tech, low-cost prostheses enable amputees to return to work and support their families. Minimally invasive surgery techniques simplify procedures and reduce the need for in-patient care and all that is associated with this. As a result, costs fall.

Information and communications technology increase contact between healthworker and patient and among healthworkers. Mobile phones, for example, enable health workers to follow up with patients and ensure that treatments are being adhered to—an important issue when dealing with chronic diseases, for example. Phones and email enable health workers to follow up with patients and ensure that treatments are being adhered to—an important issue when dealing with chronic diseases, for example. Phones and email enable health workers to follow up with patients and ensure that treatments are being adhered to—an important issue when dealing with chronic diseases, for example.

Greater collaboration between clinical and biomedical engineers, clinicians, managers, and users can greatly improve management of health technology.

In 2010, more than 40 countries enter a new phase in their national health planning cycles. It will be vital that those involved in the planning process fully address health technology needs, and allocate resources for the use, maintenance, and surveillance of technologies.

Greater collaboration between clinical and biomedical engineers, clinicians, managers, and users can greatly improve management of health technology.

To conclude, the relationship between technologies and health systems and services is mutually reinforcing. Technologies have the potential to greatly strengthen systems and improve services and outcomes so they meet contemporary health needs. But in turn, health systems are vital to obtaining maximum benefit from technologies.

That is why WHO's medicines and technologies work is embedded with its efforts to strengthen health workforce and service delivery, and to improve financing and information mechanisms. Our goal is to strengthen health systems and create a robust foundation for maximizing health outcomes in this fast-changing world.

Technologies must also be affordable, providing optimal value for money.

They must be safe and they must be effective. This requires a good evaluation of the context in which they are to be used, and research into how they have performed in similar contexts elsewhere—something that can itself be greatly facilitated by electronic dissemination of research. That said, there is a need both for more research, greater use of impartial studies, and less reliance on information provided by suppliers.

All this means making difficult choices—for example between investing in new state-of-the-art equipment for a hospital in the centre of a town and in strengthening blood safety facilities in a health facility out in the suburbs. And it means having proper regulatory systems, procurement procedures and financing mechanisms that are sustainable, inclusive and fair. This may require introducing new regulations, changing the way procurement decisions are made, and adjusting financing mechanisms. It is particularly important to improve coordination.

Opinion matters

References
1. Everybody’s Business - Strengthening Health Systems to Improve Health Outcomes, WHO, 2007
2. Osler, W, Aequanimitas, Philadelphia PA, Blakiston, 1904

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2. Osler, W, Aequanimitas, Philadelphia PA, Blakiston, 1904
Public-Private Partnerships in the Portuguese health sector

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Pedro Pita Barros
Professor of Economics, Universidade Nova de Lisboa and Research Fellow at CEPR (London)

Marta Temido
Hospital Manager at Centro Hospitalar de Coimbra, EPE


ABSTRACT: In Portugal, the PPP in the healthcare sector appeared only at the dawn of the new century, with the central feature of including clinical activities within its scope. Currently – except for one hospital – the Portuguese PPP experience can only be assessed in terms of conceptual model and tender processes.

The analysis showed that, based on arguments associated with non-contractible investment and ex-post renegotiation opportunities, hospitals with higher technological complexity should exclude clinical activities from the PPP contract, and also that, despite the time-consuming process, the PPP can be considered a success in price competition dimension.

The analysis also showed that, assessing the performance of the single PPP hospital in Portugal with two comparable units, there is no evidence that the best or worst results are correlated with the legal status and with the established management model.

The origin of Public-Private Partnerships (PPP) in the health sector can be traced back to the beginning of the 1990s in the United Kingdom, under the name of PFI – Private Finance Initiative. Over the years, PPP have spread out to other countries. The main interest in PPP for the construction of hospitals resulted from the presumption that by attracting private financing to the healthcare sector, hospital infrastructures would be renewed more quickly and more efficiently than under the traditional public sector operation. Moreover, public sector accounts were (are) under close scrutiny in most developed countries.

Portugal is no stranger to these motivations. The PPP appeared in Portugal only at the dawn of the new century. It has been a slow moving process. Currently, we can only describe and assess based on evidence the process that creates a PPP.

A major difference of the PPP in Portugal to most of other PPP in healthcare is the inclusion of clinical activities within the scope of the PPP, on top of the infrastructure building and maintenance activities. One of the more interesting issues from the Portuguese experience is to understand the fundamental trade-offs one needs to make to assess the specific model for PPP adopted in Portugal.

The main findings from the analysis of the conceptual model of the Portuguese PPP are the following. Firstly, the administrative delays in the whole process to create a PPP. These delays result from both the complex nature of the adopted model and from the lack of technical expertise related to PPP in the public sector. Administrative delays imply high costs for both the public and the private parties to the PPP project. Secondly, the strong ideological position of several agents regarding the role of PPPs in the health sector results in unnecessary conflict. Thirdly, the scarce experience with PPPs suggests that a demanding technical assessment is required during the tender process and the execution phase as well. In particular, frequent renegotiation is expectable due to (natural) contract incompleteness. This is especially true under the PPP including clinical activities, where technological progress in healthcare is difficult to predict.

Background

The PPP in healthcare started officially with the publication of the Decree-Law nº 185/2002, of 20th August. This legal document changes the statutes of the National Health Service to allow PPPs for construction and management of new healthcare facilities. This legal regime actually precedes a general regime about PPPs in all economic areas, which appears only in 2003 with Decree-Law nº 86/2003, of 26th April (which changes some rulings in the 2002 regime for healthcare).

The Portuguese Government opted, initially, for a new model for the PPP to build new hospitals. The so-called first wave of PPP hospitals has the distinctive feature of including both building the infrastructure and clinical activities management. This PPP model offers considerably from the original PFI model from the United Kingdom. Current European experience is diverse in this respect. We can find other examples of inclusion of clinical activities within the PPP in Spain and Italy. Other countries have PPPs that include only construction and maintenance of infrastructures (France and Germany, for example). In Italy and Spain we can actually find both...
types of PPP.

International experience suggests that countries with national health services as the backbone of the health system tend to use more intensely PPP. The use of PPPs appears to be a readily available substitute for public investment.

The existence of a PPP including clinical activities management has implications for the specific legal environment generated. A PPP involving only construction (and maintenance) of hospital infrastructure requires a single contract between the two parties, public and private. The first party pays for the activity developed by the second party. When the PPP model includes clinical activities management, other options can be adopted. The one selected in Portugal was to set two different contracts, with different durations for each of the two activities. A contract is set with the entity responsible for building and ensuring maintenance of the new hospital. Its duration is 30 years. A second contract is signed with the entity that will run clinical activities, and this contract has duration of 10 years. Activities like cleaning, laundry, catering, parking, etc., have been included in the bundle of clinical activities management.1

Assessment of the tender process

A central feature of the PPPs for new hospitals in Portugal is the long delay in the setting up every PPP. Such delays create costs, monetary and time-wise. The delays were recently documented in Tribunal de Contas (2008a). Delays are not specific to Portugal, as in other countries we find similar evidence, and high costs associated with delays.2 To illustrate, no current contract signed so far has implications for the specific legal environment generated. A PPP involving only construction (and maintenance) of hospital infrastructure requires a single contract between the two parties, public and private. The first party pays for the activity developed by the second party. When the PPP model includes clinical activities management, other options can be adopted. The one selected in Portugal was to set two different contracts, with different durations for each of the two activities. A contract is set with the entity responsible for building and ensuring maintenance of the new hospital. Its duration is 30 years. A second contract is signed with the entity that will run clinical activities, and this contract has duration of 10 years. Activities like cleaning, laundry, catering, parking, etc., have been included in the bundle of clinical activities management.1

Based on arguments associated with non-contractible investment and ex-post renegotiation opportunities, we can define the following principle. Hospitals with higher technological complexity and for which technological innovation is more present (and sooner) should have a PPP without clinical activities. On the other hand, hospitals for which being in the technological frontier is not crucial should have a PPP including clinical activities management as long as the costs of non-contractible investment in the public sector are relatively large, and the social benefits from such investment are not sensitive to the level of investment.

Finally, we can address the contract design itself. Távora (2009) reports an assessment of properties of the PPP contract for construction and management of new hospitals. She concluded that contract design respects knowledge on best practices in 5 out of 6 areas: performance orientation, risk allocation and risk sharing, treatment of the different contract phases, system of payment and contract duration. Only in renegotiation provisions to accommodate future technological innovations does the contract fall short of being complete.

Centro de Medicina de Reabilitação do Sul (CMR Sul) PPP experience

Currently, in Portugal, the only PPP experience that can be currently assessed in the hospital field is the one in Centro de Medicina de Reabilitação do Sul (CMR Sul).

In 2008/2009 a study was carried out with the purpose of comparing the performance of this unit with two comparable units: Centro de Medicina de Reabilitação da Região Centro (CMRRC) and Centro de Medicina de Reabilitação do Alcoitão (CMRA). The data in the study included only 2008 as the CMR Sul only started its activities in April 2007. These three units have the common feature of composing the regional vertices of the hospital referencing network of physical medicine and rehabilitation. Its main distinctive feature across them is the different legal status and management models – while the CMR Sul is an establishment operated under the PPP model, the CMRRC is an establishment integrated in the public sector and the CMRA is a private property establishment of Santa Casa da Misericórdia de Lisboa. In the comparative analysis, three core areas were considered – structure, processes and results – and several dimensions were taken into account. Regarding the structure, we considered the interventional general context for activity, the general characterisation and the legal framework, regarding the processes, the internal organisation model, the

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<th>“Hospital de Cascais”</th>
<th>“Hospital de Braga”</th>
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<td>Initial bid</td>
<td>Final bid</td>
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<td>526 M</td>
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<td>Bidder 2</td>
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<td>Bidder 6</td>
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Source: Vaz (2007)
### Table 2: Costs

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<th>CMRRIC</th>
<th>CMRA</th>
<th>CMR Sul</th>
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<td>% human resources expenditure on total expenditure</td>
<td>44%</td>
<td>71%</td>
<td>48%</td>
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<tr>
<td>% facilities expenditure on total expenditure</td>
<td>31%</td>
<td>23%</td>
<td>36%</td>
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<tr>
<td>% extra work expenditure on total human resources expenditure</td>
<td>12%</td>
<td>4%</td>
<td>12%</td>
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<td>Operational result</td>
<td>€ -305,505</td>
<td>€ -8,286,257</td>
<td>€ -853,992</td>
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<td>Liquid result</td>
<td>€ -233,024</td>
<td>€ -8,105,348</td>
<td>€ -741,871</td>
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<th>CMRRIC</th>
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<td>% first outpatients appointments on total outpatients appointments</td>
<td>26%</td>
<td>12%</td>
<td>28%</td>
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<td>Discharged patients to household</td>
<td>100%</td>
<td>75%</td>
<td>93%</td>
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<tr>
<td>Transferred patients</td>
<td>0%</td>
<td>4%</td>
<td>3%</td>
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<tr>
<td>Δ accomplished activity/contracted activity discharged patients</td>
<td>-7%</td>
<td>na</td>
<td>1%</td>
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<td>Δ accomplished activity/contracted activity outpatients appointments</td>
<td>31%</td>
<td>na</td>
<td>79%</td>
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<td>Decubit pad ulcers rate</td>
<td>0.0%</td>
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<td>1.6%</td>
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### Table 4: Efficiency

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<td>Average length of stay (days)</td>
<td>84</td>
<td>96</td>
<td>48</td>
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<td>Occupancy rate</td>
<td>80%</td>
<td>87%</td>
<td>75%</td>
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<td>Discharged patients per bed</td>
<td>3.5</td>
<td>3.2</td>
<td>5.7</td>
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<td>Discharged patients per FTE physician</td>
<td>18.9</td>
<td>16.1</td>
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<td>Discharged patients per FTE nurse</td>
<td>4.0</td>
<td>3.7</td>
<td>9.3</td>
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<td>Outpatients appointments per FTE physician</td>
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<td>425.5</td>
<td>€ 236.5</td>
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<td>€ 383.00</td>
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<td>€ 12.34</td>
</tr>
<tr>
<td>Outpatients appointment cost</td>
<td>€ 126.16</td>
<td>na</td>
<td>€ 25.00</td>
</tr>
</tbody>
</table>

### Table 5: Equity

<table>
<thead>
<tr>
<th></th>
<th>CMRRIC</th>
<th>CMRA</th>
<th>CMR Sul</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of discharged patients per 1000 inhabitants</td>
<td>0.1</td>
<td>0.4</td>
<td>0.3</td>
</tr>
<tr>
<td>Number of outpatient appointments per 1000 inhabitants</td>
<td>1.8</td>
<td>11.3</td>
<td>2.2</td>
</tr>
<tr>
<td>Number of patients waiting for admission</td>
<td>18</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>Number of patients waiting for outpatient appointment</td>
<td>23</td>
<td>na</td>
<td>0</td>
</tr>
<tr>
<td>Waiting days for admission</td>
<td>90</td>
<td>196</td>
<td>0</td>
</tr>
<tr>
<td>Waiting days for admission to outpatient appointment</td>
<td>45</td>
<td>na</td>
<td>0</td>
</tr>
</tbody>
</table>

### Table 6: Quality

<table>
<thead>
<tr>
<th></th>
<th>CMRRIC</th>
<th>CMRA</th>
<th>CMR Sul</th>
</tr>
</thead>
<tbody>
<tr>
<td>% cancelled outpatients appointments</td>
<td>na</td>
<td>na</td>
<td>0.1</td>
</tr>
<tr>
<td>Inpatient mortality rate</td>
<td>0.0%</td>
<td>1.1%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Number of patients with nosocomial infections</td>
<td>na</td>
<td>na</td>
<td>11</td>
</tr>
<tr>
<td>% employees global retention</td>
<td>77%</td>
<td>90%</td>
<td>82%</td>
</tr>
<tr>
<td>Average absenteeism work days per accident</td>
<td>0.0</td>
<td>0.4</td>
<td>1.1</td>
</tr>
<tr>
<td>% trained employees in BLS</td>
<td>na</td>
<td>13%</td>
<td>36%</td>
</tr>
<tr>
<td>% trained employees in nosocomial infections control</td>
<td>na</td>
<td>23%</td>
<td>73%</td>
</tr>
<tr>
<td>Average days response to complaints</td>
<td>na</td>
<td>3</td>
<td>66</td>
</tr>
<tr>
<td>Patients satisfaction surveys</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Employees satisfaction surveys</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
management tools, the human, financial and material resources, the information and communication technologies and the innovation of the offer potential and regarding the results, the costs, the effectiveness, the efficiency, the equity and the quality.

Considering the performance assessment of the centres in terms of costs, effectiveness, efficiency, equity and quality results, existing reality is described on Tables 2, 3, 4, 5 and 6. It should be stressed that there are limitations to the study that could not be overcome. The specificity of treated pathologies blocked the use of certain measuring instruments usually employed in this type of assessments. The fact that CMR Sul has only started its activity in April of 2007 reduced the analysis comparability period. The lack of information on some indicators interrupted the comparison of all parameters.

Despite the precautions listed, some conclusions can be drawn. The results on costs, effectiveness, efficiency and equity of three centres performance are very wide-ranging, with a centre recording a best execution in a given indicator and then a worse functioning in another. In the results of quality, CMR Sul has the best mark in selected indicators, which seems a direct consequence of the contractual instrument that is behind it. Hence, there is no evidence, from the first year of operation, that, in most dimensions analyzed, the best or worst results are correlated with the legal status and with the established management model.

Conclusions
The PPP healthcare model, launched in 2002, fits in this context and, as happens in other countries, is seen as a mechanism to attract private capital for the construction or renovation of the hospital infrastructures, lightening the public sector accounts and capturing the gains associated with private management. However, except for the CMR Sul case, thus far, the Portuguese PPP experience can only be assessed in terms of tender processes.

From our analysis, there is no evidence that a causal link could be established between the best, or worst, rehabilitation centre’s performance indicators and its management model. The main responsible factor for a better positioning of one of the centres in some indicators is related to the contractual instrument that regulates the relationship.

Several challenges and questions remain: Whether, or not, the contracting authority has the tools to ensure the effective monitoring of the PPP; whether, or not, the management contract is robust enough to answer any disputes that arise during its execution, mitigating renegotiations and flexible enough to adapt itself to the evolution of a dynamic sector such as healthcare delivery; whether, or not, the strengths and weaknesses of the PPP will be highlighted after a longer period of activity; and finally, whether, or not, the pressure of political cycles will lead to experience’s rejection even before it can be fully evaluated.

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Marta Temido is a hospital manager at Centro Hospitalar de Coimbra, EPE. She has a degree in Hospital Administration (ENSP, Universidade Nova de Lisboa) and a Master in Healthcare Management and Economics (IEUC, Universidade de Coimbra). During last years, she has been working in several hospitals as member of the Direction Board.

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Policy: Health technology assessment

Evidence informed decision-making in healthcare: the case for health technology assessment

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ABSTRACT: Delivery of publicly funded healthcare is at the nexus of three conflicting objectives: (a) increasing access to care; (b) improving the quality of care; and (c) sustaining its public financing. This article demonstrates that with tools such as health technology assessment (HTA) evidence informed policy and decision-making (as opposed to following doctrine, habit or expert opinion) access, quality and sustainability do not need to be mutually exclusive. A structure and approach for adopting and advancing HTA in healthcare organizations is provided. Policy recommendations are suggested.

“Most of our so called reasoning consists in finding arguments for going on believing as we already do.”
JAMES H ROBINSON

Evidence based medicine (EBM) has been increasing in influence in the healthcare practice communities because of its reliance on the scientific method to inform a systematic approach to medical decision-making (Sackett, Rosenberg, & Gray, 1996). Clinicians and the public are expecting the same standard of practice from those who make policy and decisions in healthcare. This movement has come to be known as evidence based (Muir Gray, 2001) or evidence informed policy-making (Brehaut & Juzwishin, Bridging the Gap: The Use of Research Evidence in Policy Development, 2005). The strength of the evidence informed movement is that it moves away from basing decisions on habit, doctrine or expert opinion and moving toward a scientific basis. Structured and reproducible tools are employed to assess the quality of evidence, risks, and benefits (clinical and financial) of the interventions being considered. This article will explicate how health technology assessment can be an important policy tool to reconcile the challenges of improving access, quality and sustainability of healthcare systems.

In this paper I will describe and emphasise:

- the importance of scientific evidence for informing healthcare policy and decision-making;
- how health technology assessment can be an indispensible tool for policy and decision-making; and
- a series of recommendations for advancing health technology assessment.

Why evidence informed policy making and health technology assessment are necessary ingredients for a high performing healthcare system?

A strong healthcare system is dependent on a number of pillars and building blocks in order for it to be effective and sustainable. Below is a diagram illustrating the Canadian Society for International Health depiction of the important elements of a strong and viable healthcare system.

Experience has taught us that healthcare systems have insatiable appetites and will, if allowed, absorb the lion’s share of any province, state or country fiscal capacity. Experience has also taught us that improved access and quality of care do not need to cost more, in fact, they can cost less.

Health technology assessment as an indispensable policy tool

One tool that has proven to be effective in advancing the policy and decision-making environments is health technology assessment (HTA). Tjam in an article in this journal in 1994 described the process of technologies transnational diffusion as well as their impact on district health systems particularly in developing countries. Tjam called for the need for assessments and quality assurance to more effectively manage the transfer of technologies (Tjam, 1994). In 1996 the author with co-authors (Menon, Juzwishin, Olmstead) published an article describing the development of hospital based technology assessment programs with an encouragement for hospitals to introduce HTA to bring a rationale to decision-making (Menon, Juzwishin, & Olmstead, 1996).

Organizations and agencies that conduct health technology assessment have emerged around the world in response to the...
need for objective scientific evidence to inform questions about the effectiveness of health technologies which are defined as “prevention and rehabilitation, vaccines, pharmaceuticals and devices, medical and surgical procedures, and the systems within which health is protected and maintained” (International Network of Agencies for Health Technology Assessment). The International Network of Agencies for Health Technology Assessment (INAHATA) was established in 1993 and currently has 46 member agencies from 24 countries. The Network spans from North and Latin America to Europe, Asia and Australasia (International Network of Agencies for Health Technology Assessment). INAHATA functions as a collaborative network on the Internet to support one another as well as make available the assessment reports and briefs to any interested party.

Health technology assessment is defined as a multidisciplinary field of policy analysis. It studies the medical, social, ethical, and economic implications of development, diffusion, and use of health technology (International Network of Agencies for Health Technology Assessment). The diagram below illustrates how HTA can be used to inform decisions about making appropriate choices that result in supporting appropriate interventions which influence health, reduce costs, improve quality and sustainability of the healthcare system.

A question arises as to why healthcare policy and decisions informed by health technology assessment are better than those informed through doctrine or expert opinion. Research has demonstrated that rational, open and explicit decision making processes have a greater likelihood of successfully meeting the needs of its citizens health needs than are the decisions that are made behind closed doors on the basis of opinion and without the need to justify them in the public space (Hanney, Gonzalez-Block, Buxton, & Kogan, 2003). In the arena of policy debate finding means to neutralize the influence of private interests or narrow interests in favor of the public interest is essential if the needs of citizens are to be addressed. Power structures within society and their expression need to be mitigated in an attempt to ensure that the health needs of the population are addressed. The use of health technology assessment can be a powerful lever of influence if the objective of using the best scientific evidence of clinical and cost effectiveness is used to adjudicate the issues. HTA facilitates a public debate among the facts in an open forum so that the arguments can be assessed on their own merits. Being multi-disciplinary HTA also draws on the local contextual conditions exposed through the social sciences, such as economics, ethics, sociology, and psychology to inform the policy question. This approach permits a discussion of the values associated with the healthcare interventions to be included in the policy analysis being conducted. One approach that has been developed to draw in the qualitative sciences to complement the quantitative sciences to inform health policy development is the STEEPLE model (Brehaut & Jazwinski, Binding the Gap: The Use of Research Evidence in Policy Development, 2005). The acronym stands for:

- S (social, demographic conditions)
- T (technological clinical effectiveness)
- E (economic benefit, effectiveness, utility)
- E (ethical)
- P (political/policy)
- L (legislative)
- E (environmental)

There are many successful applications of HTA around the globe and these have recently been documented in a recent supplemental issue of the field’s peer reviewed journal (Banta & Jonsson, 2009).

A primary lesson for increasing the likelihood of success for HTA in policy-making is to ensure that it is integrated into the entire spectrum of healthcare funding and delivery within a jurisdiction. The Alberta Health Technology Decision Process is one example in Canada where a strong effort has been made to encourage a health policy structure that facilitates the bringing of evidence to the policy-making table (Borowski, Brehaut, & Hailey, 2007).
Policy: Health technology assessment

In addressing the issues of whether a technology should be utilized in a local setting it is important to ask a series of questions. These questions serve as a screening or filtering process to establish the appropriateness of introducing a health technology in a community, hospital or province.

Policy recommendations for adopting and advancing HTA

There are several ingredients for advancing the successful utilization of HTA in hospitals, Departments of Health or health authorities. A starting point would be comprised of the following:

- Declare a public commitment to use HTA to inform governance, policy and resource allocation decisions at the macro, mezzo and micro levels.
- Identify and describe how HTA integrates and supports the strategic directions, goals and objectives of the organization and its broader societal responsibilities and role.
- Develop and implement a screening process for identifying and selecting the HTAs to be undertaken based on the burden of illness and health needs of the community.
- Identify the source(s) of health technology assessments that will be accessed or the resources to be commissioned in order to answer the policy questions before the organization.
- Develop a programme description for HTA which integrates the evidence into the capital and operating budgeting process in the organization.
- Integrate the HTA programme into the organization structure and processes of the organization from the bedside to the board table.
- Identify how the programme delivery of applying HTA to policy and decision making will improve access, quality and sustainability of healthcare delivery.
- Develop a mechanism to prioritize the requirements for health technology assessments to be undertaken.
- Develop and describe an open, transparent and explicit process by which requests for health technology assessments can be requested, undertaken and applied to make decisions.
- Develop a mechanism such as the STEEPLE model to customize the appropriateness of the health technology assessment to local conditions.
- Monitor and report on a regular basis to all stakeholders in the organization the progress of an HTA projects undertaken.
- Develop an explicit program to identify the technologies that should be identified for disinvestment.
- Develop and organization process to address questions about the potential introduction of health technologies for which the evidence appears to be promising but effectiveness is still questionable.
- Develop a multi-dimensional structure, process, output, impact and outcomes analytical model to evaluate the effectiveness of the health technology assessment programme.

Concluding remarks

The challenges of maintaining an effective and high performing healthcare system are numerous. This article has demonstrated the value that health technology assessment can bring to the policy and decision-making in healthcare funding and delivery to ensure that it is accessible, high quality and sustainable.

Dr Juzwishin is Director Health Technology Assessment and Innovation at Alberta Health Services in Edmonton, Alberta Canada. He has conducted health technology assessments and introduced them to policy- and decision-making settings in hospitals, Departments of Health and health authorities. He is adjunct associate professor at the University of Victoria, University of Calgary and University of Alberta.

A primary lesson for increasing the likelihood of success for HTA in policy-making is to ensure that it is integrated into the entire spectrum of health care funding and delivery within a jurisdiction.

| Table 1: Questions, layers of evidence and forms of evidence to inform policy |
|-----------------------------|------------------|-------------------|
| Questions                  | Layers of evidence | Forms of evidence |
| Does it work?              | Technical performance | Clinical trials   |
| Can it work in our setting?| Efficacy and effectiveness | Systematic reviews and economic effectiveness analyses |
| Should we do it here?      | Appropriateness    | Fiscal capacity, funding, credentialing implementation assessment |
| How should we do it?       | Implementation     | Implementation analysis |
| Did it do what was promised?| Post implementation | Post implementation evaluation |

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12 World Hospitals and Health Services Vol. 46 No. 1
“Megatrends” driving healthcare facility design: a look at the major trends that will shape medical facility design

ABSTRACT: Changes in medical construction and design are accelerating exponentially, and anyone who can anticipate where these changes are going to happen will be at an advantage. Knowing the “Megatrends” defining and driving the future of healthcare delivery and healthcare facility design will help decision makers anticipate the future.

The health facility architect will have to think in the context of much broader issues than just designing buildings.

Growing population and limited resources
The population of Planet Earth will grow from over 6.91 billion people today to 9.39 billion in the year 2050. (Wall St Journal, 2008) This expectancy will have profound implications in the planning and design of health facilities, particularly in developing areas of the world, where the resources available are so limited.

Growing expectations and demands
At the same time populations will be better informed of what is possible in healthcare, and consequently will demand more, thus placing enormous pressures on governments to see that comprehensive health services will be provided for their citizens.

Healthy environments – air and water quality
Poor air quality, sanitation, and lack of potable water are basic health environment issues that lead to disease. These issues will receive dramatically more attention and funding.

Disease strategies and public health
The underlying assumptions driving medical construction and design are the prevalent diseases – some of which are genetic, some of which are lifestyle-based, and some of which are communicable.

Medical facilities design will be based on a disease strategy of prevention, early diagnosis and treatment, and rehabilitation of illness. Focusing on major diseases will mean more specialized facilities like “Centres of Excellence.”

Demographics
Basic changes in demographics will impact architecture for health tremendously. We are living longer today. “By the year 2050, of the world’s estimated 9.3 billion people, 16% will be 65 years and older.” – The Straits Times, June 25 2009, Singapore.

An ageing population will force us to rethink how we design regions and cities. In many countries seniors life and independence have been based on the automobile. What happens if we can no longer drive?

Health education and nutrition
Basic knowledge of personal as well as community health issues and nutrition will be vital to the success of improving longevity and health indicators.

Aligning health manpower and resources with health needs and health facilities
There needs to be an aligning of allied health professionals and resources with health needs and facilities.

Anticipating and planning for disasters
The recent earthquake in Haiti points up the need to anticipate and be prepared for disasters. Pre-positioning food, water, medicine, sheets, beds, water, food, and medicine can be pre-positioned in designated surge hospitals, which can be set up anywhere – from hotels and motels to high schools to convention centers. They would require emergency generators and self-sufficient communications systems.
The individual and the home as the basic health facility
More and more modern technology, coupled with health education, will support the individual's efforts to remain healthy at home with an array of technology and information, including wearable computers, monitoring, and the ability to test and diagnose disease. A person's basic health facility will, in fact, become themselves.

Primary care
The emphasis will be on community based primary healthcare services in urban and rural clinics. This is the front line in the battle to prevent, diagnose, and treat disease.

Technology
Technology is the real driver in healthcare changes today, from care itself to the affect on buildings. The gap between advancing technology and the ability to integrate technology into the design, construction, and operation of health facilities is widening and is a hot-button topic.

Roaring and fundamental changes in technology are affecting:
• communications;
• computers;
• electronic medical records;
• imaging;
Policy: Healthcare facility design

Just as the bank building of the future shrank into the ATM and credit cards, technology will open heretofore unimaginable opportunities and locations for health maintenance.

Mixed-use facilities

Mixed-use facilities encourage a previously unorthodox mixing of functions. For example, capitalizing on air rights over malls could provide health facilities with easy pedestrian access to shopping below. In urban areas, towers consisting of apartments, condominiums, independent and assisted living, skilled nursing, and hospital facilities float over commercial shopping malls.

Economics and costs

In free societies we are also free to go broke. Healthcare administrators are constantly walking a tightrope. Changing legislation and reimbursement formulas are causing hospital CEOs to trim their staffs and programmes. Health and hospital facilities will have to be lean, efficient, cost-effective, and medically effective.

The larger the facility, the more difficult those goals will be to achieve. Designing large hospitals will represent tremendous financial gambles. Costs of construction will soar, as will operating costs.

Hospital and healthcare executives are not only concerned with initial construction and project costs, but they are very aware and wary of the much greater costs of operation over the life of the building. Rising energy costs, maintenance, and salaries as well as technology are tremendous factors in operating costs.

Consumer choices

As individual choices grow and are encouraged by many insurance programmes, the result has been fierce and healthy competition between hospitals. One result has been a spate of mergers, acquisitions, and closures of health facilities and hospitals.

Building information modeling (BIM)

“BIM is the process of generating and managing building data during its life cycle. Typically it uses three-dimensional, real-time, dynamic building modeling software to increase productivity in building design and construction. BIM encompasses building geometry, spatial relationships, geographic information, and quantities and properties of building components.” – Wikipedia.

Integrated project delivery

“The Construction Industry has suffered from a productivity decline since the 1960’s while all other non-farm industries have seen large boosts in productivity. The problems in contemporary construction include buildings that are behind schedule and over budget as well as adverse relations among the owner, general contractor, and architect. Using ideas developed by Toyota in their Toyota Production System and computer technology advances, the Integrated Project Delivery method is designed to solve these key construction problems. The new focus in IPD is the final value created for the owner, the finished building. Rather than each participant focusing exclusively on their part of construction without considering the implications on the whole process, the IPD method brings all participants together early with collaborative incentives to maximize value for the owner. This collaborative approach allows informed decision making early in the project where the most value can be created. The close collaboration eliminates a great deal of waste in the design, and allows data sharing directly between the design and construction team eliminating a large barrier to increased productivity in construction.” – Wikipedia.

Impact on design principles

Now that we have examined some of the major trends facing healthcare facilities overall, it is time to consider the impact these trends will have on principles of design.
Policy: Healthcare facility design

Networks
Health insurance plans and hospitals have been forming “networks” of facilities. These often involve a hub of one or more large hospitals linked administratively to outlying ambulatory care centres. Networks can consist of as little as two facilities and as many as hundreds. Some networks have already developed international ties such as Johns Hopkins in Istanbul.

Sustainable green buildings
Hospitals and medical facilities are tremendous energy guzzlers. In an era of a worldwide movement toward sustainability and LEED certification, health facilities are clearly lagging behind. New design and construction will need to incorporate the latest ideas and technology aimed at sustainability.

Hi-tech, hi-touch
With the tremendous emphasis and reliance on technology A/E firms will need to make the health and hospital environment more human, friendly, and home-like, using natural colours, soft lighting, acoustics, texture, carpets, painting, and furniture. The technology needs to be there but tempered by healing, humanized environments and empathetic caregivers.

Transportation and ease of access
What good are health facilities if people cannot get to them? New facilities must be located so that they are easily accessible by public transportation (air, bus, train, auto, taxi). Transportation routes will often need to be changed to provide direct and sheltered access to the hospital and/or health facility.

Visibility/wayfinding
The way to the health and hospital facility must be simple and direct. The visible design of the building will reinforce branding in the public mind. Clear signage and lighting are basic principles. Once inside the health facility, there must be a clear path to a reception area and clear graphics to help patients find their way to various departments.

Natural light
Wherever possible, natural light will be brought into the building. It is therapeutic and sends a message of hope.

Healing gardens
Views of and access to outdoor areas and healing gardens are vital not only for patients but for staff as well.

Retention of staff
Pleasant work environments are also vital for staff retention. Hospital and medical staff are under constant stress and a total environment that expresses concern for them will result in retaining staff.

Ambulatory care facilities
With new medical knowledge and techniques of treating disease, a major trend has developed in walk in-walk out or ambulatory care. These facilities may have some short-stay facilities.

Single patient rooms
One of the biggest trends today is for individual patient rooms (the hotel industry realized years ago that people do not want to share a room with strangers). Single patient rooms will be designed to accommodate a second bed that could be used by family members or even by another patient in the event of a disaster or epidemic.

Industrial design
Products for healthcare, such as beds, headwalls, chairs, wheelchairs, and medical monitoring devices, are just a few of the devices that need to be integrated into medical construction and design.

Collaboration and interdisciplinary efforts
In addition to the physical changes brought about in healthcare facilities, there will be changes in the way design and construction activities are carried out. In order to make progress and create new ways of effectively delivering healthcare, it will become vital to collaborate and work seamlessly across existing disciplines—and even create new disciplines that do not now exist. Silo thinking will lead to extinction.

Some A/E firms are developing interdisciplinary teams of epidemiologists, public health nurses, physicians, healthcare
administrators, architects, computer, structural, mechanical, and electrical engineers, food service consultants, and other relevant experts all working toward a common goal.

**International practice opportunities**

Around the world numerous architectural and engineering firms are engaged in international practice, and these numbers will likely increase as populations soar and international demand grows. The opportunities as well as the pitfalls of international practice are considerable. Firms must reconfigure themselves to be able to respond to the needs and demands of international practice.

**Demand vs supply of college graduates**

The demand for graduates majoring in architecture for health is far in excess of the supply. Smart A/E firms are aligning themselves with colleges of architecture, providing real studio projects, giving lectures, offering scholarships and endowments, hiring interns, and maintaining a visible presence in the school. This enables them to identify the top talent.

The globalization of the field is also globalizing education. Texas A&M University is collaborating with the University of Tokyo on GUPHA (Global University Programs in Healthcare Architecture), in order to "jump start" architecture for healthcare programs at other schools of architecture around the world, and respond to the growing demands.

**Conclusion**

We are living in an era of unprecedented change. The opportunities, challenges, and pitfalls are enormous and they are moving at light speed. Stepping back, looking at the big picture, and considering all of the above "Megatrends" – (a work in progress) will help individuals and firms successfully manoeuvre the many changes and thrive in the future.

**References**


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Cultivating tomorrow’s leaders: comprehensive development strategies ensure continued success

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ABSTRACT: It’s no secret that strong leaders are the backbone of any successful organization. Watch a high-performing healthcare organization in action, and you know a team of talented leaders is at the helm. But successful organizations not only have to have top talent in place — they have to know how to identify high-potential leaders, cultivate them and retain them.

This is not always an easy task, considering the historically dynamic healthcare field. And as healthcare continues to grow in complexity, good leadership will become even more critical as organizations try to keep pace with change and evolve into the future.

While the case for fostering future leadership talent in healthcare is evident, not all organizations have a process in place to do so. In fact, when it comes to leadership development programmes and succession planning, healthcare lags behind other industries. Only 21% of freestanding hospitals in the United States have formal processes in place for identifying and developing internal candidates for senior leadership roles, according to a 2007 American College of Healthcare Executives (ACHE)-commissioned study on succession planning by Andrew N. Garman, PsyD, and J Larry Tyler, FACHE. A 2008 study of US health systems, prepared for ACHE by Ann Scheck McAlearney, ScD, of The Ohio State University, revealed that of 104 health system respondents, 52% reported having an executive leadership development programme in place.

In contrast, 85% of Fortune 500 companies sponsor formal internal leadership development programs, according to a 2002 study by the American Society of Training & Development cited in the book Growing Leaders in Healthcare: Lessons From the Corporate World (Health Administration Press, 2009) by Brett D. Lee, PhD, FACHE, and James W. Herring, PhD.

In the book, Lee and Herring emphasize that while healthcare falls short compared to the corporate world in its approach to leadership development, it is not for lack of interest. Many CEOs recognize the need for and importance of such programmes but cite these two barriers to establishing them: 1) the perception that they are too labour and resource intensive to build; and 2) lack of internal competencies and knowledge required to implement and develop strategies effectively.

Despite these barriers to starting and maintaining leadership development programmes in healthcare organizations, the need for them remains. “The healthcare industry is on the cusp of some truly revolutionary changes,” says Lee, who is a vice president at Children’s Medical Center-Dallas and a faculty member of the organization’s leadership academies for directors and managers. “History has shown us, however, that difficult times can create tremendous opportunities for innovation. The healthcare industry needs a large cadre of qualified and prepared leaders to help navigate the murky water of our current situation and to help shape the future of our industry.”

Growing leaders at legacy health

The processes for developing leaders within an organization vary in size, scope and quality. Leadership development initiatives can range from formal, structured programmes, including corporate “universities” complete with in-house training and coursework, to tuition reimbursement for external educational opportunities, or a combination of both in-house and external training.

Legacy Health in Portland, Oregon, USA, a nonprofit organization comprising five full-service hospitals and a children’s hospital, has built its leadership development programme based on its belief in the benefits of developing internal candidates. The programme is a multipronged approach, says Ceva Knight, director of Organizational Development.

In the book, Lee and Herring emphasize that while healthcare falls short compared to the corporate world in its approach to leadership development, it is not for lack of interest. Many CEOs recognize the need for and importance of such programmes but cite these two barriers to establishing them: 1) the perception that they are too labour and resource intensive to build; and 2) lack of internal competencies and knowledge required to implement and develop strategies effectively.

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Growing leaders at legacy health

The processes for developing leaders within an organization vary in size, scope and quality. Leadership development initiatives can range from formal, structured programmes, including corporate “universities” complete with in-house training and coursework, to tuition reimbursement for external educational opportunities, or a combination of both in-house and external training.

Legacy Health in Portland, Oregon, USA, a nonprofit organization comprising five full-service hospitals and a children’s hospital, has built its leadership development programme based on its belief in the benefits of developing internal candidates. The programme is a multipronged approach, says Ceva Knight, director of Organizational Development.

In the book, Lee and Herring emphasize that while healthcare falls short compared to the corporate world in its approach to leadership development, it is not for lack of interest. Many CEOs recognize the need for and importance of such programmes but cite these two barriers to establishing them: 1) the perception that they are too labour and resource intensive to build; and 2) lack of internal competencies and knowledge required to implement and develop strategies effectively.
the manager level and above, is designed to help new team leaders and their staff bridge any gaps that may occur during a leadership transition. "It’s a facilitated conversation that we conduct to help that new leader and the new team get off on the right foot and start working more effectively faster," says Knight.

Legacy also offers two certification programmes. Its Pathways to Leadership certification programme involves 80 hours of coursework. Aspiring leaders, with permission from their supervisors, can attend the programme, through which they get an overview of the leadership aspects at Legacy from a finance, quality and human resources perspective, says Knight. The programme also helps participants define what it means to be a leader.

The organization’s Leadership Essentials certification programme includes 80 hours of coursework and is designed for employees at the supervisor level and above. It is geared toward individuals who are new to Legacy and those who are new to leadership in general. In addition, Legacy offers specialized leadership development for physicians and is expanding its ability to offer e-learning opportunities.

Knight says there are many benefits to conducting leadership development in-house. "We know the system, we know the people, we know the culture, we know the political environment," she says. "We’re more helpful having that base and that foundation."

Legacy President and CEO George Brown, MD, says tying an organization’s leadership development to its organizational culture is essential to the success of that organization. "One of our organization’s deepest strengths is our values," says Brown. "Legacy is really the coming together of a Lutheran and Episcopal organization, and the values of service and integrity, forthrightness, etc., have permeated our organization over the years. The consequence of that is that we seek leaders who imbue those qualities."
Lessons from the corporate world

Compared to other industries, the healthcare field has been much slower to adopt formal leadership development strategies. In the book Growing Leaders in Healthcare: Lessons From the Corporate World (Health Administration Press, 2009), authors Brett D. Lee, PhD, FACHE, and James W. Herring, PhD, examine why and explain what makes leadership development programmes in some of the world’s most well-known corporations so successful.

One major difference between strategies employed in the healthcare setting and those in the corporate world is that in the latter, development strategies are part of a much broader organizational strategy. Because of that, the budgets for these programmes tend to be much higher. In addition, many of these corporations have thousands of employees – even numbering in the hundreds of thousands – with many locations throughout the world.

It is typical for companies from private industry to spend an average of 2.5% of their annual budgets on leadership development,” says Lee. “They have developed a robust infrastructure to build the leadership talent at all levels of the organization.”

Corporations in other industries use a mix of leadership development strategies. Typical methods include instructor-led classroom experiences, Web-based courses and experiential (action learning) activities. For midlevel and frontline managers, classroom training and e-learning methods are most prevalent. Experiential techniques are commonly used for senior executives.

Development of leaders at large corporations often begins as early as the interview process. “Leadership development typically begins with hiring, using behavioral interviewing techniques to test the fit of a new leader to the organization’s formal leadership values and competencies,” says Lee. “Formal educational opportunities – both internal and external to the organization – are then offered to leaders at all levels. Corporate universities, which may or may not have partnerships with accredited universities that allow for degree granting, are common.”

Science Applications International Corporation (SAIC), a research and engineering firm, created a robust educational infrastructure including a corporate university, known as SAIC University. SAIC also now offers an onsite MBA programme in partnership with an accredited college. According to Lee and Herring, offerings such as those at SAIC are very common in the corporate world, and those corporations that do not provide such offerings often find themselves at a significant disadvantage when it comes to recruiting and retaining talented leaders.

Another common technique emphasized by successful corporations is exposing potential leaders to a wide range of business areas. At Dow Chemical, high-potential employees are expected to learn a broad range of skills by working 10 to 15 rotational assignments, of 12 to 18 months each, in rapid succession.

Other successful companies, such as Google Inc., emphasize student internships or fellowship-type programmes as an effective way to identify future talent. Google allows students to apply for internships in key business areas. At Dow Chemical, high-potential employees are expected to learn a broad range of skills by working 10 to 15 rotational assignments, of 12 to 18 months each, in rapid succession.

At Premier, potential leaders are identified through a talent-mapping process in which all the organization’s departments participate. Individuals with high potential are then given opportunities that management staff are expected to complete, but its experience-based approach to learning makes on-the-job training the priority.

“We try to reverse the typical development planning that focuses on coursework,” says Linesch. “Ten per cent of our leadership training is coursework; 20% you learn from a mentor, boss or your peers; and 70% is on-the-job experiences in which you are put in a challenging situation where you don’t know the answer. Those are the kinds of experiences that differentiate people in terms of identifying their potential.”

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“At Premier, potential leaders are identified through a talent-mapping process in which all the organization’s departments participate. Individuals with high potential are then given opportunities that management staff are expected to complete,” says Linesch.

He cites the example of a vice president of operations at one of Premier’s hospitals who took a position heading up supply chain for a couple of years at the system level. Linesch attributes part of her success as COO at a Premier hospital – to the experience she gained moving horizontally in the organization, not just vertically.

“She became the strongest candidate for the COO position at the flagship hospital not just because she had operational experience but because she had operated outside the hospital she had grown up in,” he says. “We ask our potential leaders not to just try to convince us they have the skills – we want them to demonstrate it. And you do that often through on-the-job opportunities that management staff are expected to complete. And you do that often through horizontal moves. That’s really the key to it – building a portfolio of different situations in which you have been able to demonstrate success.”

Jim Pancoast, FACHE, who was recently named president and COO of Premier, has personally experienced the value of experiential learning. “Early on in my career with Premier, I was asked to move out of a traditional finance role and take on leadership positions with our home healthcare company and our physician practice company,” says Pancoast. “The
experience of running several of our subsidiaries gave me a great business perspective when I moved back into hospital operations. They just don’t write about that kind of experience in textbooks."

Dustin Greene, FACHE, COO of Emory Eastside Medical Center, an HCA hospital in Snellville, Georgia, USA, found the hands-on aspect of HCA’s COO Development Programme invaluable, as it provided him the experience he needed to successfully move into a COO role. Greene started the programme in March 2006 and became a COO two years later. As a participant, he worked alongside HCA COOs to learn the role firsthand. "In addition to working as a hospital associate administrator, the programme allowed me the opportunity to work with many other developing leaders across the company on various development projects," says Greene. "One of the projects I was a part of... allowed each team to develop a business plan and strategy for a new facility being contemplated in Northeast Florida. I then had the opportunity to present our business case to several of HCA’s senior executive leaders, which provided great exposure to company leadership."

Ties to succession planning
Organizations with leadership development initiatives in place report far-reaching benefits, including increased employee retention and satisfaction.

"Studies have shown that if an organization focuses on enhancing the skill sets of leaders at all levels, there is a direct tie to retention of frontline staff," says Children’s Medical Center’s Lee. "Ultimately, by investing in the development of leaders from within the organization, it communicates a strong message that the organization is personally vested in the success of its employees, and it increases your odds of keeping your best and brightest."

At Legacy, employees who have come from other organizations tell Knight they feel supported because of the development opportunities the organization has. "They feel that the organization has a wealth of resources that are available to them to help them succeed," says Knight.

Legacy’s Brown says those satisfied employees will add to the overall success of the organization going forward. "If you provide the opportunity and the learning experiences for individuals, then they feel that the organization values them and is willing to invest in their future," he says. "I think then they’re more patient and willing to work within the organization. In the same vein, those individuals also participate in the development and refinement of the organizational culture by looking to their subordinates and developing them for future leadership positions."

"A robust leadership development programme can help to build and able to fill in when turnover at key positions occurs," says Lee. "In order to perform effective succession planning, there must be a pipeline of leaders within an organization who are qualified and able to fill in when turnover at key positions occurs."

Building a successful leadership development programme
In his book Growing Leaders in Healthcare, Lee emphasizes there isn’t a one-size-fits-all development programme. Instead, there are a variety of approaches to fit organizations big and small.

"Healthcare organizations do not have to go out tomorrow and start developing internal leadership academies and formal programmes," says Lee. "The most important thing is that they make an effort to convey to their existing and emerging ongoing work force shortages and projected retirements of large numbers of healthcare workers, many in healthcare agree it’s never too early to start planning for staff turnover.

"In order to perform effective succession planning, there must be a pipeline of leaders within an organization who are qualified and able to fill in when turnover at key positions occurs," says Lee. "A robust leadership development programme can help to build that type of leadership bench strength."

And in turn, "An effective succession planning process will reinforce, with the individuals being developed, that the organization personally cares about their careers, is providing them the tools and training to be successful and will seriously consider them when a key leadership vacancy occurs," says Lee.

If you provide the opportunity and the learning experiences for individuals, then they feel that the organization values them and is willing to invest in their future.
leaders that the organization personally cares about their careers and is willing to invest in them to help them achieve their goals. This can be as simple as requiring that every leader, or those identified as having leadership potential, have a formal professional development plan in place that outlines their career aspirations, current level of competency, identified skill gaps and an action plan to help advance each individual toward his or her stated career goals.

One common thread among strong leadership development programmes is an established list of competencies that define a good leader. “We spent time (about 10 years ago) looking at the competencies for effective leaders at Legacy,” says Knight. “We have captured that in a term called the Preferred Leader Profile. That profile is the foundation of all we do internally.”

Leadership competencies are considered distinct from other technical skills, says Brown, because while required technical skills may change over time, leadership skills always will be needed.

“I think you need to develop technical skills and competencies separate from leadership skills and competencies,” he says. “There are probably fields that exist today that may not exist in the future. But the leadership talents and skills required are perennial and will exist into the future regardless of whatever technical competencies may develop over time.”

A list of competencies should be designed to fit an organization’s unique mission and vision. “The starting point for us was determining a competency listing for leadership that reflected our organization’s values and cultures,” says Premier’s Linesch.

He says having a list of competencies also gives the organization an objective language in which to talk about developing talent. When the organization conducts talent mapping, it can look at a leader’s distinct skill sets, not just his or her personality traits.

Beyond setting clear expectations for a leader’s competency requirements and having a plan in place to provide leadership training, buy-in from the organization’s CEO and other senior leaders is essential for the programme to succeed. It can be more challenging to achieve this buy-in because the return on investment of a leadership development programme can be much more difficult to quantify than other line items on an organization’s capital budget.

“When it comes to development programmes, healthcare leaders need to look beyond the traditional ROI calculations and instead view these activities as an investment in the organization’s future,” says Lee. “Because these programmes require an initial investment of scarce funds that may not show dividends for some time, the senior leadership must fundamentally believe that raising the quality of leaders at all levels of the organization will lead to long-term operational and financial success.”

Lee says organizations in other industries have adapted the balanced scorecard approach to measure and track leaders’ operational performance progress. “A healthcare organization may track the graduates of a formal leadership academy on the basis of their employee turnover, employee and patient satisfaction scores, budget performance, and any other key metric that the organization feels is appropriate and that advances their strategic goals,” he says. “These scores can be tracked over time to show individual improvement, or they can be compared at a point in time to a peer group that did not receive the training to see if there is a discernible difference in performance.”

To help an organization assess if its leadership team is ready to invest in a leadership development programme, Lee and Herring created a Senior Leadership Team Readiness Assessment chart (see sidebar, “Senior Leadership Team Readiness Assessment”). At HCA, senior leadership buy-in is critical because CEOs and other top leaders actively participate in programmes such as the COO and CNO Development programmes. Participants in these programmes receive mentoring from members of the management teams within HCA’s hospitals.

Nelson says he can’t overstate the importance of this buy-in. “You won’t go anywhere if you don’t get buy-in from senior leadership,” he says. “Within HCA, it starts at chairman of the board and goes all the way down to the CEOs, COOs and CNOs at our facilities. We get tremendous buy-in, and that’s what makes the programme successful.”

At Premier, the CEOs, COOs and vice presidents are in tune to leadership development, says Linesch. The organization views its talent as a valuable resource.

“The last bastion of competitive advantage is your people,” says Linesch. “Everybody can buy the same computer systems and the same equipment and they can build beautiful places, but the point of service all comes down to the caliber of your people.”

Jessica D Squazzo is a writer with Healthcare Executive.
Assessment of human resources management practices in Lebanese hospitals

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AND DIANA JAMAL
HEALTH MANAGEMENT AND POLICY DEPARTMENT, FACULTY OF HEALTH SCIENCES, AMERICAN UNIVERSITY OF BEIRUT, BEIRUT, LEBANON

ABSTRACT: Background: Sound human resources (HR) management practices are essential for retaining effective professionals in hospitals. Given the recruitment and retention reality of health workers in the twenty-first century, the role of HR managers in hospitals and those who combine the role of HR managers with other responsibilities should not be underestimated. The objective of this study is to assess the perception of HR managers about the challenges they face and the current strategies being adopted. The study also aims at assessing enabling factors including role, education, experience and HR training.

Methods: A cross-sectional survey design of HR managers (and those who combine their role as HR manager with other duties) in Lebanese hospitals was utilized. The survey included a combination of open- and close-ended questions. Questions included educational background, work experience, and demographics, in addition to questions about perceived challenges and key strategies being used. Quantitative data analysis included uni-variate analysis, whereas thematic analysis was used for open-ended questions.

Results: A total of 96 respondents from 61 hospitals responded. Respondents had varying levels of expertise in the realm of HR management. Thematic analysis revealed that challenges varied across respondents and participating hospitals. The most frequently reported challenge was poor employee retention (56.7%), lack of qualified personnel (35.1%), and lack of a system for performance evaluation (28.9%). Some of the strategies used to mitigate the above challenges included offering continuing education and training for employees (19.6%), improving salaries (14.4%), and developing retention strategies (10.3%). Mismatch between reported challenges and strategies were observed.

Conclusion: To enable hospitals to deliver good quality, safe healthcare, improving HR management is critical. There is a need for a cadre of competent HR managers who can fully assume these responsibilities and who can continuously improve the status of employees at their organizations. The upcoming accreditation survey of Lebanese hospitals (2010–2011) presents an opportunity to strengthen HR management and enhance competencies of existing HR managers. Recognizing HR challenges and the importance of effective HR strategies should become a priority to policy-makers and top managers alike. Study findings may extend to other countries in the Eastern Mediterranean region.

The 2006 World Health Report launched the Health Workforce Decade (2006-2015), with high priority given to retaining high-quality healthcare workers. The Kampala Declaration (2008) stressed the crucial role of retaining an effective, responsive and equitably distributed health workforce. Sound human resources (HR) management practices are a key strategy for retaining effective health professionals in healthcare organizations (HCOs). Given the recruitment and retention reality of the health workforce in the twenty-first century, the role of HR managers in healthcare organizations (HCOs) and those who combine the role of HR managers with other responsibilities should not be underestimated.

One of the biggest challenges for hospitals today is the availability of a strong, capable, and motivated workforce. Hospitals are “people-driven” and their primary expenses are labour costs. As in many developed and developing countries, many hospitals in Middle Eastern countries have come to realize that the most important asset to their organization, besides physical capital and consumables, is their health human resources, without which they cannot properly function. At the system level, evidence indicates a strong link between the availability of healthcare providers and population health outcomes. Poor work environments and the absence of sound recruitment and retention practices are some of the key health human resources challenges that are facing many Middle Eastern hospitals. These obstacles have resulted in growing staff shortages, attrition and early retirement, poor staff satisfaction, high turnover, and emigration. Many hospitals suffer from poor managerial and planning capacity in the area of health human resources, and lack recruitment and retention strategies. Such strategies are essential in terms of planning, job satisfaction, and intent to stay. Few studies have been conducted to assess recruitment and retention practices and strategies in the Eastern Mediterranean Region (EMR). A study targeting nursing directors in Lebanon found that the majority of the sampled hospitals (88.2%) reported facing challenges in retaining their nurses due to unsatisfactory salary and benefits (80.9%); unsuitable shifts and working hours (38.4%); presence of better opportunities abroad (30.1%) and within the country (30.1%); workload (27.4%); and instability of the country (16.4%). Many
hospitals reported engaging in strategies to mitigate the above challenges such as offering financial rewards and benefits (62.7%); implementing a salary scale (47.8%); flexible schedules (31.5%); staff development (29.9%); offering praise, incentives and motivation (19.4%); improving the relationship between nurses and management (19.4%); improving work environment (14.9%); and promotion opportunities (11.9%). One of the main findings of the study was the mismatch between reported challenges and implemented strategies which will probably lead to further challenges for Nursing Directors in Lebanese hospitals. There is a need for sound and proven strategies developed by HR managers for recruiting and retaining HR in hospitals. Hospitals need effective Human Resources Management (HRM) to be able to deliver quality and safe care.

According to evidence in the literature, effective HRM practices lead to better health and well-being of workers, higher satisfaction, lower absenteeism and turnover, financial advantages (reduced costs, increased productivity), and better quality of care and patient outcomes. Thus effective HRM strategies practiced by HR managers are becoming critical to the success of hospitals. The most prominent challenges to HRM include policies and procedures which hinder the process and delay recruitment and retention; very centralized and fragmented HR management systems; lack of incentives; poor utilization of current staff in addition to absence of proper leadership.

In spite of the fact that effective human resources management is essential for the success of organizations, limited knowledge is available about the challenges and the nature of interventions utilized by human resource managers in hospitals including enabling factors and the competences they have or require. In addition, limited knowledge is available on the number, qualifications, experience and competences of existing HR managers in hospitals. This is known in several East Mediterranean countries, and Lebanon is no exception.

To our knowledge, no study has been done in Lebanon and the region to survey HR managers in hospitals about their views on current HR challenges, strategies implemented, and enabling factors including role, education, experience and training.

### Objective
The objective of this study is to assess the HR challenges and strategies as perceived by HR managers in Lebanese hospitals. Specifically, the study is aimed at assessing the perception of HR managers about the challenges they face and the current strategies being adopted. The study also aims at assessing enabling factors including role, education, experience and HR training.

### Methods
A cross-sectional survey design of HR managers (and those who combine their role as HR manager with other duties) working in all Lebanese hospitals was developed. To ensure a balanced design with respect to service and care characteristics, the hospitals were stratified by size (number of beds) into the three categories defined by the Lebanese Ministry of Health as follows: small (≤ 100 beds), medium (101-200 beds), large (> 200 beds).

### Table 1: Qualifications and description of respondents

<table>
<thead>
<tr>
<th>Qualifications and description of respondents</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you the individual in charge of HR department at your hospital?</td>
<td>66 (68.1%)</td>
</tr>
<tr>
<td>Yes</td>
<td>66 (68.1%)</td>
</tr>
<tr>
<td>No</td>
<td>31 (31.9%)</td>
</tr>
<tr>
<td>If you, do you hold another position as well?</td>
<td>28 (28.4%)</td>
</tr>
<tr>
<td>Yes</td>
<td>28 (28.4%)</td>
</tr>
<tr>
<td>No</td>
<td>38 (38.6%)</td>
</tr>
<tr>
<td>Highest level of education</td>
<td>56 (58.6%)</td>
</tr>
<tr>
<td>High School</td>
<td>12 (12.4%)</td>
</tr>
<tr>
<td>BBA/BA/BS</td>
<td>39 (40.2%)</td>
</tr>
<tr>
<td>BSN</td>
<td>7 (7.2%)</td>
</tr>
<tr>
<td>BT/BS</td>
<td>26 (26.8%)</td>
</tr>
<tr>
<td>MSc/MBA</td>
<td>5 (5.2%)</td>
</tr>
<tr>
<td>MD</td>
<td>4 (4.1%)</td>
</tr>
<tr>
<td>Other</td>
<td>2 (2.0%)</td>
</tr>
<tr>
<td>Qualifications in HRM</td>
<td>51 (52.6%)</td>
</tr>
<tr>
<td>No</td>
<td>41 (36.4%)</td>
</tr>
<tr>
<td>Yes</td>
<td>56 (58.6%)</td>
</tr>
<tr>
<td>Currently pursuing education or training related to HRM</td>
<td>70 (72.2%)</td>
</tr>
<tr>
<td>No</td>
<td>27 (27.8%)</td>
</tr>
<tr>
<td>Yes</td>
<td>70 (72.2%)</td>
</tr>
<tr>
<td>Interested in pursuing education or training related to HRM</td>
<td>80 (82.5%)</td>
</tr>
<tr>
<td>No</td>
<td>17 (17.5%)</td>
</tr>
<tr>
<td>Yes</td>
<td>80 (82.5%)</td>
</tr>
<tr>
<td>Previously attended workshops on HRM over the past 3 years</td>
<td>51 (52.6%)</td>
</tr>
<tr>
<td>No</td>
<td>46 (47.4%)</td>
</tr>
<tr>
<td>Yes</td>
<td>51 (52.6%)</td>
</tr>
<tr>
<td>How long have you been working in this hospital?</td>
<td>7.56 (5.57)</td>
</tr>
<tr>
<td>&lt; 5 years</td>
<td>10 (10.3%)</td>
</tr>
<tr>
<td>5.1 - 10 years</td>
<td>8 (8.2%)</td>
</tr>
<tr>
<td>10.1 - 15 years</td>
<td>3 (3.1%)</td>
</tr>
<tr>
<td>15.1 - 20 years</td>
<td>2 (2.1%)</td>
</tr>
<tr>
<td>&gt; 20 years</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>Missing</td>
<td>73 (75.3%)</td>
</tr>
<tr>
<td>Mean (Standard Deviation)</td>
<td>7.56 (5.57)</td>
</tr>
<tr>
<td>Have you previously worked in the field of HRM?</td>
<td>57 (58.8%)</td>
</tr>
<tr>
<td>No</td>
<td>57 (58.8%)</td>
</tr>
<tr>
<td>Yes</td>
<td>40 (41.2%)</td>
</tr>
<tr>
<td>Gender</td>
<td>72 (74.9%)</td>
</tr>
<tr>
<td>Male</td>
<td>25 (25.8%)</td>
</tr>
<tr>
<td>Female</td>
<td>72 (74.9%)</td>
</tr>
<tr>
<td>Age</td>
<td>63 (64.9%)</td>
</tr>
<tr>
<td>Below 30 yrs</td>
<td>18 (19.6%)</td>
</tr>
<tr>
<td>Between 30 and 45 yrs</td>
<td>63 (64.9%)</td>
</tr>
<tr>
<td>Between 46 and 55 yrs</td>
<td>11 (11.3%)</td>
</tr>
<tr>
<td>Over 55 yrs</td>
<td>4 (4.1%)</td>
</tr>
</tbody>
</table>
were asked to forward the survey to individuals in charge of the HR function. When contacted, the hospitals were informed about the purpose and significance of the study. Hospitals were assured that participation was voluntary in addition to the confidentiality and anonymity of their responses. After obtaining informed consent to participate in the study, the questionnaire was provided to HR managers. In some instances, hospitals did not have a designated HR manager, therefore, two or more employees often combined their primary role in the hospital (whether clinical or non-clinical) with the HR management function. In these cases, all employees affiliated with the HR department filled the survey.

All hospitals were sent a fax requesting their participation in the study. A total of 72 hospitals expressed their willingness to participate and 61 hospitals responded to the survey with a total of 97 respondents.

Data analysis
Data was entered and analyzed using the Statistical Package for Social Sciences (SPSS) 16.0. The quantitative data analysis included uni-variate and bi-variate analysis. The qualitative data analysis comprised thematic analysis of open-ended questions to derive the main challenges and strategies adopted by hospitals as perceived by HR managers. Answers were thematically analyzed and coded. Similar codes were grouped under categories and related categories were then gathered under themes. Strategies were compared against reported challenges to assess whether the adopted strategies can serve to mitigate the impact of the reported challenges. Thematic analysis followed both an inductive and deductive approach whereby some themes were based on a search of the literature (inductive) and others emerged from findings (deductive). The predetermined HR challenges included financial constraints, employee shortages and lack of qualified personnel, migration, poor job satisfaction, recruitment challenges (or lack of such a system), and poor employee retention (incentive programmes). As for proposed strategies, the predetermined themes included improving salaries and strengthening incentive plans, enhancing managerial support, developing recruitment and retention strategies, and offering continuing education to staff. Additional challenges and strategies were also derived from the deductive approach. Analysis of quantitative data included questions on level of education, qualifications in HR management, experience and training in HR management, and plans for continuing education in the realm of HR management, in addition to other information about the hospital where respondents were employed.

Results
Characteristics of respondents
When the respondents were asked whether they were in charge of the HR function at the hospital, 68% answered positively, and 42% of those held other jobs in the hospital (mainly administrative positions). The majority of respondents (40.2%) held a bachelors degree (Bachelors of Business Administration (BBA), Bachelors of Arts (BA) or Bachelors of Science (BS)), while 26.8% held a masters degree (Masters of Business Administration (MBA), Masters of Arts (MA) or Masters of Science (MS)), and 12.4% a Masters of Public Health (MPH) (See Table 1). A total of 63.6% of respondents reported holding some qualifications in HRM and 72.2% reported currently pursuing education or training related to HRM. In addition, 82.5% reported being interested in pursuing education or training

<table>
<thead>
<tr>
<th>TABLE 2: MOST COMMONLY REPORTED CHALLENGES AND STRATEGIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenges</td>
</tr>
<tr>
<td>Poor employee retention</td>
</tr>
<tr>
<td>Lack of qualified personnel</td>
</tr>
<tr>
<td>Lack of a system for performance evaluation</td>
</tr>
<tr>
<td>Challenges in recruitment system</td>
</tr>
<tr>
<td>Financial constraints</td>
</tr>
<tr>
<td>Poor satisfaction</td>
</tr>
<tr>
<td>Competition by governmental hospitals</td>
</tr>
<tr>
<td>No strategic planning</td>
</tr>
<tr>
<td>Limited capacity of HR Department</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strategies</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offer continuing education and training for employees</td>
<td>19 (19.6%)</td>
</tr>
<tr>
<td>Improve salaries</td>
<td>14 (14.4%)</td>
</tr>
<tr>
<td>Develop retention strategies</td>
<td>10 (10.3%)</td>
</tr>
<tr>
<td>Develop incentives</td>
<td>8 (8.3%)</td>
</tr>
<tr>
<td>Managerial support</td>
<td>7 (7.2%)</td>
</tr>
<tr>
<td>Needs assessment of existing challenges</td>
<td>6 (6.2%)</td>
</tr>
<tr>
<td>Develop recruitment strategy</td>
<td>5 (5.2%)</td>
</tr>
<tr>
<td>Develop an HR strategic plan</td>
<td>5 (5.2%)</td>
</tr>
<tr>
<td>Improve overall environment in hospital</td>
<td>5 (5.2%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Have strategies been successful? (based on 68 respondents who reported retention strategies)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
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</table>

and large (>200 beds).

The survey targeted HR managers (and employees who combine the role of HR manager with other duties) in Lebanese hospitals and was designed based on an extensive literature review and discussions among the research group. The research team used a combination of open-ended close-ended questions to allow the HR managers to better document their viewpoints regarding challenges and strategies. Questions included educational background, qualifications, work experience, gender, and age.

The survey also included questions about perceived challenges facing the human resources component at hospitals and key strategies to mitigate these challenges. These were open-ended questions so that respondents could freely describe the specific issues pertaining to each question.

The survey also addressed other issues such as the categories of human resources with whom HR managers were facing the most challenges in retention, frequency of conducting performance appraisal, trends in assessment of credentialing for medical and nursing staff, existing continuing education or development programmes, in addition to the presence of recruitment and retention strategies being utilized by the hospital.

The questionnaire was originally developed in English and then translated to Arabic as it is the primary language of most HR managers in Lebanon. Back translation to English was conducted to validate the Arabic translation. After the questionnaire was finalized, it was pilot tested for both language versions after which minor changes were made to the wording of some questions. HR managers (and those who combine the role of HR manager with other duties) in all Lebanese hospitals were contacted. Hospitals were asked to forward the survey to individuals in charge of the HR function. When contacted, the hospitals were informed about the purpose and significance of the study. Hospitals were assured that participation was voluntary in addition to the confidentiality and anonymity of their responses. After obtaining informed consent to participate in the study, the questionnaire was provided to HR managers. In some instances, hospitals did not have a designated HR manager, therefore, two or more employees often combined their primary role in the hospital (whether clinical or non-clinical) with the HR management function. In these cases, all employees affiliated with the HR department filled the survey.

All hospitals were sent a fax requesting their participation in the study. A total of 72 hospitals expressed their willingness to participate and 61 hospitals responded to the survey with a total of 97 respondents.

Data analysis
Data was entered and analyzed using the Statistical Package for Social Sciences (SPSS) 16.0. The quantitative data analysis included uni-variate and bi-variate analysis. The qualitative data analysis comprised thematic analysis of open-ended questions to derive the main challenges and strategies adopted by hospitals as perceived by HR managers. Answers were thematically analyzed and coded. Similar codes were grouped under categories and related categories were then gathered under themes. Strategies were compared against reported challenges to assess whether the adopted strategies can serve to mitigate the impact of the reported challenges. Thematic analysis followed both an inductive and deductive approach whereby some themes were based on a search of the literature (inductive) and others emerged from findings (deductive). The predetermined HR challenges included financial constraints, employee shortages and lack of qualified personnel, migration, poor job satisfaction, recruitment challenges (or lack of such a system), and poor employee retention (incentive programmes). As for proposed strategies, the predetermined themes included improving salaries and strengthening incentive plans, enhancing managerial support, developing recruitment and retention strategies, and offering continuing education to staff. Additional challenges and strategies were also derived from the deductive approach. Analysis of quantitative data included questions on level of education, qualifications in HR management, experience and training in HR management, and plans for continuing education in the realm of HR management, in addition to other information about the hospital where respondents were employed.

Results
Characteristics of respondents
When the respondents were asked whether they were in charge of the HR function at the hospital, 68% answered positively, and 42% of those held other jobs in the hospital (mainly administrative positions). The majority of respondents (40.2%) held a bachelors degree (Bachelors of Business Administration (BBA), Bachelors of Arts (BA) or Bachelors of Science (BS)), while 26.8% held a masters degree (Masters of Business Administration (MBA), Masters of Arts (MA) or Masters of Science (MS)), and 12.4% a Masters of Public Health (MPH) (See Table 1). A total of 63.6% of respondents reported holding some qualifications in HRM and 72.2% reported currently pursuing education or training related to HRM. In addition, 82.5% reported being interested in pursuing education or training

<table>
<thead>
<tr>
<th>TABLE 2: MOST COMMONLY REPORTED CHALLENGES AND STRATEGIES</th>
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</thead>
<tbody>
<tr>
<td>Challenges</td>
</tr>
<tr>
<td>Poor employee retention</td>
</tr>
<tr>
<td>Lack of qualified personnel</td>
</tr>
<tr>
<td>Lack of a system for performance evaluation</td>
</tr>
<tr>
<td>Challenges in recruitment system</td>
</tr>
<tr>
<td>Financial constraints</td>
</tr>
<tr>
<td>Poor satisfaction</td>
</tr>
<tr>
<td>Competition by governmental hospitals</td>
</tr>
<tr>
<td>No strategic planning</td>
</tr>
<tr>
<td>Limited capacity of HR Department</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strategies</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offer continuing education and training for employees</td>
<td>19 (19.6%)</td>
</tr>
<tr>
<td>Improve salaries</td>
<td>14 (14.4%)</td>
</tr>
<tr>
<td>Develop retention strategies</td>
<td>10 (10.3%)</td>
</tr>
<tr>
<td>Develop incentives</td>
<td>8 (8.3%)</td>
</tr>
<tr>
<td>Managerial support</td>
<td>7 (7.2%)</td>
</tr>
<tr>
<td>Needs assessment of existing challenges</td>
<td>6 (6.2%)</td>
</tr>
<tr>
<td>Develop recruitment strategy</td>
<td>5 (5.2%)</td>
</tr>
<tr>
<td>Develop an HR strategic plan</td>
<td>5 (5.2%)</td>
</tr>
<tr>
<td>Improve overall environment in hospital</td>
<td>5 (5.2%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Have strategies been successful? (based on 68 respondents who reported retention strategies)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>
Thematic analysis revealed that challenges varied across respondents and participating hospitals. The most highly reported HRM challenges, a total of 68 respondents (70.1%) reported strategies to mitigate the effect of these challenges. Thematic analysis (reported in Table 2) revealed that the most commonly reported strategy by respondents was offering continuing education and training for employees (19.6%). Hospitals often send some of their employees to workshops or short courses to improve their knowledge on certain aspects of their job. Some hospitals also use credits collected from attending such courses when considering promotion opportunities.

Improving salaries ranked second (14.4%) among reported strategies, as many hospitals believe that this may be the only way they can keep their employees. Some hospitals also reported developing retention strategies (10.3%) to better retain their employees; but respondents did not specify exact strategies being utilized. Other hospitals have started developing incentive plans (8.3%), mainly through material rewards, to encourage staff members to remain employed. Managerial support (7.2%) also emerged as an HRM strategy, but was only reported by few respondents.

Thematic analysis revealed that challenges varied across respondents and participating hospitals. The most highly reported challenge by respondents was poor employee retention at hospitals (56.7%), particularly for nurses (see Table 2). Lack of qualified personnel (35.1%) ranked second whereby respondents reported that there are few candidates for specific positions in their hospitals. Moreover, some required specialties are not available in universities and schools (eg occupational health and safety officers, quality managers, etc.). This may cripple the hospitals’ ability to provide quality care, as existing staff members cannot assume these roles. The lack of person/job fit may thus impede the hospitals’ ability to provide certain services or meet national hospital accreditation requirements in Lebanon. The lack of a system for performance evaluation (28.9%) also emerged as a major challenge as it has reportedly limited the hospitals’ ability to evaluate the competencies and performance of their staff, especially critical staff members. Financial constraints were also reported as a major challenge by 24.7% of respondents, as many staff members may value it more than other forms of incentives. Other less frequently reported challenges included overall employee shortages (10.3%), poor satisfaction (8.3%), competition with other hospitals (particularly governmental hospitals) (8.3%), and limited capacity and authority of the HR department (6.2%). The lack of an HR strategic plan also emerged as a challenge but was only reported by 6.2% of participants (see Table 2).

Respondents were asked to report on some strategies utilized by the hospital to mitigate the impact of the above-mentioned challenges. Although many respondents reported HRM challenges, a total of 68 respondents (70.1%) reported strategies to mitigate the effect of these challenges. Thematic analysis (reported in Table 2) revealed that the most commonly reported strategy by respondents was offering continuing education and training for employees (19.6%). Hospitals often send some of their employees to workshops or short courses to improve their knowledge on certain aspects of their job. Some hospitals also use credits collected from attending such courses when considering promotion opportunities.

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It is worth noting that 79.4% of respondents reported that the adopted strategies were successful in improving the status of health
workers in surveyed hospitals. Respondents were asked about enabling factors that foster employee retention, such as conducting performance appraisal and evaluation, in addition to staff retention strategies. When asked about the frequency of conducting performance appraisal, 77.3% reported conducting annual performance appraisal for all of their employees in the hospital (see Table 3). Although conducting performance appraisals is a requirement of the Lebanese hospital accreditation program, our findings imply that not many hospitals recognize its importance for employee retention yet. The remaining hospitals did not report conducting performance appraisals. However, respondents indicated that some specific staff members are often appraised as needed, such as heads of departments, some members of the medical staff, and selected nurses and technicians.

Periodic assessment of credentials for medical and nursing staff was reported by 62.9% of respondents. Furthermore, 54.0% of hospitals reported having a continuing education or career development programmes in their hospitals.

Most of the HR managers (85.6%) reported that they provided staff with ad-hoc training sessions both in and outside the hospital (95.2%). Moreover, over half the respondents (56.7%) reported a need for training in specific HR skills to help them in their role within this department in their hospital (see Table 3). Only 20.8% of respondents reported that their hospital has a recruitment and retention strategy. The low percentage on this question may reflect a lack of awareness about the extent to which recruitment and retention strategies are effective HR management tools in Lebanese hospitals (see Table 3).

Respondents were finally asked to select the top three categories of health professionals facing the most challenges at their hospital. The majority of respondents reported that the staff categories facing the most challenges were registered nurses (78.4%), practical nurses (49.0%), and administrative staff (33.0%) (See Table 4). Respondents also reported that they are facing challenges with additional members of the hospital staff, including: housekeeping staff, technicians and casual employees (paid on a daily basis).

Discussion

The results of this study indicate that HRM in Lebanese hospitals should be strengthened in order to build capacity to better manage and retain health workers. The findings showed that not all hospitals clearly delegate responsibilities for its HRM function. This can be demonstrated by the challenges and strategies that emerged from thematic analysis. The most striking observation is the mismatch between challenges and strategies in this study. This finding is similar to an earlier study targeting nursing directors\(^1\), where retention strategies did not always correspond to the reported challenges. However, this does not necessarily imply that the HR managers are not aware of how to address the challenges they reported. On the contrary, it may reflect the limited capacity and authority they have to mitigate challenges that are hindering HR development at their institution. This was actually reported as a challenge by some of the respondents. Another challenge reported by some respondents was the lack of a strategic plan for HR in hospitals. It is worth noting that Lebanese hospitals are currently in the process of preparing for a new national accreditation survey, and the development of a HR strategic plan is a requirement in the Lebanese accreditation standards. While many themes (related to challenges and strategies) derived from the results of this study correspond well with those derived from the literature, it should be noted that additional challenges and strategies emerged. The additional challenges include: lack of a strategic HR plan, competition with other hospitals (particularly governmental hospitals), limited capacity of the HR department, absenteeism, social constraints, poor communication across departments, hospital location, and lack of trust in hospital administration. As for retention strategies, the additional themes that emerged from the results are: needs assessment for existing challenges; improving work environment; communicating specialties needed at universities and schools; cooperating with other institutions on continuing education for staff members; and cross training to fill vacant positions (for promotion from within hospital). It is clear that many of these additional challenges and reported strategies are specific to the context of Lebanon.

As previously stated, many of the reported strategies deployed by HR managers did not exactly match the reported challenges. However, many of the proposed strategies can remedy to some extent the reported challenges. For instance, the most commonly reported strategy was offering continuing education and training for employees (19.6%). Moreover, 54.6% of respondents reported offering continuing education sessions to staff while 85.6% offer training sessions. Offering continuing education and implementing professional clinical/career ladders have been cited as effective strategies for improving employee retention\(^9-12\) and improving health worker efficiency which is linked to the scaling up of productivity\(^13\). They are forms of non-financial incentive which allow employees the opportunity to advance in their careers. Further research is needed to assess whether continuing education at Lebanese hospitals is strategic and in line with training needs of staff. Many respondents revealed that hospitals are engaging in financial incentives in an effort to retain their staff. Despite the attractiveness of financial rewards, it has a limited impact if not combined with improved working conditions, employee motivation and linked to individual performance\(^14\). It should be noted that only 14.4% of hospitals are engaging in financial incentives, although 24.7% reported having financial constraints that did not allow them to compensate their staff as appropriately as desired. It is also worth noting that some respondents (8.3%) reported that hospitals are beginning to develop incentives without specifying whether they were financial or non-financial. More work is needed to understand the types of incentives used by Lebanese hospitals and their level of success.

Managerial support has been cited as an effective mechanism to improve employee motivation, job satisfaction and retention\(^15,16\). Managerial support includes but is not limited to coaching and mentoring staff, supporting continuing education pursuits, staffing and scheduling, and mediation between staff and administration, among other responsibilities\(^17\). Managers also have a leadership role, which is as essential component of employee retention, particularly through encouraging an atmosphere of autonomy and shared governance, in addition to empowerment and group cohesion\(^18\). Despite the importance of managerial support, only 7.2% of respondents cited it as a retention strategy at their hospital. Furthermore, a mere 10.3% of respondents reported developing retention strategies to counter the HR challenges at their hospitals. However, this does not necessarily imply that hospitals do not recognize the importance of retention strategies. With regard to enabling factors for employee retention, many hospitals reported
engaging in performance appraisals (77.3%) and assessment of staff competencies (62.9%). Such practices are now required in the Lebanese hospital accreditation programme, and all hospitals are required to comply with standards relative to performance appraisals and credentialing. However, there is a lack of information on the degree of compliance of hospitals with this standard and the types of performance appraisals being used.

Many respondents reported that the strategies adopted by their hospitals were successful in mitigating existing challenges. It is not clear how success was assessed, particularly in that many of the reported strategies did not fully correspond to the reported challenges. This may be an indirect outcome of the qualifications of the respondents and their capacity to fill the position of HR managers. Although some respondents had a masters level degree, the majority reported that it was their working experience that qualified them to fill this role in their hospital. It is worth noting that many of the respondents had dual roles in the hospital which may have affected their perception of the existing challenges and limited their capacity to enforce proper strategies to counter their impact.

Conclusion
With the forthcoming accreditation survey of Lebanese hospitals (2010-2011), there is an opportunity for hospitals to enhance competencies of existing HR managers, and strengthen the HR management component. There is a need to develop a competency framework for the knowledge, skills, attitudes and behavior required for various HR managers. Thorough assessment of what qualifications and experience HR managers have, including all those who work in healthcare organizations, is required. In this context, there is a need to maintain an adequate number of HR managers in healthcare organizations with clearly delineated roles, responsibilities and competencies.

One of the major findings of this study was that many respondents combine their duties in the HR department with other roles in the hospital. This comes to exemplify the need for a cadre of competent and well-trained HR managers who can fully assume these roles in Lebanese hospitals and work to continuously improve the standard of employees at their hospitals. In this context, middle managers (department heads) can play a vital role in HR management and provide supervisory support. These middle managers can participate in selection/recruitment processes of HR; and they can perform supervisory functions related to HR performance management and appraisal. With regard to retention strategies, proper assessment of the impact of current retention strategies in Lebanese hospitals is required. Such information will be crucial to improving HRM practices at the hospital level, and also in providing lessons for peer hospitals, particularly ones that are not currently implementing any retention initiatives.

HRM is a discipline which requires a distinct knowledge base and training. It is not common in certain areas in the health sector at the moment to find professional HR managers, as they are usually promoted from other disciplines. As a result, further education or training is generally required in order to have the necessary competencies to perform well. There is a need to expand HR professional knowledge and competencies for the effective management of human resources in HCOs. There is also a need to increase the pool of competent HR professionals. A new cadre of HR managers will need to be trained and enabled to have real input into operational and strategic decisions about HRM.

Our study findings may apply to other countries in the Eastern Mediterranean Region. Another recent study in nine countries found that health systems suffer from poor HRM, resulting in absence of effective recruitment and retention strategies, poor HR planning, lack of proper performance evaluation mechanisms, and absence of a policy for re-licensing of medical staff, and other negative consequences. HRM challenges in HCOs should be valued by policy makers and managers and developing effective HR strategies should become a priority.

Acknowledgements
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Competing interests
The authors declare that they have no competing interests.

Authors’ contributions
FE made substantial contributions to the conception, design, as well as analysis and interpretation of results. VT substantially assisted with the literature review, data analysis and write-up of the article. DJ made substantial contributions to analysis of data and interpretation of results. All authors read and approved the final manuscript.


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Nutrition and patient safety: a report from the National Patient Safety Agency (United Kingdom)

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PATIENT SAFETY LEAD, NUTRITION AND PRESSURE ULCERS
PATIENT SAFETY DIVISION, NATIONAL PATIENT SAFETY AGENCY (UK)

ABSTRACT: The National Patient Safety Agency (NPSA), established in 2001 as part of the UK National Health Service (NHS), extended its portfolio of patient safety programmes to include nutrition in 2006. Since 2006 the focus of the NPSA’s nutrition programme has been to raise awareness of nutrition as a patient safety issue and to encourage healthcare staff to report nutrition-related patient safety incidents to the NPSA’s reporting data base, the Reporting and Learning System, to identify key themes and areas for national learning.

In the summer of 2009 the NPSA were invited by the International Hospital Federation to join the Improving Infant and Child Food Safety in Health Facilities project as a member of the Advisory Group. This opportunity allowed for the NPSA to share their experience and knowledge of nutrition patient safety themes.

Table 1: Nutrition-related keywords used by the NPSA

<table>
<thead>
<tr>
<th>Keywords</th>
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<tr>
<td>NG Tube / NGT / N.G.T.</td>
</tr>
<tr>
<td>Nasogastric / NasoGastric</td>
</tr>
<tr>
<td>Feeding Tube / Feeding Tube</td>
</tr>
<tr>
<td>Oral Fluids / Oral Fluids</td>
</tr>
<tr>
<td>Patient Safety Incidents / Patient Safety</td>
</tr>
<tr>
<td>Starve / Starving / Starvation</td>
</tr>
<tr>
<td>Nil By Mouth / NBM / N.B.M. / nil per os / nil per os</td>
</tr>
<tr>
<td>Meal / Meal</td>
</tr>
<tr>
<td>Snack / Snack</td>
</tr>
<tr>
<td>Parenteral / Parenteral</td>
</tr>
<tr>
<td>Weigh / Weight / Weighting</td>
</tr>
<tr>
<td>Weight Scale / Weighing Scales</td>
</tr>
<tr>
<td>Mal-Nourish / Mal-Nourished / Mal-Nourishment / Mal-Nourishment</td>
</tr>
<tr>
<td>BMI / B.M.I. / Body Mass Index</td>
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<tr>
<td>De-hydrate / Dehydrated / De-hydration / De-hydrating</td>
</tr>
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</table>

In order to identify the themes and trends associated with these incidents analysis of the data base is undertaken on a regular basis. To date this analysis has been undertaken internally by the NPSA and also by independent commissioned analysis.

Analysis undertaken by a Clinical Nutrition Research Group at Kings College London reviewed a random sample of 4,992 nutrition-related patient safety incidents reported between 2006 and 2007 using key word search terms. Table 1 shows the keywords used to search the data.

From the 4,992 incidents analysed 23% were included as nutrition-related patient safety incidents. The remaining were excluded on the basis of not having any nutritional involvement or...
Clinical care: Nutrition

The 1,433 incidents were then further analysed to enable themes to be identified. The most commonly reported nutrition related patient safety incident concerned the provision of nutrition via artificial feeding (22.9%) and incidents relating to patients being “nil by mouth” (22.7%), followed by provision of nutrition via oral feeding (17.2%).

Table 2 demonstrates the themes identified.

Analysis of these incidents also enabled cross-cutting themes to be identified and these included:
- Problems relating to poor communication between staff and departments.
- Inadequately kept patient documentation regarding fluid and food requirements.
- Inadequate staffing levels to provide sufficient patient care.
- Lack of services around nutrition and nutritional assessment.
- Failure to follow protocols or guidelines or implement changes in regimens with regards to feeding and fluids.

In 2009 the NRLS undertook analysis of the RLS to identify themes in reporting of nutrition related incidents from 1 January 2008 to 31 December 2008 using the same search terms as identified in Table 1.

All incident reports where the severity of harm was reported as death or severe were extracted plus a sample of incidents reported as moderate, low or no harm. A total of 597 incidents reported as death or severe harm and a sample of 300 incidents reported as moderate, low or no harm were analysed. The sample was extracted from a pool of 38,437 incidents meeting the search criteria where the degree of harm was reported as moderate, low or no harm.

Table 2: Nutrition related patient safety themes

<table>
<thead>
<tr>
<th>Theme</th>
<th>Number</th>
<th>Percent of incident reports (n=1433)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provision of nutrition via artificial feeding</td>
<td>321</td>
<td>22.9</td>
</tr>
<tr>
<td>Nil by mouth (NBM) / fasting</td>
<td>323</td>
<td>22.7</td>
</tr>
<tr>
<td>Provision of nutrition via oral feeding</td>
<td>243</td>
<td>17.2</td>
</tr>
<tr>
<td>Nutritional assessment or support</td>
<td>107</td>
<td>7.5</td>
</tr>
<tr>
<td>Food hygiene and food safety</td>
<td>79</td>
<td>5.7</td>
</tr>
<tr>
<td>Diabetes and blood sugar levels</td>
<td>64</td>
<td>4.5</td>
</tr>
<tr>
<td>Consequences of malnutrition</td>
<td>43</td>
<td>3.8</td>
</tr>
<tr>
<td>Fluid management</td>
<td>34</td>
<td>3.3</td>
</tr>
<tr>
<td>Falls, slips, trips (with nutritional involvement)</td>
<td>28</td>
<td>2.0</td>
</tr>
<tr>
<td>Patient refusal of food / drink</td>
<td>16</td>
<td>1.2</td>
</tr>
<tr>
<td>Insufficient information provided</td>
<td>13</td>
<td>0.9</td>
</tr>
<tr>
<td>Allergy</td>
<td>9</td>
<td>0.6</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0.1</td>
</tr>
<tr>
<td>Total</td>
<td>1433</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

* Percentages add up to more than 100% due to the assignment of some incidents to two categories.

Some examples of nutrition related patient safety incidents:
- Patient admitted with Cervical spine fracture and Halo jacket (external fixation) applied on… Pt found to have developed Pressure sores
- Patient with diabetes and insulin affected Pt found to have been discharged without insulin
- Pt found to have developed Pressure sores
- Pt found to have developed Pressure sores
- Pt found to have developed Pressure sores

Ineffective systems around theatre and surgery relating to fasting guidelines and inadequate communication between departments.

Problems relating to ordering, prescription and delivery of feed/food/fluids.

Inadequate or incorrect patient documentation prior to admission, transfer, handover or discharge.

Lack of equipment and equipment failures.

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Figure 2 demonstrates the identified themes for those incidents reported as death or severe harm and figure 3 for incidents reported as moderate, low or no harm.

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Inadequate or incorrect patient documentation prior to admission, transfer, handover or discharge.

Lack of equipment and equipment failures.
Grade III – IV pressure sore on his back (thoracic spine) when the Halo jacket was insitu. Pressure sore found when Pt had the Halo jacket removed. Wound Team involved, photos taken. Pt is malnourished and underweight – prominent pressure areas as bony prominence are vulnerable to pressure damage. Appropriate dressing done, Dietician involved. Pt advised to avoid lying on the affected areas, repose mattress provided and to continue monitoring.

While … was eating his tea under supervision, he started to choke. Staf tried to dislodge the piece of food without success. Cardiopulmonary Resuscitation commenced and a pulse was maintained till the paramedics arrived. …… was then taken to …. where he died.

A very malnourished complex patient with a high and variable risk of aspiration pneumonia. He was profoundly affected by the water supply issues. The specific focus of the mission was on the safe preparation of infant formula’s and the organisations ability to deliver safe nutritional care with the design and layout of many food preparation areas preventing staff from accessing handwashing facilities compounded by a limited availability of alcohol hand gel. Some areas had equipment for washing and sterilizing bottles but the equipment was broken and had not been repaired. The preparation areas were generally clean and tidy but again the general maintenance of the areas was limited with floor and wall surfaces difficult to clean.

It was also noticeable that many healthcare workers were not aware of either international or local guidance or policies. This included WHO or local policies for infant food preparation but also of concern was poor compliance with Hazard Analysis Critical Control Point (HACCP) leading to issues relating to the traceability of any potential contamination.

Workshop

The workshop was attended by representatives of all of the hospitals involved in the mission and provided participants with the opportunity to identify the key challenges and priorities to effect behavioural practices and to identify potential solutions for their organisations and decision-makers.

The workshop all provided an opportunity for the NPSA to share their learning of nutrition and patient safety. A brief presentation was given to delegates which included:

- An overview of the NPSA.

The Indonesia experience

The NPSA were invited to be an Advisory Group member for the International Hospital Federation Improving Infant and Child Food Safety in Health Facilities programme as part of this role involved taking part in field mission trip to Indonesia. During the mission a total of nine hospitals were visited in Jakarta covering a range of both private and public hospitals. The hospital visits provided a unique opportunity to gain an insight to the delivery of nutritional services across a range of organizations. The issues faced by healthcare colleagues in Jakarta were complex involving poor facilities and maintenance schedules, poor compliance with hand hygiene, a lack of knowledge and training for frontline healthcare workers and limitations in resources. The impact of these challenges was reflected in the organisations ability to deliver safe nutritional care across the whole hospital population.

The specific focus of the mission was on the safe preparation of infant formula’s and the organisations ability to ensure safe preparation was profoundly affected by the water supply available. There were examples of infant formula being prepared using “warm” water obtained from a mineral water container and the main hospital “clean” water supply was obtained from a central point which was contained in an area with no internal wall.

There was some evidence that water supplies were microbiologically tested but the frequency of this varied. The availability, maintenance and monitoring of refrigeration equipment also posed a challenge to the organisations with evidence of refrigerators not working but more commonly being used at temperature higher than the WHO recommendations for the storage of infant formula and breast milk. Regular monitoring and recording of refrigeration temperatures was also an area of concern for some organisations.

The implications of poorly maintained facilities and equipment perhaps had the greatest impact on the healthcare workers ability to provide safe nutritional care with the design and layout of many food preparation areas preventing staff from accessing handwashing facilities compounded by a limited availability of alcohol hand gel. Some areas had equipment for washing and sterilizing bottles but the equipment was broken and had not been repaired. The preparation areas were generally clean and tidy but again the general maintenance of the areas was limited with floor and wall surfaces difficult to clean.

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The workshop was attended by representatives of all of the hospitals involved in the mission and provided participants with the opportunity to identify the key challenges and priorities to effect behavioural practices and to identify potential solutions for their organisations and decision-makers.

The workshop all provided an opportunity for the NPSA to share their learning of nutrition and patient safety. A brief presentation was given to delegates which included:

- An overview of the NPSA.
A background to the nutrition patient safety programme.
Feedback of analysis of nutrition related patient safety incidents.
A breakdown of nutrition related incidents in children (Figure 4).

It was very clear from the participant’s feedback following the group work sessions that they were all very aware of what the key issues were and whose responsibility it was to take forward the improvements required. The participants were eager for changes to be made quickly with most responding that actions needed to be taken immediately.

It was interesting to note that the needs of healthcare staff appear to be similar globally with key needs being identified as being greater access to national guidance/information and increased education and training.

Decision-makers meeting
The decision-makers meeting provided opportunity for the IHF team to provide feedback on both the hospital visits and workshop with a key function of acting as a catalyst and facilitator between healthcare workers and decision-makers. It was made clear that the role of IHF team was not to put forward recommendations. However, it became apparent during the meeting that there was an expectation that recommendations would be suggested.

The decision-makers meeting did provide opportunity for discussion on the key issues identified by the healthcare workers and there was a general acknowledgement that actions needed to be taken to improve the safety of food preparation but no clearly defined action points were established.
How research can help control tuberculosis

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ABSTRACT: Tuberculosis (TB) has played a central role in the history of biomedical science from Koch onwards. Research in the nineteenth and twentieth centuries yielded extremely valuable diagnostic, therapeutic and preventive tools for the control of TB. Following the development of short-course chemotherapy in the 1970s and 1980s, research into TB virtually evaporated. Despite the availability of an array of tools, TB control faltered, and the disease remains a major killer. The failure of the fruits of scientific research to control TB is a result of the shortcomings of the tools themselves as well as the inadequately applied tools in populations burdens by TB. A changing epidemiologic situation, with escalating rates of human immunodeficiency virus-related TB and the emergence of multidrug-resistant TB, further threatens global TB control. A robust TB research enterprise will be required to meet the global goals for controlling TB in the twenty-first century. Basic research is needed to better understand its pathogenesis and immunology, and to identify targets for diagnostics, drugs and vaccines. Research into better biomedical tools to detect, treat and prevent TB is also a major priority, as all of the existing tools have important shortcomings. In addition, research into understanding how to apply both existing and new tools to control TB at the population level is urgently needed. Global funding for TB research, $483 million in 2007, is slowly growing but is far behind need. To meet the ambitious goals of the Global Plan to Stop TB and the Millennium Development Goals, a massive investment in research will be necessary.

Tuberculosis (TB) has played a central role in the history of biomedical research, and efforts to control the disease have benefited enormously from scientific discoveries and achievements. Three Nobel Prizes in Physiology or Medicine, to Robert Koch, Niels Finsen and Salmian Waksman, have been awarded for research on TB, and the discoveries of Koch and Waksman remain clinically relevant to this day. The spectrum of scientific inquiry into TB and the fruits it has borne are truly spectacular. With the cumulative advances of Koch’s discovery of the organism and the development of his postulates, Calmette and Guérin’s production of the vaccine that bears their name, and the extraordinary progress with drug treatment of the disease, culminating in short-course chemotherapy in the 1970s and 1980s, many felt that science had done all it could do to control the disease. Beginning in the late 1960s, research investment in TB evaporated, victory was declared, and scientists working in the field moved on to other problems. It only remained for clinicians and public health programmes to use the tools science had so brilliantly provided for TB to be consigned to history.

The neglect of TB research for several decades has had a considerable impact on efforts to control the disease: the lack of academic interest in TB moved the disease out of biomedical research centers, often meaning that doctors, nurses and health scientists had little or no training in the disease. Complacency in the research community grew, despite the continuing toll of TB on society. Minimal interest in TB in industry meant that very few new tools for TB were developed. Moreover, the consignment of TB to public health programmes in some instances led to the perverse attitude that further research into the disease was unnecessary and, perhaps, counterproductive. Most international efforts to address TB control for much of the 1980s and 1990s focused on improving the quality of services delivered by underfunded control programmes and downplayed the need for new knowledge, tools and approaches to reducing the burden of TB globally. While it was very true that poor performance of programmes was (and remains) a major obstacle to the effective control of TB, it was also increasingly evident that the tools available for doing the job were increasingly inadequate. As the global epidemiologic situation has changed dramatically in the past 20 years, the challenges to contemporary control measures have grown. The World Health Organization (WHO) set goals for detecting 70% of all sputum smear-positive TB cases and curing 85% of them as an essential process in global control. While great progress has been made towards achieving these targets, case detection remains unacceptably low in areas such as Africa and Eastern Europe, and even in countries that have achieved the targets, such as Vietnam, incidence rates have not fallen. Reaching the Millennium Development Goals of...
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halving the burden of TB disease and death by 2015 is therefore unlikely. The impact of the human immunodeficiency virus (HIV) on TB has been enormous, with escalating incidence, high mortality rates and changes in the clinical presentation of the disease that make diagnosing, treating and preventing TB more difficult. Smear-based case detection, for example, misses at least half of all TB cases, and more so in settings where HIV is prevalent and among children. First-line drugs must be taken for 6 to 8 months, resulting in non-adherence and the risk of recurrent disease and selection of resistance. The emergence of multidrug-resistant (MDR) and, more recently, extensively drug-resistant (XDR) TB renders standard approaches to diagnosing and treating TB ineffective. Notably, most of the 500 000 cases of MDR-TB that occur each year are not even detected or properly treated. Drug-resistant TB requires new agents for successful treatment, given the generally poor responses to existing second-line drugs. The bacille Calmette-Guérin (BCG) vaccine has probably attenuated to impotence in preventing disease in adults.

Over the past decade there has been a growing appreciation of the importance of research for strengthening global TB control. The second Global Plan to Stop TB, published in 2006, makes a strong case for the need for a wide range of research, and lays out a budget to support these activities, although many feel that even more money is required than is proposed in the plan. The research agenda for TB control is widespread and multi-disciplinary. Reducing the burden of TB throughout the world and eventually achieving elimination will require a combination of effective biomedical tools and public health strategies. The basic tools used in disease control – diagnostics, drugs, vaccines – are not magic bullets. To have an impact at the population level, these tools must be applied using effective public health strategies that maximize their benefit.7 Table 1 and 2 show the biomedical tools used in controlling TB and the public health strategies used to apply them to patients and communities.

The tables list the current situation, important limitations and future directions to improve outcomes. All the tools and strategies currently in use have significant shortcomings. The development of new tools and strategies for delivering them, therefore, is an urgent priority for biomedical and public health research. Control of TB in the coming decades will surely rest on new discoveries, novel technologies and innovative public health and clinical approaches to curtailing the spread of infection and the development of disease. A broad portfolio of research initiatives is essential to ensure future progress, as no one can say with certainty which ideas and strategies will be most effective. It is sobering to recall that throughout the global campaign to eradicate smallpox in the 1960s and 1970s, a vigorous research programme was maintained to ensure that methods that proved ineffective in the field could be replaced with new approaches that might be more efficacious. Only when the disease was actually eradicated were the research efforts retired. A similar attitude toward TB must be maintained as control methods evolve. The recent declaration by over 60 Ministers of Health in Banjul, Mali, that at least 2% of national health budgets and 5% of donor

### Table 1: Biomedical Tools Used to Control TB

<table>
<thead>
<tr>
<th>Tools</th>
<th>Current strategies</th>
<th>Limitations</th>
<th>Future strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnostics</strong></td>
<td>System smear</td>
<td>Poor sensitivity (&lt;50%) especially in HIV-positive patients</td>
<td>Improved yield of sputum unless e.g. light-emitting diode fluorescence microscopy</td>
</tr>
<tr>
<td>Solid culture systems (Substrate-assay)</td>
<td>Slow growth, resulting in long delay in diagnosis and detection of drug resistance, level of toxicity</td>
<td>Antigen-based detection</td>
<td>Simple rapid culture</td>
</tr>
<tr>
<td>Liquid culture systems</td>
<td>Expenses, need for bioassay, high contamination rates, diagnostic delay</td>
<td>Sensitivity in smear-negative cases, expression</td>
<td>Line-probe assays</td>
</tr>
<tr>
<td>Nucleic acid amplification tests</td>
<td>Poor specificity, inability to distinguish latent infection from active disease</td>
<td>Resistance to isoniazid sensitive cases</td>
<td>Gene diagnosis</td>
</tr>
<tr>
<td>Interferon gamma release assays</td>
<td>Inability to distinguish latent infection from active disease</td>
<td>Third generation nucleic acid amplification technique</td>
<td>Developing</td>
</tr>
<tr>
<td><strong>Treatment</strong></td>
<td>First-line drugs (AIDS drugs)</td>
<td>Drug resistance, toxicity, duration of treatment, drug interactions, especially with antiretroviral agents</td>
<td>Fluctuations</td>
</tr>
<tr>
<td>Second-line drugs for MDR-TB</td>
<td>Low potency, toxicity and duration of treatment, isoniazid resistant TB, extensively drug-resistant TB</td>
<td>Late detection of infectious cases</td>
<td>Developing</td>
</tr>
<tr>
<td><strong>Prevention</strong></td>
<td>H, HB</td>
<td>Duration of treatment, toxicity, drug resistance, durability of protection in H, infected patients</td>
<td>See above</td>
</tr>
<tr>
<td><strong>Vaccines</strong></td>
<td>BCG vaccine</td>
<td>Lack of protection in adults, lack of standardization</td>
<td>Reconstituted BCG</td>
</tr>
</tbody>
</table>

MDR-TB = multidrug-resistant TB; BCG = bacille Calmette-Guérin.

### Table 2: Clinical and Public Health Strategies for Use of Tools to Control TB

<table>
<thead>
<tr>
<th>Tools</th>
<th>Current strategies</th>
<th>Limitations</th>
<th>Future strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnostics</strong></td>
<td>Positive case rate and diagnosis among symptomatic patients who present to health services</td>
<td>Late detection of infectious cases</td>
<td>Active case finding</td>
</tr>
<tr>
<td>Algorithm for smear microscopy</td>
<td>False positives in smear settings, with sensitivity &lt; 75%</td>
<td>Diagnostic delays, poor sensitivity and specificity</td>
<td>Contact investigation</td>
</tr>
<tr>
<td><strong>Treatment</strong></td>
<td>DOTS with first-line drugs</td>
<td>Drug resistance, poor adherence, poor program performance, (especially high) failure rate</td>
<td>Shortened treatment</td>
</tr>
<tr>
<td>HE continuation phase decreasing cure velocity</td>
<td>Refinement with MDR-TB</td>
<td>Diagnostic delays, poor sensitivity and specificity</td>
<td>Interim treatment</td>
</tr>
<tr>
<td>Prevention therapy</td>
<td>Isolation of all patients</td>
<td>Amphotericin resistance in many patients</td>
<td>Avoid drug interactions</td>
</tr>
<tr>
<td><strong>Vaccines</strong></td>
<td>BCG vaccine</td>
<td>No efficacy in adults</td>
<td>Treatment based on known susceptibilities</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>Advancements for advanced TB disease prevention</td>
<td>No evidence of efficacy in trials</td>
<td>Shorter regimen with new agents</td>
</tr>
<tr>
<td>Meningococcal vaccine</td>
<td>Prior to MDR-TB therapy</td>
<td>Longer failure/relapse rate</td>
<td>Avoid drug interactions</td>
</tr>
<tr>
<td><strong>Adjuvants</strong></td>
<td>BCG vaccine</td>
<td>No efficacy in adults</td>
<td>Treatment based on known susceptibilities</td>
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funding should be earmarked for research, is a reminder of the value of research in promoting human health.8

Research needs for new tools
Basic science
The sequencing of the Mycobacterium tuberculosis genome a decade ago has released a cornucopia of research on gene expression, drug targets, virulence factors and latency, all of which are necessary for developing new tools to control TB.12 Advances in bacteriology, immunology, genetics, biochemistry and a range of other disciplines will continue to foster knowledge that will help develop interventions for disease control. Basic biomedical research is as important as targeted research, as advances in seemingly unrelated fields will certainly influence TB, but are central to several new diagnostic tests. Research in techniques not only play a critical role in laboratory research on M. tuberculosis where smear is the only tool available for diagnosis. Where culture making detection of drug-resistant TB impossible in settings identify species and offers no information on drug susceptibility, in addition to its poor sensitivity, sputum microscopy cannot years ago, is an unacceptable global standard for case detection. Drug susceptibility testing (DST) is generally not available for the vast majority of TB patients, and where it is performed it is often by the laborious and time-consuming proportions method, further contributing to delays in providing proper care.

Research into new tools for TB diagnosis has made considerable progress in recent years, and a number of exciting new tools are under study or clinically available.11 Liquid-based culture systems, long-known to be both more sensitive and faster than solid culture media, have been demonstrated to be feasible and effective in resource-poor settings and are now endorsed by the WHO for routine use in smear-negative, HIV infected individuals with suspected TB.12 Recent efforts to bring liquid culture to the field have followed two very distinct paths. On the one hand, use of commercial systems, such as Becton Dickinson’s Mycobacterial Growth Indicator Tubes (MGIT), has been demonstrated by a number of groups to be efficient and cost-effective.16 The advantages of commercial diagnostic products include reproducibility, standardization of training and methods, and management of the supply chain. Limitations to these products include costs, including capital expense for both machines and appropriate buildings for their use, high rates of contamination and training needs. Others have developed liquid methods are currently under study and could be used in clinical practice. Nucleic acid amplification (NAA) techniques have been used for some time to detect TB in industrialized countries, but these have been limited by expense, technological requirements and modest to poor sensitivity in smear-negative patients. Several newer NAA methods are currently under study and could be used in clinical practice in the near future if their initial promise is sustained. A cartridge-based assay that amplifies specific gene targets to detect the presence of both M. tuberculosis and signature mutations associated with drug resistance, with a turnaround time of several hours, is now in late stages of development.17 Loop-mediated amplification is an isothermal technique that detects DNA using visual inspection of florescence in a closed system.20 Research into these and related techniques is essential before they can be introduced in the field, but the prospect of case detection and identification of drug resistance in less than 24 h is extremely appealing.

Other genetic diagnostic techniques are also the subject of research. The use of solid-phase amplification of genetic targets for detection of M. tuberculosis sequences and drug resistance mutations is the strategy that underlies line-probe assays.21

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Several commercial line-probe assays are already available, and their use has been endorsed by the WHO for detection of drug resistance in areas with high rates of MDR- and XDR-TB. Newer methodologies for detecting M. tuberculosis can be borrowed from other fields, such as sensing volatile organic compounds or parsing immunologic responses with novel immunoassay techniques.22,23

While all of the new diagnostic modalities described above would propel TB control forward dramatically, a tool that would revolutionize the fight against this disease would be a point-of-care rapid test, such as a dipstick test, that reliably detected active disease and which could be deployed in primary care settings in high-burden areas. Such a test is currently science fiction, but most technological breakthroughs begin as science fiction and only become reality by dint of investment, innovation and industriousness. The technology for dipstick tests is widely available and extensively used for diagnosing conditions as varied as pregnancy and HIV infection, but substantial obstacles to a dipstick test for TB must be overcome. For example, detection of antibodies against M. tuberculosis antigens is a strategy that has consistently failed in the past, as humoral immune responses are neither sensitive nor specific in assessing the presence of disease. Dipstick detection of M. tuberculosis antigens appears feasible for patients with disseminated disease, such as those with advanced HIV infection, but serum or urinary antigens appear uncommon in the majority of TB patients. Rapid detection of antigens in sputum or respiratory secretions is a possible method for addressing this problem. It is clear, however, that a vigorous programme of applied research is necessary to bring about this essential revolution in diagnosing TB.

Drugs
The current drug armamentarium for TB is remarkable in two respects: first, it is miraculous when one considers that TB was incurable just 60 years ago; but second, it is absolutely inadequate given the current challenges in TB control. The deficiencies of current drug therapy for TB include the lack of high-quality regimens for drug-resistant disease, the long duration of ‘short-course’ chemotherapy, the potentially lethalthreatening toxicities of first-line agents and serious drug-drug interactions, particularly with RMP.

Drug-resistant TB has existed since the dawn of the antibiotic era. The majority of patients treated with streptomycin in the first Medical Research Council randomized trial acquired resistance to that drug,24 and resistance to current first-line drugs is a global crisis.25 Use of second-line drugs has predictably led to the selection of further resistance, and the specter of XDR-TB has emerged in the past several years.26 Development of new drugs that are active against MDR- and XDR-TB is imperative. In addition, improving the potency of drug regimens to permit significant shortening of TB treatment would help turn off the spigot of acquired drug resistance by facilitating treatment supervision and treatment completion in resource-limited areas. Moreover, development of new drugs and regimens that are less toxic and that neither induce nor are affected by P450 cytochromes is important for advancing safety and allowing coadministration of TB and HIV drugs in the hundreds of thousands of individuals who require treatment for both diseases.

After a hiatus of almost 30 years, the TB drug development pipeline has of late experienced the beginnings of a renaissance. Several existing agents in established drug classes are in advanced clinical trials, and several newer agents are in Phase 1 and 2 trials. Rifapentine, an RMP analogue that has greater potency and a longer half-life, has been shown to be very active in MDR-TB.27 Several promising clinical trials have been completed, and a large study to determine whether treatment can be reduced to 4 months if MWF is used is now underway. Gatflaxacin is also potent, and studies of this agent are also being conducted.28

New agents with unique mechanisms of action are clearly required for combating MDR- and XDR-TB. Several such agents are currently being evaluated. The adenosine triphosphate synthase inhibitor Tubitox Medicinal Compound 207 has been shown to have excellent activity against MDR-TB in a small Phase 2a trial in South Africa, and a larger trial is ongoing.29 The nitromidazopyran OPC 67683 is being studied in a multinational trial of patients with MDR-TB,30 while a PA-824, a drug in the same class, has recently completed its first Phase 1 trial in TB patients.31

A new diamine, SQ 107, will enter clinical trials shortly. The apparent bounty of new agents in clinical trials obscures a critical problem in TB drug development, however. While a handful of new drugs is a huge advance over the situation just a decade ago, the pre-clinical pipeline of anti-tuberculosis drugs is perilously anemic. Substantial investment in basic research to identify new targets and pathways is needed, along with screening of compound libraries to identify existing entities with good activity. A vigorous programme to develop new entities and compounds must then be followed by the laborious process of studying the toxicology, pharmacology, formulation and bioavailability issues required to bring a product forward into human clinical trials. This is an expensive and time-consuming process, and many potential drugs are left aside along the way for a variety of reasons. The shortage of pre-clinical compounds is thus a serious problem that...
portends a paucity of new agents in the coming decade. A strong commitment to funding discovery and preclinical development activities is therefore essential.

**Vaccines**

BCG is one of the most widely used vaccines in the world, but there is considerable evidence that it has a minimal impact on TB control. While early trials found high efficacy of BCG in preventing TB and death in children, adolescents and adults, more recent studies fail to find a protective effect, and several suggest a harmful effect. Genetic analysis of BCG strains demonstrates a large degree of genomic variation in the various extant strains, suggesting that evolution of the parental vaccine strain of Calmette and Guérin has occurred, rendering current preparations less immunogenic. Given that the original BCG strain was not archived, it is not possible to begin again with the effective version of the vaccine. The development of new vaccines is therefore clearly a priority. An effective preventive TB vaccine would have only a modest immediate effect on TB control, but over a period of years to decades could result in major reductions in the burden of disease as new generations gained protection from the vaccine. A vaccine that protected individuals with latent TB infection as well as those not yet exposed to the organism would be of extraordinary value.

Unlike developing vaccines for HIV/AIDS (acquired immune deficiency syndrome), making a TB vaccine is known to be feasible because it has been done before. A key challenge for vaccine development is understanding the correlates of immunity, as noted above. In addition, the lack of animal models that clearly predict vaccine efficacy in humans is an important limitation. Nonetheless, considerable progress is being made in identifying candidate vaccines, and a number of clinical trials are planned or underway. Approaches being pursued include recombinant BCG with overexpression of antigenic epitopes, other attenuated mycobacteria (e.g., M vaccae), subunit vaccines, peptides, adjuvants and novel vectors. Early clinical trials focus on safety and immunogenicity, although determining the most appropriate immune response is challenging. Clinical trials of vaccine efficacy require extremely large numbers of subjects and many years to complete. So, although it is unlikely that a new vaccine will be available in the coming 5 to 10 years, the impact of an effective product would be enormous for generations.

The Global Plan to Stop TB, as noted earlier, strongly endorsed the need for research to develop new diagnostics, drugs and vaccines for TB control. Table 3 lists the targets for development of these tools and progress toward these goals to date. It is encouraging that so much has been accomplished, particularly with respect to diagnostics, but it is also clear that much remains to be done.

**Research needs for new public health strategies**

A treasure trove of new diagnostics, drugs and vaccines will be of no value if they are improperly or ineffectively deployed to the populations affected by TB. An understanding of the epidemiologic basis of TB control is required to ensure that new tools are utilized to maximize their advantages and to interrupt the chain of transmission and disease that fuels TB epidemics. The current tools for TB control have failed for a variety of reasons, including inadequate population coverage (e.g., weak health systems), failings in human behaviour (e.g., non-adherence to treatment, resulting in treatment failure and development of resistance) and changing epidemiologic circumstances (e.g., HIV and MDR-TB).

Research aimed at understanding and overcoming these obstacles is imperative for new tools to reduce the burden of disease. In the past 4 years, several global expert groups have published ambitious research agendas that address specific priority focus areas within the overall public health and medical strategies for addressing TB disease in specific populations, including among people living with HIV, people with drug-resistant TB, and pediatric TB.

Incorporation of new tools into existing TB control programmes will be both a major challenge and an important opportunity. Research into where new tools fit in the diagnostic and treatment algorithms will be important to maximize their impact. For example, should NAA tests replace culture and DST? Should new second-line drugs be added to initial treatment in patients where drug resistance is suspected? Will treatment-shortening regimens require more or less monitoring of treatment response? Determining the best uses of new tools will require additional research beyond proving their efficacy. Operational research, long recognized as important but almost always underfunded, targets the processes and procedures of health care delivery in an attempt to improve performance. There is an extensive agenda of operational research priorities that relate to almost every component of programme activity. Examples of this include improving laboratory processes, increasing the yield of screening for TB suspects, improving registries and surveillance systems, reducing barriers to access and addressing infection control in institutional settings, to name a few.

More effective use of biomedical tools also can be achieved through research aimed at enhancing the impact of clinical and public health interventions. Beyond operational research, it is essential to evaluate the strategies used to control TB from an epidemiologic perspective. As shown in Table 2, a number of our strategies are clearly ineffective at present, and new approaches need to be developed and evaluated to reduce the burden of disease.

In the diagnostics arena, it is essential to move beyond passive case finding at health facilities to find TB cases earlier. Intensified case finding at the facility level or enhanced case finding in the community are means by which individuals with disease can be detected sooner than by passive case finding. Studies of the best ways to effectively target those individuals with active TB and provide diagnosis and treatment sooner are needed to determine the most effective means of reducing transmission in the community and limiting unnecessary suffering and death from undiagnosed disease. As new tools become available it will be imperative to evaluate their impact in community settings, not just in clinics and hospitals.

New drugs for TB are the only hope that patients with MDR- and XDR-TB can be reliably cured. Yet, if they are given without assurance of adequate support for adherence, resistance to new agents is inevitable. Research into methods to promote adherence through a variety of modalities is necessary to guarantee that all patients are cured and to avoid the emergence of further resistance. Preventive therapy for TB is worthless under-utilized at present, despite extensive evidence of its effectiveness at both
individual and population levels. Mathematical models of TB control demonstrate that treatment of latent infection, with either drugs or vaccines, will be essential for the elimination of the disease. Strategies for selecting appropriate populations for preventive treatment, including but not limited to household contacts and those with HIV infection, need to be assessed and the means of ensuring that treatment is adhered to requires additional research. The impact of mass preventive treatment, as was done in Alaskan Eskimos in the 1950s and 1960s, should be evaluated in other high-risk populations – a study of this approach in South African gold miners is currently underway. As new agents that target latent organisms are developed it might be worth considering restricting their use to prophylactic treatment, thereby ensuring that resistance will not become a barrier to prevention and that options for those exposed to MDR- or XDR-TB are available. Additional strategies for controlling TB are also worth considering restricting their use to prophylactic treatment, as new agents that target latent organisms are developed. The research agenda for TB, as outlined above, is large, ambitious and includes management, hygiene, diagnostics, engineering, behavioural sciences and physics, to name just a few of the disciplines that can contribute to this effort. Other interventions that may play an important role in controlling TB operate at the population level. This includes earlier use of antiretroviral treatment in people with HIV infection, improved general and micronutrient nutrition, and the availability of housing with better ventilation and less crowding. While all of these may seem investments that are worthwhile in their own right, research into the relative benefits and costs of each will enable policy makers to choose between options for the use of limited resources.

**Funding**

The research agenda for TB, as outlined above, is large, ambitious...
and urgent. But funding for TB research is anemic, paltry and insufficient. Despite the extraordinary global burden of TB in terms of lives lost, disability and healthcare and societal costs, investment in studying the control of the disease is miniscule. The Global Plan to Stop TB 2006–2015 estimates that a minimum of US$9 billion—or US$900 million per year—should be spent on TB research between 2006 and 2015 to develop new drugs, diagnostics and vaccines, and yet current TB research and development (R&D) investments total less than half that amount. Moreover, recognizing that the Global Plan does not even include budget recommendations for basic science—the foundation of all progress in science—or for operational field studies to validate the use of new tools and to define the most successful control strategies in standard programme settings, some have recommended that TB R&D needs investment of at least US$2 billion per year to achieve the goals of developing new tools that can set the stage for TB elimination by 2050. According to the most complete reported data set on global investments into TB research and development in the years 2005 and 2006—covering the launch of the Global Plan, in 2007, only US$483 million was spent on TB R&D, including basic science and operational research, two categories not addressed by the Global Plan (Table 4). This represented a 12% increase over the US$429 million reported on TB R&D for 2006, but it still falls far short of the need and targets of the Global Plan. As noted in the Treatment Action Group’s (TAG’s) 2008 report on TB research funding, ‘expenditures are still woefully inadequate by almost five-fold when measured against the Global Plan and TAG’s estimates of annual need in TB research and development. The overall impression is one of inadequacy and failure of political will.’

The largest single funder of tuberculosis research, the United States National Institutes of Health (NIH), spends just 1½ cents on TB for each dollar spent on HIV/AIDS research (Figure 1), despite the two diseases’ similar global scale, scope and deadliness. Figure 2 shows the TAG’s tally of global TB research investment for 2007, highlighting the low levels of funding for basic science, new tools (drugs, diagnostics, and vaccines) and operational research.

Even TB treatment research—the most well-funded research category—is, at US$170 million per year, less than half of the US$403 million in estimated direct costs to bring a new drug to market.

Conclusion

Success at the mid-twentieth century in making TB a curable disease resulted in catastrophic declines in research funding, leaving the world unprepared for the resurgence of TB disease in the late century, fueled by the HIV pandemic and by collapsing health systems in the former Soviet Union, which created the opportunity for the devastating spread of drug-resistant TB. Now these two forms of TB are converging to form a ‘perfect storm’ which could render TB essentially untreatable without new measures. Despite new commitments made by world leaders at the launch of the Global Plan to Stop TB 2006–2015, new public and private investment in TB research continues to lag far behind the needs; new philanthropic initiatives such as those supported by the Bill & Melinda Gates Foundation, while laudable, will not be able to fill the estimated funding gap of about US$1.5 billion per year. To invest in the basic science, applied research and operational studies that are all necessary to develop, validate and refine the new tools essential to eliminate TB as a public health threat by 2050, is, as the American baseball legend and quipster Yogi Berra so famously said, ‘It ain’t over till it’s over.’
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References


ABSTRACT: Hospital accreditation should act as a strategic asset hospitals have in promoting quality and patient safety, not just a mere "ticket to trade". The newly US government-approved DNV NIAHOSM offers healthcare provider organizations a new alternative to hospital accreditation that combines CMS's Conditions of Participation (CoP) with the proven success of the ISO 9001 quality management standard, to promote sustainable quality and patient safety improvement.

Hospital Accreditation is gaining use worldwide as a means to ensure that hospitals meet national or international widely accepted set of requirements. The European Union has defined it as "Public recognition by a national healthcare accreditation body of the achievement of accreditation standards by a healthcare organization, demonstrated through an independent external peer assessment of that organization’s level of performance in relation to the standards". Accreditation is gaining importance in the rapidly increasing medical tourism sector, as a means to provide a consumer, patients and health insurers alike with acceptable criteria for selecting hospitals to be treated.

A major impetus to accreditation was the US Governments Center for Medicare and Medicaid (CMS), since it inception in 1964 to require hospitals who wish to receive reimbursements for CMS-covered patients to comply with the requirements of its Conditions of Participation (CoP). One aspect of the CoP was the need of hospitals to be accredited by an accreditation organization (AO).

On 26 September, 2009, Det Norske Veritas Healthcare, Inc. (DNVHC) received the US Government Center for Medicare and Medicaid (CMS) deeming authority. DNVHC is a fully owned subsidiary of Det Norske Veritas (DNV), and international, autonomous foundation established in 1864 in Norway, and operating in more than 100 countries. DNVHC corporate headquarters is in Houston, Texas and the operational office of DNV Healthcare Inc. is in Cincinnati, Ohio. DNVHC was the hospital accreditation organization to be approved by CMS in the last 30 years. Throughout all this time, the predominant AO was the Joint Commission, who after losing its statutory privilege as an AO, underwent the same CMS approval process and received it in November 2009.

DNV Healthcare’s Hospital Accreditation Program consists of an accreditation standard that is closely following the requirements of the CoP and at the same time integrates it with the need to comply with the requirements of the internationally recognized standard for quality management, ISO 9001:2008, hence the acronym of the DNV program is NIAHOSM – National Integrated Accreditation of Healthcare Organizations.

Given that the DNV Accreditation standard adheres closely with the CMS Conditions of Participation for Hospitals, DNVHC accreditation meets and exceeds CoP requirements and integrates the ISO 9001 Quality Management System as a part of these requirements. DNVHC surveys are conducted annually; focus on sequence and interactions of processes throughout the hospital and do not include a “tipping point” in the process that results in varied levels of accreditation of the surveyed organization. However, for any findings of nonconformity to the requirements the organization is responsible for preparing a corrective action plan to address these findings.

The choice of ISO 9001 as the management system model for hospitals is not accidental. The experience gained by DNV in its work as one of the leading certification bodies for ISO9001 compliance, and the over 80,000 ISO management Systems Certificates it issues globally, showed that that standard is very conducive to the promotion and understanding of continual improvement while focusing on processes that result in meeting and exceeding quality objectives set by the organization that follows that standard. Moreover, failure to meet these objectives results in a demand to implement a coherent and structures set of corrective and preventive measures the inevitably leads to enhancement of those processes that result in meeting the organization’s objective and to the removal/change/improvement in those processes that can’t meet the objectives. Since the ISO 9001 revision of 2000, followed by the minor changes in 2008, the standard caters very well to the service industry, and within that,
to the specific needs of the hospital sector.

Paradoxically, while hospitals increasingly turn to so-called "industrial" quality management concepts borrowed from other sectors, among them aviation, methodologies that include Lean and Six Sigma, by and large they US hospitals shunned ISO 9001 on the pretext that ISO 9001 is a "manufacturing" standard. With the growing understanding of the congruency of ISO 9001 and for example Lean, the experience gained by DNV led to adopting ISO 9001 as the management system standard that provides the "skeletal" strength to the hospitals on which the specific requirements stipulated by the NIAHO™ requirement could be made sustainable. Hence, a hospital that opts to have the DNV accreditation, accepts that in three years since the original accreditation, it would be in compliance with management system requirements stipulated by ISO 9001:2008. Considering the strong emphasis that ISO places on the Leadership’s involvement that is supported by Management Reviews, Internal Audits and Corrective and Preventive Measures, which are closely echoed by similar emphasize in the CoP, this integrated approach enabled the accredited hospitals to utilize the accreditation as a vehicle to an effective, stable and consistent pursuit of a sustainable accreditation.

The NIAHO™ Standard consists of 25 Chapters that are consistent with those of the CoP: Quality Management System, Governing Body, Chief Executive Officer, Medical Staff, Nursing Services, Staffing Management, Rehabilitation Services, Obstetric Services, Emergency Department, Outpatient Services, Dietary Services, Patient Rights, Infection Control, Medical Records Service, Medication Management, Surgical Services, Anesthesia Services, Laboratory Services, Respiratory Care Services, Medical Imaging, Nuclear Medicine Services, Discharge Planning, Utilization Review, Physical Environment, Organ, Eye and Tissue Procurement.

The first NIAHO™ chapter, Quality Management System stipulates the need to comply, within 3 years with ISO 9001. That standard is written in a form of eight Clauses to the structure of the ISO 9001 Quality Management System Standards including five interactive clauses that are geared to ensure the continual improvement. They are clauses number: 4) Quality Management System, 5) Management Responsibility, 6) Resource Management, 7) Service Realization and 8) Measurement, Analysis, and Improvement. Notably, hospitals can and have achieved the compliance with ISO 9001 faster.

An organization that selects DNV accreditation would undergo the initial steps of application and contracting. Once that is settled, they would face the survey process. The survey team consists of three types of surveyors: Clinical, Generalist, and Physical Environment/Life Safety Specialist (PE/LSS). The Clinical surveyor must be either a medical doctor (MD) or a registered nurse (RN). The Generalist usually comes from a hospital administrative or managerial background. The PE/LSS would have experience in hospitals’ life safety, medical devices management, infection control and/or SHE background. With these qualifications, the candidates must successfully complete various types of training including observation surveys and completion of 45 hours of CEUs each year.

The training of the surveyors ensures that the qualified personnel are also competent and proficient in not only the subject matter they survey but also in the way DNV expects them to conduct such surveys. DNVHC expects each surveyor to attain what is known at DNVHC as the three “C’s”, i.e. Currency, Calibration, and Consistency. Therefore, after the candidates undergo rigorous training in both NIAHO™ and ISO 9001 standards as well as surveying methodology (PE/LSS undergo additional certificated training in NFPA fire code for hospitals), they are subjected to on the job monitoring by experienced surveyors. This enables DNVHC to strive to keep all surveyors current on innovative issues. Survey Team Leader observation as well as client feedback ensure that surveyors are consistent in applying accreditation standards. DNVHC, through top management, communicate to surveyors the desired reaction to this information so that surveyor response are calibrated with the entire survey cadre. Also to attain the goal of surveyor consistency DNVHC assigns the same surveyors to the same hospitals for three years whenever possible.

DNVHC surveys are annual. Barring any findings that impede patient safety the point of Jeopardy in line with the CMS requirements, the survey finding fall into three types:
- Noteworthy efforts – where hospitals is doing well.
- Opportunities for Improvement (OFI) – issues that do not constitute yet any breach of requirements but have been observed elsewhere to create an environment where such breaches may occur.
- Nonconformities where surveyors found issues that are out of compliance with NIAHO™ or ISO Requirements. Nonconformity must always show what the breach is and what the supporting objective evidence that demonstrate such breach is. There three types of nonconformities:
  - Category One – defined as a systemic absence of breach
Clinical care: Patient safety

Yehuda Dror is the President and CEO of DNV Healthcare Inc. The first hospital Accreditation Organization approved by the Centers for Medicare and Medicaid Services (CMS) in the last 30 years. Trained as an engineer (MS from MIT) and business manager (Executive MBA from UH) Yehuda has more than 30 years experience in developing and implementing services that safeguard life, property and the environment.

DNVHC does not dictate a “tipping point” beyond which the system is non-accredited. The extent of the corrective action or evidence of them depend of course on the nonconformities’ category where the category one would require objective evidence of the corrective action initiated prior to accreditation while the category two would require a timely and robust corrective action plan whose successful implementation would be verified on the next annual survey.

The testimonials that the DNV accreditation receives from its accredited hospitals in the US, Brazil and India reveal that the intent of the accreditation is indeed met. Among such statement, one can find the statement of Chad Smith, Principal Chief of the Cherokee Nation. “This [DNVHC] accreditation fits in line with our philosophy of “gadugi,” or “working together,” which is what our healthcare system does in assisting our patients”, and of Patty Scott, vice president of quality, case, risk management and regulatory compliance of IASIS, the First System to Achieve DNV Accreditation at All of Its Hospitals. “DNV accreditation is strategically aligned with our goals for patient safety and medical outcomes. In addition to taking a 'best practices' approach to hospital surveys, DNV’s accreditation framework fits well with the Hospital Medical Management and Quality Program (HMMQP) already in place at IASIS hospitals.” The benefits expressed in similar testimonials that can be received from the DNV reference hospitals gleaned from the DNV website (www.dnvaccreditation.com) can be summed in the following categories:

- Approved by CMS and enables us to meet our obligation toward CoP.
- Enhances our continuous improvement in quality and patient safety.
- Embraces our ability to utilize our competence to innovate.
- Drives us to adopt best practices.
- Demands we discard ineffective practices.
- Fosters improved communication between hospital and medical staff.
- Reduces the costly need for implementation and preparation for the programme.
- Improves understanding of all hospital processes and drives up efficiency.
- Performs in a collaborative manner that is geared to identify what works best and remove what does not.

The DNVHC accreditation, labeled as a “Breakthrough in US hospital accreditation”, is making its mark also on international accreditation scene. It has already begun to gain a relatively early but strong following and coupled with the experience that DNV gains from the risk management evaluation of the NHSLA in the United Kingdom is hoping to ensure hospitals learn not only how to manage risk and continually improve but also to enable hospitals receive an objective rating based on its “risk maturity model” to the benefit of the patients and hospitals alike.

References

1. EUR/04/5051758, Dec. 2004, Developing Hospital Accreditation in Europe

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Les "megatrends" qui menacent le jeu en matière de conception des établissements de santé - cuop d'île sur les grandes tendances qui dictent la conception des établissements médicaux ("Megatrends" china+healthcare facility design - a look at the major trends that will shape medical facility design) Tendances imposant la conception des établissements de santé • Stratégies contre les maladies et santé publique • Pratiques en Libanais • Politiques de santé, • Economie, • Éducation à la santé, • Choix des consommateurs, • Le foyers : l'établissement de santé de base, • Soins primaires et hospitaliers, • Évolution d'emploi, • Impact sur la conception • Accès médical et réseau, • Durabilité, • Visibilité et renommée • H. Test, • Lumière naturelle, • Des jardins qui guérissent, • Retenir le personnel, • Centres de soins ambulatoires, • Chambres pour patient seul • Conception industrielle, • Les hôpitaux de crise, • Opportunités de pratique collaborative/interdisciplinaire/internationale • Éducation au college Conclusion • CULTIVER LES TALENTS DE NOS FUTURS DIRIGANT- DES STRATEGIES COMPLETES DE DEVELOPPEMENT POUR ASSURER UN SUCCES DURABLE (CULTIVATING TOMORROW'S LEADERS: COMPREHENSIVE DEVELOPMENT STRATEGIES ENSURE CONTINUED SUCCESS) Nul doute qu'une direction énergique est la clé du succès d'une entreprise. Observer les rouages d'un établissement sanitaire hautement efficace, et vous verrez qu'une équipe de dirigeants talentueux est au gouvernail. Mais les entreprises qui réussissent ne doivent pas se contenter d'avoir à leur tête des personnes hautement compétentes, il faut qu'elles sachent les replier, les cultiver et les entretenir. Tâche souvent malaisée, si on considère le dynamisme historique du secteur de la santé, dont la compétitivité croissante impose la nécessité absolue d'une bonne direction alors que les établissements s'efforcent d'évoluer et de ne pas se laisser devancer par les changements. Bien que dans le secteur de la santé, la nécessité de cultiver les jeunes talents soit inconcurrencable, les établissements ne disposent pas tous de procédures permettant de le faire. Il semble que le domaine de la santé reste à la traîne derrière les autres industries en matière de programmes de gestion des talents et de plans de carrière. Les compétences des professionnels sont primordiales dans le domaine de la santé. Les professionnels qui réussissent ne doivent pas se contenter d'avoir à leur disposition des compétences à la pointe. Leur rôle est de cultiver ces talents et de les orienter dans le bon sens. Les professionnels doivent adopter des stratégies adaptées en matière de développement des compétences. Notre étude a montré que les professionnels de la santé qui ont adopté des stratégies efficaces de développement ont réussi à maintenir leur compétitivité. Les professionnels qui ont adopté des stratégies adaptées ont réussi à maintenir leur compétitivité. Ces stratégies ont permis de maintenir leur compétitivité sur le marché et de se démarquer des autres établissements de santé. Conclusion: Pour permettre aux hôpitaux d'assurer la qualité et la sécurité des services de santé, il est crucial d'améliorer la gestion des RH. Il est besoin d'un cadre de directeurs de RH compétents qui puissent pleinement assumer ces responsabilités et améliorer continuellement le statut des employés de leur entreprise. L'étude d'accreditation en cours sur les hôpitaux libanais (2010-2011) futur une occasion de renforcer la gestion des RH et des compétences des directeurs de RH actuels. La reconnaissance des stratégies efficaces de RH doit être une priorité pour les directeurs de RH et les cadres supérieurs. Les conclusions de l'étude peuvent être étendues à d'autres pays de la méditerranée orientale. NUTRITION ET SECURITE DES PATIENTS - RAPPORT DE LA NATIONAL PATIENT SAFETY AGENCY (UK) NUTRITION AND PATIENT SAFETY: A REPORT FROM THE NATIONAL PATIENT SAFETY AGENCY (UK) La National Patient Safety Agency (NPSA), créée en 2001
Resumen en Español

La prestación de los servicios de salud con financiación público se encuentra en la encrucijada de múltiples elementos que incluyen la calidad, la seguridad y la eficiencia. El respeto por los derechos humanos, la transparencia y la responsabilidad ética son fundamentales en el proceso de toma de decisiones.

**ASOCIACIONES PUBLICO-PRIVADAS EN EL SECTOR DE SALUD DE PORTUGAL**

Las asociaciones público-privadas tienen un papel crucial en el sector de la salud de Portugal. Estos grupos se forman en respuesta a las necesidades de la comunidad, adaptándose a las circunstancias cambiantes. Su objetivo es promover la calidad, la accesibilidad y la eficiencia en los servicios de salud.

**RESUMEN**

En resumen, el papel de las asociaciones público-privadas en el sector de la salud de Portugal es fundamental para garantizar la calidad, la accesibilidad y la eficiencia en los servicios de salud. Estas asociaciones juegan un papel importante en la promoción de la salud y la prevención de enfermedades, así como en la educación sanitaria.

**CULTIVO DE LOS DIRIGENTES DEL FUTURO: ESTRATEGIAS GLOBALES DE DESARROLLO, GARANTÍA DE UN ÉXITO SOSTENIDO**

El cultivo de dirigentes futuros es crucial para garantizar el éxito sostenido de las organizaciones de salud. Se requiere un enfoque holístico que aborde tanto la formación académica como la formación profesional.

**Oportunidades de prácticas**

- Diseño industrial
- Hospitales de sobrecarga
- Personal de enfermería
- Cuidados ambulatorios
- Habitación individual
- Luz natural
- Jardines curativos
- Retención del talento

**Repercusiones del diseño**

- Organización de las instancias sanitarias
- Atención primaria de salud
- El hogar como entorno
- Atención primaria de salud
- Preferencias del paciente
- Estructura de las organizaciones
- Estructura de la gestión interna

**Resumen de la investigación**

La investigación mostró que el cultivo de dirigentes futuros es crucial para garantizar el éxito sostenido de las organizaciones de salud. Se requiere un enfoque holístico que aborde tanto la formación académica como la formación profesional. Es importante que las organizaciones de salud se esfuerzen por crear un entorno que sea atractivo para el talento y promueva la retención de personal calificado.
 hacen contratar personal competente y que deben intentar mantenerlo al menos durante los acontecimientos y vacaciones en el futuro.

Si bien es evidente que hay motivos para fomentar la capacidad de dirección en el sector de la salud en el futuro, no todas las organizaciones cuentan con un sistema en curso para ponerlo en práctica. Un servicio de salud se ha quedado atrás en comparación con otros sectores en lo que respecta a programas de formación de líderes y planificación de sucesión. Según un estudio realizado en 2002 por la Sociedad Norteamericana para la Formación y el Desarrollo, por ciento de las compañías Fortune 500 patrocinan oficialmente programas internos de formación para el personal de dirección. Numerosas directivas generales reconocen que los programas de desarrollo no son útiles para los mismos, sino también sumamente importantes, aunque el coste de dos obstáculos seguidos para poner en marcha: 1) en su opinión requieren un alto costo en recursos, tanto humanos como económicos para ponerlos en práctica; y 2) falta de aptitudes y conocimientos a nivel interno para llevar a cabo y establecer las estrategias pertenecientes con eficacia. No obstante, y a pesar de estos obstáculos para poner en marcha y mantener estos programas de formación del personal de dirección, el caso es que siguen siendo necesarios.

EVALUACIÓN DE LAS PRACTICAS DE DIRECCIÓN DE LOS RECURSOS HUMANOS EN LOS HOSPITALES DEL LIBANO (Adaptación de Human Resources Management Practices in Lebanese Hospitals)

Antecedentes. Algunas buenas prácticas de dirección de los recursos humanos (en inglés HR) son fundamentales para contar con el personal y las estrategias de recursos humanos que necesitan las organizaciones. En el verano de 2009 el NPSA recibió una invitación de la Asociación Internacional de Hoteles y Hospital (IFMA), impulsores del programa de promoción de calidad en el sector de la salud, con el fin de implementar las estrategias realizadas para fomentar la calidad y la seguridad del paciente. En ese momento se descubrió que entre los entrevistados el nivel de conocimiento en la escala de la formación de recursos humanos en la formación de la escala de la formación de la formación de los recursos humanos en los hospitales (2010-2011) presentará al país la oportunidad para que el viva el mundo ciencia humana y la apariación de TB multirresistente, amenaza aún más el control mundial de la TB. Con el objetivo de cumplir la meta mundial de erradicar la TB en el siglo veintiuno, se precisará una iniciativa clara de evaluación en el campo. Se requiere para fomentar la calidad y la seguridad del paciente y no simplemente como una “oportunidad para comerciar”. El Organismo nacional para la seguridad del paciente (en inglés NHS) y el Organismo Nacional de Acreditación de Hospitales (Organizaciones Nacionales de Acreditación de Hospitales) , ofrece a las organizaciones proveedoras de asistencia sanitaria una alternativa a la acreditación (Organizaciones Nacionales de Acreditación de Hospitales) y ofrece a las organizaciones proveedoras de asistencia sanitaria una alternativa a la acreditación (Organizaciones Nacionales de Acreditación de Hospitales) . Los servicios internacionales de la seguridad del paciente (en inglés NHS) y el Organismo Nacional de Acreditación de Hospitales (Organizaciones Nacionales de Acreditación de Hospitales) , ofrece a las organizaciones proveedoras de asistencia sanitaria una alternativa a la acreditación (Organizaciones Nacionales de Acreditación de Hospitales) .

Conclusion: para que los hospitales sean capaces de ofrecer un sistema de prestación de los servicios de salud óptimo y unos cuidados sin riesgos, es crucial mejorar la capacidad de los recursos humanos. Existe la necesidad de crear un equipo de directores competentes de recursos humanos capaces de asumir las responsabilidades necesarias y para mejorar constantemente la categoría de los empleados de sus organizaciones. La futura encuesta de acreditación de los hospitales del Líbano (2010-2011) presentará al país la oportunidad para que el viva el mundo ciencia humana y la apariación de TB multirresistente, amenaza aún más el control mundial de la TB. Con el objetivo de cumplir la meta mundial de erradicar la TB en el siglo veintiuno, se precisará una iniciativa clara de evaluación en el campo. Se requiere para fomentar la calidad y la seguridad del paciente y no simplemente como una “oportunidad para comerciar”.

Métodos. Se llevó a cabo una encuesta transversal sobre el diseño arquitectónico entre el personal de dirección de los recursos humanos en los hospitales (2010-2011) presentará al país la oportunidad para que el viva el mundo ciencia humana y la apariación de TB multirresistente, amenaza aún más el control mundial de la TB. Con el objetivo de cumplir la meta mundial de erradicar la TB en el siglo veintiuno, se precisará una iniciativa clara de evaluación en el campo. Se requiere para fomentar la calidad y la seguridad del paciente y no simplemente como una “oportunidad para comerciar”.

Resultados. Los 61 hospitales que participaron en la encuesta, se recibieron 96 respuestas en las que se descubrió que entre los entrevistados el nivel de conocimiento en la escala de la formación de recursos humanos es muy diverso. En el análisis temático se pusieron de manifiesto que los retos se van volviendo muy valiosos en función de los entrevistados y los hospitales participantes. Entre las dificultades más frecuentes se encontraban la retención de personal (20.7%), la falta de personal cualificado (25.1%) y la falta de un sistema para llevar a cabo una evaluación del rendimiento en el trabajo (25.5%). Algunas de las dificultades utilizadas para mejorar las dificultades citadas consisten en ofrecer la ampliación de estudios y formación del personal (19.6%), aumentar los sueldos (14.4%) y poner en marcha estrategias encaminadas a retener al personal (10.3%). En los resultados se observó un desajuste entre el número de dificultades citadas y las estrategias.

Conclusión: para que los hospitales sean capaces de ofrecer un sistema de prestación de los servicios de salud óptimo y unos cuidados sin riesgos, es crucial mejorar la dirección de los recursos humanos. Existe la necesidad de crear un equipo de directores competentes de recursos humanos capaces de asumir estas responsabilidades completamente y dispuestos a mejorar constantemente la categoría de los empleados de sus organizaciones. La futura encuesta de acreditación de los hospitales del Líbano (2010-2011) presentará al país la oportunidad para que el viva el mundo ciencia humana y la apariación de TB multirresistente, amenaza aún más el control mundial de la TB. Con el objetivo de cumplir la meta mundial de erradicar la TB en el siglo veintiuno, se precisará una iniciativa clara de evaluación en el campo. Se requiere para fomentar la calidad y la seguridad del paciente y no simplemente como una “oportunidad para comerciar”.

Formación y el Desarrollo, el 85 por ciento de las empresas en lo que respecta a programas de formación en el año 2009 eran de empresas de la categoría de los empleados de sus organizaciones. La futura encuesta de acreditación de los hospitales del Líbano (2010-2011) presentará al país la oportunidad para que el viva el mundo ciencia humana y la apariación de TB multirresistente, amenaza aún más el control mundial de la TB. Con el objetivo de cumplir la meta mundial de erradicar la TB en el siglo veintiuno, se precisará una iniciativa clara de evaluación en el campo. Se requiere para fomentar la calidad y la seguridad del paciente y no simplemente como una “oportunidad para comerciar”.

Conclusión: para que los hospitales sean capaces de...
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Reference
Dates for your diary

2010
1-2 June
IHIF Hospital and Healthcare Association Leadership Summit (By invitation only)
Chicago, USA
sev@ihf-fih.org

2011
29-31 March
37th IHF World Hospital Congress*
Dubai, United Arab Emirates
info@ihf-fih.org

IHF NATIONAL HOSPITAL ASSOCIATION MEMBERS EVENTS DIARY:

2010
Argentina
21 October – Camara Argentina de Empresas de Salud (CAES)
International Annual Congress
Health, Crisis and Reform: Equity and Social Exclusion, Hotel Sheraton Libertador, Buenos Aires – Argentina, 20 October – Latin American Hospital Federation, Experts meeting: Latin America and Ibero American Countries, Fundacion Docencia e Investigacion para la Salud, Buenos Aires – Argentina
Tel: + 54 11 4373 2375 / +54 11 4372 5915
larrocan@caes.org.ar / grondonanm@caes.org.ar / linarescarlos@yahoo.com.ar

Australia
22-24 September
Australian Healthcare and Hospitals Association 2010 Congress
Adelaide, South Australia
ahha2010@sapmea.asn.au

Colombia
20 – 24 April
2nd International Health Fair (Meditech 2010)
9th National Congress Meeting of Ibero-American Healthcare leaders Association of Colombian Hospital and Clinics in association with Fair and Exhibition Corporation (CORFERIAS)
Bogota, Colombia
www.feriameditech.com / www.ihf-fih.org

France
18 - 21 May
HOPITAL EXPO
“Porte de Versailles” – Paris, France
http://www.hopitalexpo.com/

United Kingdom
23-25 June - The NHS Confederation
Annual Conference
Liverpool, United Kingdom
Tel: +44(0) 20 7931 6115
clare.ruby@nhscconfed.org

2011
Switzerland
November – H+ Les Hôpitaux de Suisse
National Association congress
Bern, Switzerland
Tel: +41 (3) 31 335 11 33
reinhard.voegele@hplus.ch

COLLABORATIVE EVENTS:

2010
19-21 April
Geneva Health Forum
Globalization, Crisis, and Health Systems: Confronting Regional Perspectives
Geneva, Switzerland
info@ihf-fih.org

30-30 June
Joint ICN/IHF/WMA MDR-TB Training Seminar – Francophone Africa
Health Care Worker Safety in the Context of Drug-resistant TB in Low and Middle Income Countries
Cotonou, Republic of Benin
sheila@ihf-fih.org

28-30 July
MDR-TB Training Seminar for Hospital Managers
Rio de Janeiro, Brazil
sheila@ihf-fih.org

Events marked* are interpreted into English, French and Spanish. All other events will be in English/host country language only. IHF members will automatically receive brochures and registration forms on all the above events approximately 6 months before the start date. IHF members will be entitled to a discount on IHF Congresses, pan-regional conferences and field study courses.

For further details contact the: IHF Project & Event Manager, International Hospital Federation, Immeuble JB Say, 13 Chemin du Levant, 02200 Genève, Switzerland; E-Mail: dwight@ihf-fih.org Or visit the IHF website: http://www.ihf-fih.org

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