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Outlook for 2015



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The recent Ebola crisis has highlighted the need for the hospital sector to be on constant guard for unexpected events and to have the ability to respond rapidly to new threats to the health of the population.

We anticipate three trends that are positive for the hospital sector as we enter 2015: (a) continued economic growth; (b) new technological approaches to health care; and (c) improved management of hospital services.

“Our expectation is a better year for 2015 for the global economy, although there is quite a lot of divergence between the places that are performing well, and the places that still have more problems,” says Jan Hatzius, chief economist of Global Investment Research at Goldman Sachs.

World growth is predicted to increase from 3.4% up from 3% in 2015, with emerging markets leading growth at 4.9% up from 4.6% and growth in the developed markets expected to increase to 2.2% in 2015 up from 1.9% in 2014. In the emerging markets, growth in India, on the other hand, is expected to jump from 5.3 to 6.3%. China is once again expected to lead but with growth dropping to 7% in 2015 from 7.3 in 2014. Growth in Europe, however, expected to remain weak and there is even a risk of deflation. Overall, however the continued economic growth can be expected to lead to continued increases in consumer spending and more formal employment both of which translate in to more demand and consumption of health care and hospital services.

Parallel to the positive economic outlook for 2015, the health care sector continues to perform well compared with other sectors of the economy. There is an exponential explosion in technologies that provide opportunities for both improving patient care and clinical management of hospitals services. A few of the advances that may appear on the technology front in 2015 include: (a)

wearable technology, still in its infancy, like Google Glasses, will start to have more widespread influence across the health care industry, ranging from improvements in surgical techniques and allowing doctors to interact directly with a patients, while simultaneously performing other tasks like pulling up their medical history; (b) ingestible sensors that provide health care professionals with more information about the human body and how various treatment solutions affect each system of organs; and (c) a cell lever techniques like ImmunoPET tracers and optogenetics that allows interventions at the cell level rather than organs and larger areas of the body. These are just three examples, among many in the twenty-first century medical technology renaissance.

New management techniques are being imported from other sectors into the health care and hospital system that will allow for better patient care and more efficient use of scarce resources. Examples in this area include: (a) cloud-based health information and mHealth solutions bring patients closer to their health care providers; (b) modern process engineering to help manage patient flows during the whole health care experience starting with the first point of contact between the patient and the health care system, through the intake, diagnostic, therapeutic, discharge and home-based follow up; and (c) patient-centred solutions that focus on the patient in their total interaction with policy-makers, insurers, providers and others in the health care ecosystem.

The upcoming 39th Congress of the International Hospital Federation in Chicago, 6–8 October 2015 provides an exciting opportunity for our members to learn more about the new and exiting approaches to improving hospital care from around the world. The management team from the International Hospital Federation wish you a very successful year in 2015. □

Breast centre certification in Europe



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ABSTRACT: Certification procedures help to improve the quality process by modifying organizational and clinical attitudes to the benefits of increased quality in the standards of care. It provides a critical attitude towards daily work and requests to dedicate sufficient time to multidisciplinary analysis on breast centre organization activity and performance.

Breast Centres Certification (BCCERT) is a nonprofit association, operating in compliance with international standards on certification, which carries out voluntary certification of breast centres based on the requirements of the European Society of Breast Cancer Specialists (EUSOMA) and aims to improve and standardize the level of patient care throughout Europe.

EUSOMA (European Society of Breast Cancer Specialists) is the body representing breast cancer specialists across all disciplines. It aims to improve and standardize the level of patient care through Europe by identifying the most suitable screening, diagnostic, treatments and support procedures and promoting their use, therefore making a high quality specialist breast service available for all women in Europe.

The EUSOMA guidelines, *The Requirements of a Specialist Breast Centre*, is the document that defines the standards for high quality of care in breast centres across Europe. The guidelines have been very well received since their first publication in 2000 and they highlight the mandatory and recommended requirements for a breast centre in terms of organization and services, multidisciplinary activity, equipment and specialists. A revised edition of these guidelines was published in the *European Journal of Cancer* in 2013.

There is evidence that the current guidelines have influenced practice in several European countries and that specialists in breast care strongly support the concept of certification. EUSOMA has therefore implemented a process of voluntary certification, which aims to assure a high quality breast service across Europe for the benefit of women in all member states.

A difficulty faced by patients and referring doctors is how to recognize which centres have a genuine claim to designate themselves as specialist centres: hence the need for a process of certification. Hospitals are eager to claim that they have specialist breast centres and specialists want to show that they work in recognized centres.

The breast centre is made up of a cohesive group of dedicated breast cancer specialists working together as a multidisciplinary team with access to all the facilities required to deliver high quality care throughout the breast cancer pathway. This group does not necessarily have to be a geographically single entity, as a breast centre can be made up of services and specialists from more than one hospital, within the same geographical area, allowing for close multidisciplinary working and guaranteeing easy access to all the necessary services.

Seven basic criteria underpin the judgment of a centre: a single

integrated centre, sufficient cases to allow effective working and continuing expertise, care by breast specialists in all the required disciplines, working in a multidisciplinary fashion in all areas, providing all the services necessary from genetics and prevention, through treatment of the primary tumour to the care of advanced disease and palliation, patient support, data collection and auditing. The EUSOMA guidelines provide auditable recommendations.

The certification procedure lasts three years, during which time three visits are undertaken according to the following schedule: in the first year the Initial audit; in the second and third years surveillance audits. At the end of the three-year period, if the breast centre wishes to keep up certification they have to apply for re-certification and the procedure will start again over a new three-year period.

Certification examines the capacity of a centre to meet the recommendations of the EUSOMA guidelines i.e., their buildings, hardware, specialist teams, protocols, service provision, databases and audits. The certification procedure starts at the request of the breast centre. Before starting the certification process, there are three mandatory entry requirements that have to be fulfilled. The centre must:

- + have a clinical lead;
- + treat at least 150 new cancer cases per year;
- + have a database (DB) validated by Eusoma.

To validate the database, each centre must send consecutive cases of primary breast cancer diagnosed over at least a six-month period to the central Eusoma office in the required format. Validation is granted if the data format is respected and the consistency and completeness of the data is satisfactory, according to a standardized assessment documented in automated reports.

Annual monitoring of quality indicators is one of the requirements set out in the EUSOMA guidelines on breast centres.

For the certification process Eusoma has selected 14 mandatory indicators from those published in the paper "Quality Indicators in Breast Cancer Care" (now in revision: see reading list), aiming at

monitoring breast centre outcomes at the different stages of the patient's pathway i.e., diagnosis, loco-regional treatment and systemic treatment.

All certified centres become part of the EUSOMA network and meet annually to discuss key issues related to breast disease and agree on research topics to be developed and publications based on the collected data.

Once the three mandatory entry requirements are satisfied, the certification procedure can officially begin. BCCert has created a database to store all the different stages of the procedure and to facilitate the tasks assigned to the breast centre, the experts involved in the procedure and the administrative personnel.

The breast centre receives details on how to login to the electronic questionnaire (which matches the requirements indicated in the EUSOMA guidelines) that has to be filled in prior scheduling the initial audit. The answers to this questionnaire are taken into account when evaluating visit feasibility.

A date for a visit is then agreed with the centre and an audit team is chosen for the initial audit.

The audit team includes a breast surgeon, breast radiologist, breast pathologist, a breast care nurse and a lead auditor (not necessarily a medical doctor) who has the role of monitoring progress, cooperating and assisting the other visitors in carrying out their roles. Visitors must normally come from countries outside of the applicant centre.

The site visit aims to check the compliance with EUSOMA requirements by meeting members from the different specialties in the centre team, talking through the replies given on the questionnaires and on arrangements for the working week, ensuring that multidisciplinary working is carried out and checking the documentary evidence.

The initial audit lasts for a day and a half and is carried out according to the following schedule:

- + Documentary evaluation (usually carried out in the afternoon before the date of the initial audit from 14.00 to 18.00).
- + Initial audit from 8.30 to 16.00.

In order to prepare for the audit, the breast centre is provided with a schedule detailing the timing and actions of the audit together with a checklist containing all the documents/files necessary for the audit to enable the audit team to check the evidence declared by the centres both in the questionnaire and when discussed during the audit.

The documental audit aims to ensure the smooth running of the audit, making sure that the breast centre has understood what is required by the audit schedule, has prepared all the documents requested and clarified any doubts, misunderstandings or difficulties related to the audit and the procedure.

The audit is carried out as follows:

- 1) Meeting of the audit team and the team members of the centre. During this meeting the lead auditor gives a brief presentation on the certification process and the clinical director of the breast centre gives an overview to the audit team.
- 2) The visitors split up for their separate tasks to check if the centre is compliant with the EUSOMA requirements related to the different disciplines. The main elements are:
 - + **The breast radiologist** visits the imaging unit for breast disease and meets the breast radiologists and radiographers

(technicians); inspects the location of the diagnostic unit; the dedicated rooms; the examinations performed; the equipment; the number of mammograms, breast ultrasounds and MRIs performed each year; the number of radiographers (technicians) and whether they are trained in and dedicated to breast disease.

- + **The breast pathologist** visits the pathology laboratory and meets with the pathologists who report breast disease. The visitor checks the equipment; the staffing levels of secretarial and technical staff; the activities of each pathologist; the turnaround time and ability for multidisciplinary working and intra-laboratory conference. The existence of adequate transport systems between the laboratory and the clinical facility and operating theatre as well as adequate communication channels with the clinicians.
- + **The breast care nurse** meets with those on the team primarily responsible for patient support; the breast care nurse, the psychologist, the social worker, a representative from a patient volunteer group and the physiotherapist. The breast care nurse inspects some of the facilities: the outpatient (ambulatory) clinic; the imaging facilities; the chemotherapy suite and accommodation for patients admitted for surgery.
- + **The breast surgeon** meets with the surgeons; the reconstruction team; the clinical geneticist; the radiation oncologist and the medical oncologist, and goes through the activity of each specialist, the organization of the daily work so deepening all the aspects needed to check compliance with the EUSOMA requirements.

Multidisciplinary meeting (MDM)

The breast centre is asked to hold one of their regular multidisciplinary case management meetings. The meeting must be a real case discussion meeting and not a demonstration. Those members of the centre who do not regularly attend these meetings should not be invited. The audit team are not present to discuss individual case management nor breast centre policies, but to observe and check the capability of the breast centre to organize and run a proper MDM. It is the style of the MDM, the participation of the team, the method of presentation, etc., rather than the actual decisions made which the visitors need to see.

If the breast centre team has difficulty in holding a genuine MDM in English, the native language may be used, with an English-speaking member of the team answering requests for explanations from the members of the audit team.

Audit team internal meeting

Audit team members hold an internal meeting to discuss the visit outcomes and draw up the audit report.

Feedback

The audit closes with the presentation of the audit report to the breast centre team, during which any non-conformities and recommendations are discussed.

The post audit activity is as important as the audit itself.

Evaluation after the visit

For each non-conformity and recommendation the breast centre will be asked to report within two weeks on how they plan to act to comply with the missing requirements (both for non-conformities

and recommendations), in terms of breast centre's commitment, action and timing. The fulfilment of the recommendations is verified during the follow-up surveillance audit.

Acceptance of the proposed corrective actions will be evaluated by the audit team who carried out the audit. In the case of a positive evaluation of the proposed corrective actions, the breast centre is committed to send documentary evidence showing the fulfilment of each mandatory requirement within four months. Depending on the requirement, a site check by one expert may be required to assess the fulfilment of the mandatory requirement.

Recommendations are not binding for certification purposes. In any case, the breast centre must report in written form how each recommendation will be managed.

Once breast centres certification receives all the documentary evidence showing the closure of pending non-conformities, the Certification Decision-making Committee has to evaluate the procedure. Members of Certification Decision-making Committee are experts in breast disease in the different, required disciplines and approved by EUSOMA. It is the responsibility of the Certification Decision-making Committee to decide on the certification status of each breast centre.

In evaluating the breast centre, certification decision-makers must take note of the objective of certification: it is to certify the breast centre's capability in complying with the EUSOMA requirements indicated in the referring guidelines and complying with the EUSOMA mandatory performance indicators.

The evaluation is based on the questionnaire, the results of the audit, evaluation of the evidence from any corrective actions and the breast centre outcomes on quality indicators. Once the decision by the Certification Committee has been unanimously agreed a certificate showing the certification status and a logo will be issued and sent to the breast centre. This concludes the evaluation procedure.

A list of certified centres appears on the Breast Centres Certification website.

The certification process has to be seen as a collaboration among the different stakeholders: the breast centre, Breast Centre Certification and EUSOMA, to achieve the common goal of making available to all women a high quality specialist breast service. □

Professor Luigi Cataliotti is President of Senonetwork Italia Onlus (The Italian network of breast centres) and Breast Centres Certification (BCCERT). He has been a full Professor of Surgery at the University of Florence and Head of the Department of Oncology at the Careggi University Hospital until November 2011. He has also been a board member of the Federation of European Cancer Societies (FECS) from 1995–2007; a board member of the European Cancer Organization (ECCO) from 2007–2009; President of the European Society of Breast Cancer Specialists (EUSOMA) from 1998–2007 and President of the European Society of Surgical Oncology (ESSO) from 2005–2006.

He has also been a member of the Steering Committee of the Breast Group of the European Organization for Research and Treatment of Cancer (EORTC) and is a member of SAC (Scientific Audit Committee) of EORTC since 2011, as well honorary member of the European Society for Therapeutic Radiology and Oncology (ESTRO).

He is a founding member of the European Academy of Cancer Sciences.

He has published over 400 papers and he has given more than 300 lectures in national and international meetings. In 2003, he received the European Society of Surgical Oncology award.

Lorenza Marotti is EUSOMA Executive Director and lead auditor for breast centre certification.

She is member of the scientific committee of Senonetwork Italia Onlus (The Italian network of breast centres) and member of the organizing committee of "Attualità in Senologia" (The Italian congress of breast cancer).

She has been study coordinator at the Breast Unit at the Careggi University Hospital from 2004 – 2010 and a member, both at national and European level, of working groups for the improvement of quality in breast cancer care. She has participated as speaker in several conferences and she has published 20 papers as co-author.

Reading list

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The rehaVital Stroke Network: An integrated, post-discharge, patient care model initiated by durable medical equipment specialists



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ABSTRACT: Outpatient care for patients with chronic illnesses in Germany (e.g., stroke patients) is currently fragmented, with little interconnectivity among the different care providers. After being cared for in a highly structured inpatient environment, patients are often discharged alone with limited supportive care at home. With the goal of accompanying patients on their way back to autonomous mobility and social participation, rehaVital members developed an integrated care model. In this model, patients' perspectives and needs are recognized as central determinants in their post-discharge care.

Further key features include structured interconnectivity among the various care providers with transparent treatment goals and progress demonstrated by quality indicators.

Background and goals of the care model

With nearly 270,000 cases annually in Germany, strokes are a predominant cause of chronic morbidity. Almost 40% of persons affected die within one year of the stroke; of those patients that survive, about half suffer from permanent disability, making strokes the most frequent cause of acquired disabilities (1, 2, 3).

Stroke statistics for Germany

- + 270,000 persons annually suffer a stroke
- + 40% die within the first year
- + 50% of patients surviving, remain disabled
- + 50% of those patients live at home for 2.5 years after their stroke

Acute hospital care of stroke patients in Germany is high compared to international levels (1). About 25% of all stroke patients in Germany receive inpatient rehabilitation treatment and care. A large proportion of those patients are able to return home but still require ongoing rehabilitation and care. According to patient interviews within the TEMPIS-Project (*Telemedizinisches Projekt zur integrierten Schlaganfallversorgung in der Region Süd-Ost-Bayern*), more than half of all stroke patients live at home for 30 months after the event (4). In contrast with the inpatient treatment phase, the outpatient environment has a less structured treatment plan and fewer committed professional individuals to take responsibility for patient care on a personal level. This is not exclusive to patients who have suffered from a stroke but true for

all patients with chronic conditions. As a result, case management is left to the patient, his or her relatives, or the discretion of the family physician. Various integrated care models have been tested (5, 6), however, patient perspectives have not been taken into account in these studies (5). Moreover, these integrated care models are not accessible to most patients.

Care deficits for chronically ill patients at home

- + Lack of committed care for patients and relatives
- + Focus on medical aspects only; very little or no focus on social, psychological factors and the living environment as a whole
- + Insufficient information on local support services
- + Fragmentation of medical aid care through the growth in public tendering

Patients with chronic conditions need structured treatment plans and processes that ensure integration and continuity of care (5). Such plans should not merely focus on the medical and physical facets of care, but also the social and psychological aspects that influence the living environment as a whole (7). Even if there were a large number of local services available in Germany, there is no universal location where all the patient information is made accessible in a concise way.

In summary, there are a number of unmet needs for patients with chronic medical conditions, including easy and efficient access to durable medical equipment (DME). In Germany, DME providers are

very often the first contact partners of stroke patients returning home from hospital care. One of the goals of the patient-oriented care model is to take responsibility for patients at the time of hospital discharge and to generate additional services to close current gaps in care.

Durable medical equipment providers: Competencies under one umbrella

- ✦ Aids and devices for training and rehabilitation
- ✦ Orthopedic technology and orthopedic footwear
- ✦ Homecare products
- ✦ Medical and nursing supply and devices

Services from DME providers play a key role in patient rehabilitation, helping to restore mobility and autonomous social participation. Rehabilitation equipment covers a broad spectrum of devices including wheelchairs, grab bars, commodes, donning aids, nursing beds, drop foot orthoses, communication aids and functional electro-stimulation devices. Public tenders by health insurance companies make it increasingly difficult or may even prevent patients from being able to acquire the medical equipment they need from one source. Depending on which DME distributor has won a particular tender, a patient must often contact all the different distributors to collect the various medical aids prescribed. This market fragmentation results in greater effort and expense for both patients and providers. Hindered by this market environment, true responsibility for “sufficient, appropriate, and economic care” (as required in §12 of the Fifth German Social Law SGB V) cannot be implemented by any of the health care providers involved.

To provide adequate services for patients and their relatives in this challenging environment, member firms of rehaVital Gesundheitsservice GmbH (see below) developed an integrated care model for stroke patients.

About rehaVital Gesundheitsservice GmbH

- ✦ rehaVital is an association of 120 DME providers
- ✦ rehaVital members are present in more than 500 locations all over Germany
- ✦ rehaVital experts provide DME services for several millions of patients annually

Core elements of the care model

Participants

In multiple workshops, more than 30 of the 120 rehaVital members developed different segments of the care model, i.e., core service, employee training programme, communication and marketing, and sales and partner management. Close interaction with patients ensured adequate integration of the patients’ perspectives, even during the conceptual phase. Business partners such as health insurance companies or nursing homes were also involved in the design process. All rehaVital members involved in this project agreed to the implementation and operation of measures and processes, and committed to the plan with written consent. Even previously, some locations had cross-partner standard operating procedures that described each partner’s role in the care pathway.

A great benefit of implementing the new care model is the longstanding rehaVital culture of continuous process improvement. This culture emphasizes a high awareness for quality management, techniques for development and optimizing processes and working structures, as well as expanded capabilities for the identification and documentation of key performance indicators.

Target groups

This unified care concept primarily benefits the patient and relatives of the patient by universalizing access to DME equipment. Patient support groups and organizations such as the German Stroke Foundation (*Stiftung Deutsche Schlaganfall-Hilfe*) are partners in communicating the benefits of this medical alliance. The cooperating partners also include hospitals, inpatient and outpatient nursing facilities, and the model addresses physicians in private practice as well. In the spirit of a holistic approach, however, the care model is directed to any stakeholder that is involved in the care of chronically ill patients. Some examples of these include information centres for persons in need of nursing, organizations for handicapped sports and information and service centres offered by local governments or volunteer services.

The integrated care model

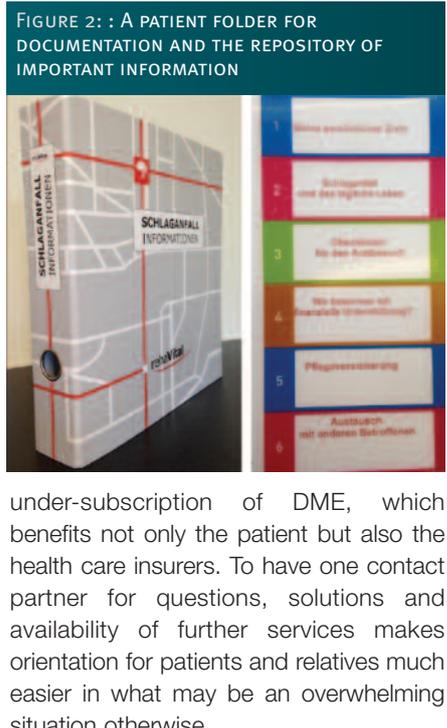
The centrepiece of the rehaVital care model consists of core providers taking responsibility for integrated care and working for individually agreed-upon goals with patients. First, a structured analysis of patient needs is conducted in accordance with the well-established activities of daily life. Figure 1 illustrates solutions for typical patient needs with a few examples out of the wide range of medical aids. Completeness is ensured by assessment forms and appropriate staff training. Documentation and regular analysis are performed within the established quality management systems of all rehaVital members. Further characteristics of the model include routine and individualized follow-up, dependent on the kind of medical aids provided. Official guidelines are applied where available, such as rehabilitation guidelines set forth by the German Association for Neurology recommending specific procedures for diagnosis and therapy in patients with neurologic morbidities (8).

Core elements of the care model

- ✦ Integrated: Holistic analysis of all patient needs
- ✦ Interconnected: Alliances with other care providers
- ✦ Quantifiable: Performance documentation with quality indicators

Key steps of the care process

- ✦ Early documentation of the patient’s diagnosis to trigger the process
- ✦ Agreement and personal appointment with the patient
- ✦ Holistic assessment of needs and agreement of individual goals
- ✦ Apply care and aids according to guidelines
- ✦ Patient follow-up with re-assessment
- ✦ Routine data analysis and continuous process optimization



It should be noted that the individual rehaVital member provides services from its own core competencies, while other specialized services are made available through the partner network. Specially trained DME experts provide the overview of regional offerings and contact other partners, if necessary, to fulfil the spectrum of equipment and service needs of the patient. Thus, each DME provider is able to supply their specialized product(s) and the patient receives all the necessary equipment from just one network through a coordinated effort. In order to implement this same strategy for a stroke-specific care model, rehaVital stroke experts are being trained in a programme consisting of five courses. Additionally, working groups have developed key performance indicators (KPI) for structural, procedural and outcome quality. These KPIs are documented and aid both the continuous improvement of processes and the policy of transparency towards patients and business partners.

A number of communication materials have also been developed to facilitate this network, including the patient folder and the patient website. The folder contains important information regarding the patient, the patient's illnesses and the contact details of caregivers (Figure 2). The core element of the folder is the individual goals set for the patient targeting mobility and social participation. It is supplemented by a range of information about the patient's medical condition as well as directions to both local and national services and sources for information and support. An example of one of the recommended sources includes a patient-directed website (www.meine-schlaganfall-hilfe.de), which has been developed by rehaVital to provide concise online information and links to more in-depth sources on the internet.

Patient benefits

There are several benefits of the rehaVital care model, including the emphasis on considering patient needs and preferences. While taking the patient's goals of care and scheduled follow-ups into consideration, patients are involved in making decisions regarding their DME. This model therefore reduces the incidence of over-

under-subscription of DME, which benefits not only the patient but also the health care insurers. To have one contact partner for questions, solutions and availability of further services makes orientation for patients and relatives much easier in what may be an overwhelming situation otherwise.

Financing

Offerings of holistic assessment and care are currently provided by the participating rehaVital members without reimbursement by any of the health insurance companies. By involving these partners in the design, implementation and evaluation of the care model, adequate compensation for the additional patient-centric services can be obtained in the future.

Implementation and evaluation

In April 2014, the above mentioned rehaVital members began implementing this model. This entailed naming responsible persons in the company for project management, training stroke experts and identifying a primary stroke contact person. Furthermore, the operation of re-designing processes, structures and documentation has already begun. After implementation of all new elements within the rehaVital member companies, the care model will be prospectively evaluated with selected partners. Feasibility of widespread implementations across all 120 partners will be tested, and potential obstacles identified and solved.

Outlook

Looking at holistic patient orientation in a societal and macro-economic manner, as presented by Leo and Simone Nefiodow (9) demonstrates an additional dimension of health care investment. According to the World Health Organization definition, optimal provision of comprehensive health care requires "... a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (10). This global investment in health care is the core element of the sixth Kondratieff cycle, i.e., the beginning of the next wave of global economic growth. Companies that invest in health care growth today are enabling better care of patients while promoting commercial growth. Thus, patient orientation and quality of care must not be viewed as simply altruistic philanthropy, but as an essential precondition for economic success in today's health care economy. □

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The willingness of and barriers to Korean health care providers participating in a humanitarian assistance field hospital responding to an urgent global health crisis



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ABSTRACT: Purpose: As the number of disaster and humanitarian crisis increases, there is an emphasis on the prompt dispatching of humanitarian assistance field hospitals (HAFHs) in order to relieve a disaster-stricken society as soon as possible. The participants' individual motivation constitutes one of the most important factors in achieving successful HAFH activities. The aims of this study are to evaluate health care providers' willingness to participate in HAFHs when there is an urgent global health need and to examine their motives, perceived barriers, and concerns using a simulated global disaster scenario. Results: Seventy health care providers completed a survey which asked about their willingness to join a HAFH that was being dispatched immediately. Forty-five of the 70 respondents (64.3%) answered that they were willing to join an HAFH, which departed within 24 hours of a hypothetical earthquake. The major perceived barriers to participation in an HAFH included "pre-scheduled work commitments in home institutions," "insufficient support from home institutions," and "insufficient field safety and security".

Conclusion: Policy-makers need to proactively establish support from the institutions that employ disaster-related health care providers, in order to secure their participation in HAFHs and to ensure optimal preparedness for global disaster relief activities.

The number and magnitude of natural disasters and various types of humanitarian crises have increased over time. Typhoon Haiyan in Philippines (2013) and the Tsunami in Fukushima, Japan (2011) recently devastated a large number of people and facilities within a short period of time. It was the Haiti earthquake (2010), resulting in 230,000 deaths, over 300,000 wounded with more than three million people displaced, that has recorded the most highest number of affected people in recent decades (1). In 2010, a total of 373 natural disasters killed over 296,800 people in the world, affected nearly 208 million people and cost nearly US\$ 110 billion, according to the Centre for

Research on the Epidemiology of Disasters (2). People are becoming more vulnerable and susceptible to an increasing number of disasters because of increased population density in areas of known threats or risks (3, 4). As a consequence, contemporary society must be prepared for the prompt dispatching of humanitarian assistance field hospitals (HAFHs) to affected areas in order to relieve disaster-stricken conditions anywhere in the world as soon as possible. In fact, there is an increasing trend of global involvement in the provision of humanitarian aid, as was experienced in the disasters in Iran, Indonesia and Pakistan, with unprecedented numbers of HAFHs

dispatched to Haiti after the earthquake (1, 5, 6).

Humanitarian assistance is a well-respected type of foreign aid because of its urgency and service to disaster victims. Relief-related tasks not only include the provision of assistance to those afflicted, but also the preparation measures designed to enable effective responses in future disaster situations (7). Both the needs of a recipient country and the capability of donor countries determine specific components of humanitarian assistance. The capability of a donor country depends on structural determinants such as its relevant systems, human resources and logistical capacity for humanitarian assistance activities. The effectiveness of humanitarian assistance could not be improved without straightforward and standard approaches in optimal planning and evaluation (8). This effectiveness is not only determined by the preparedness of a system, human actors and logistics in unpredictable disaster situations, but also by the rapidness of the response in the actual operation and delivery of emergency medical services immediately after the disaster (9, 10).

Given the nature of emergency disaster relief, HAFH members are faced with unexpected personal and professional challenges in the context of an uncertain, insecure or potentially dangerous humanitarian crisis (11). Furthermore, in an acute situation, they need to conduct extremely challenging work under unexpected and unfamiliar conditions in the context of suboptimal physical infrastructures. Well-prepared health care providers are a crucial characteristic of an effective HAFH in a disaster situation. Prior training through appropriate educational programmes and simulation exercises to prepare for disaster situations are highly recommended. Health care providers, who are potential HAFH members, require immediate support or approval from their work places (hospitals, universities and various organizations) and their family members in order to promptly participate in HAFHs when a disaster occurs.

Individual motivation constitutes one of the important factors for achieving successful HAFH activities. Proper understanding of 1) a providers' motivation, 2) the perceived barriers and 3) the perceived mission of HAFH could help societies encourage providers to join in a timely manner. However, there is only a small body of qualitative studies about health care providers' motives, perceived barriers and concerns with HAFH activities insofar as we know (11–14). There is no equivalent quantitative study that elucidates the motives of providers.

The aims of this study were to examine the willingness of providers listed in the South Korean National Association of Disaster-related Providers to participate in HAFHs using a simulated disaster response scenario and to explore their motives, perceived barriers and concerns with participation in HAFHs.

Methods

Study population and protocol

The study population included health care service providers who were members of the Korean Association of Disaster Emergency Medicine (KADEM) and the Korean Instructors of National Disaster Life Support (NDLS®, USA) course. The mission of these organizations is to maintain preparedness and to establish high-quality emergency medical systems for disaster relief. In 2011, there were a total of 180 members who were health care workers (doctors, nurses, paramedics, administrators, non-clinical professors). This group represents the professionals familiar with a

disaster situation and the primary potential pool of civilians, who were publicizing their personal contact information in advance through an emergency communication network for Korean HAFHs and research. The simulated disaster scenario described an earthquake that happened on a small island in the South Pacific, some 15 hours from Korea. The scenario announced that there was severe damage to buildings and facilities, many injuries and deaths, and no security or water guarantees, and that the Korean HAFH would depart in 24 hours.

Variables

The primary outcome measure was a personal decision to participate in a HAFH in a simulated disaster response scenario, which asked for departure in 24 hours, and the secondary outcome measure was the perceived importance of the diverse goals of the HAFH (4-point scale). The third outcome measure were the motives, perceived barriers and concerns with participating in a HAFH (5-point scale). The covariates included age, sex, job, work position and experience of HAFH staff. Other covariates consisted of three sections:

- ✦ the characteristics of respondents such as age, sex, profession and position;
- ✦ awareness, specific education and courses, and prior experiences;
- ✦ general willingness to participate in a HAFH and attend a HAFH course.

We developed the survey questions based on a relevant literature review. The survey was conducted via a descriptive online tool from 6–21 August 2011. The study population received an e-mail via a secure anonymous website link which included informed consent and instructions for filling out the survey electronically.

Analysis

The distribution of nominal variables were reported as percentages. Continuous variables were presented as medians with inter-quartile ranges. Chi-squared tests, Fisher's exact tests for nominal variables and generalized linear model analysis for 5-point scale variables were used to compare each of the subgroups. All statistical analysis was performed using SAS-Version 9.2 (SAS Institute Inc., Cary, NC, USA) software.

Study design and setting

This was a cross-sectional study and was reviewed and approved by the Institutional Review Board (IRB) of the Seoul National University in Korea (IRB No. C-1110-129-383). Informed consent was confirmed by the IRB.

Results

Seventy people of the 180 target population, completed the online survey (response rate: 38.9%). There were no statistically significant differences in compositions of sex and type of profession between respondents and non-respondents (Appendix 1). However, age differed between respondents (38 years old on average) and non-respondents (37 years on average) by one year ($p < 0.03$).

Table 1 compared the characteristics of all respondents according to their willingness to participate in HAFHs (dispatched in 24 hours) in the simulated disaster response scenario. Only 45 of the 70 respondents (64.3%) answered that they would be able

TABLE 1: CHARACTERISTICS OF RESPONDENTS BY WILLINGNESS TO PARTICIPATE IN A HUMANITARIAN ASSISTANCE MEDICAL TEAM (HAFH) IN A SIMULATED DISASTER SITUATION

	Willingness to participate in a HAFH in a simulated disaster situation						p-value
	Total		Yes		No		
	N	%	N	%	N	%	
Total	70		45		25		
Sex							0.83
female	15	21.4	10	66.7	5	33.3	
male	55	78.6	35	63.6	20	36.4	
Age, mean (IQR)	38 (35-43)		38 (36-42)		38 (31-44)		0.74
Job							0.48†
Doctor	42	60.0	24	57.1	18	42.9	
Nurse	10	14.3	7	70.0	3	30.0	
Paramedic	16	22.9	12	75.0	4	25.0	
Other	2	2.9	2	100.0	0	0.0	
Position of doctor							0.02†
Professor	30	42.9	16	53.3	14	46.7	
Private provider	7	10.0	7	100.0	0	0.0	
Fellow	5	7.1	1	20.0	4	80.0	
Experience in HAFH	8	11.4	5	62.5	3	37.5	0.99†
Finished a course in HAFH	5	7.1	3	60.0	2	40.0	0.99†
Awareness of HAFH	62	88.6	38	61.3	24	38.7	0.24†
Willingness to participate in HAFH, in general	67	95.7	45	67.2	22	32.8	0.04†
Willingness to attend a course in HAFH	59	84.3	42	71.2	17	28.8	0.01†

† Fisher's exact test

to join the prompt dispatch of the HAFH in 24 hours in the simulated scenario, even though 67 (95.7%) reported a general willingness to participate. There were no differences across age and gender regarding willingness to be dispatched in 24 hours. However, there was a significant difference between types of professions. Professors and fellows were significantly less willing to participate. Among those who had previous experience (at least once) with HAFHs (8 respondents: 11.4%), only 5 (62.5%) responded that they would participate in HAFHs in the simulated global disaster. Table 2 demonstrated the opinions of the respondents based on their perceived importance of the goals of the HAFH activities. The most important goal for the respondents was “saving lives via providing medical aid” for the disaster afflicted country, whereas the least important goal to the respondents was the “potential improvement in donor country exports” regardless of the respondents’ type of profession. There were no significant differences in their opinions across types of profession.

Table 3 shows the motives of those 45 respondents who were willing to participate in the HAFH in the simulated disaster response scenario. Most respondents were motivated by “saving lives via providing medical aid”. More than half of the respondents also chose “contributing to society and sacrifice” as a motivating factor, while more than half of the non-doctor group showed high motivation in a “desire for a new experience” and “opportunities for personal growth,” which were not popular motives among doctors.

Table 4 demonstrated the barriers and concerns with

participation in HAFHs and the perceived key factors for an effective HAFH. The barriers for the respondents to participating in HAFHs were as follows: 1) “pre-scheduled work commitments at their home institutions”; 2) insufficient support from their home institutions; and 3) “insufficient safety and security”. The respondents who answered that they would join a HAFH dispatched in 24 hours in the simulated disaster response situation were significantly more concerned with 1) “insufficient support from their home institutions” and 2) “cultural barriers” when considering their participation.

The perceived key factors for effective HAFH activities were as follows: 1) “participant’s passion”; 2) “national level effort to provide physical safety for the members of the HAFH; 3) “sacrifice”; and 4) team spirit among members of the HAFH, in that order. The significant key factors for a successful HAFH from the perspective of those who had previous participation experience were “team spirit”, “humanitarianism”, and “respecting the rules of HAFH in the affected field”. There were no

significant differences about barriers from those having previous experience in HAFHs because of their profession. “Receiving recognition for participating in a HAFH by others” was perceived as a necessary factor in the non-doctor group compared to the doctor group.

Twenty five respondents (35.7%) indicated that they would not participate in a HAFH in the simulated disaster response. However, 15 (60%) of these 25 respondents answered that they would participate if they could change their work schedule at their home institutions. As well, 18 (72%) of these 25 respondents indicated that they would participate if their home institution supported and cooperated with the HAFH activities.

Discussion

The aims of this study were to examine the willingness and difficulties in participating in a HAFH among disaster-related providers using a simulated disaster response scenario. The study respondents thought that professional and social responsibility were the most important motives whereas pre-scheduled work conflicts, insufficient support from home institution, and physical insecurity were identified as cumbersome barriers. According to the survey response, professionalism (saving lives in the greatest health need in desperate conditions in this case) occupies this first frontline health care services provider in emergency circumstances rather than diplomacy perspectives or current visibility and/or future economic interests of the donor country. Experienced professionals especially stress team spirit and language

TABLE 2: OPINIONS REGARDING THE IMPORTANCE OF THE GOALS OF THE HUMANITARIAN ASSISTANCE FIELD HOSPITAL (HAFH) ACTIVITIES

	Strongly agree		Agree		Disagree		Strongly disagree		p-value
	N	%	N	%	N	%	N	%	
Enhancement of national prestige									0.08
Doctor	20	47.6	18	42.9	4	9.5	0	0.0	
Non-doctor	18	64.3	5	17.9	5	17.9	0	0.0	
Saving lives via providing medical aid									0.33†
Doctor	34	81.0	5	11.9	3	7.1	0	0.0	
Non-doctor	23	82.1	5	17.9	0	0.0	0	0.0	
Recovery of infrastructures									0.08†
Doctor	10	23.8	23	54.8	7	16.7	2	4.8	
Non-doctor	14	50.0	9	32.1	5	17.9	0	0.0	
International amity and cooperation									0.07†
Doctor	12	28.6	25	59.5	5	11.9	0	0.0	
Non-doctor	14	50.0	9	32.1	4	14.3	1	3.6	
Potential improvement in exports									0.10†
Doctor	4	9.5	14	33.3	18	42.9	6	14.3	
Non-doctor	8	28.6	11	39.3	8	28.6	1	3.6	

† Fisher's exact test

TABLE 3: MOTIVES OF THE RESPONDENTS WILLING TO PARTICIPATE IN A HUMANITARIAN ASSISTANCE FIELD HOSPITAL (HAFH) IN A SIMULATED DISASTER SITUATION

	Total		Doctor		Other professions		p-value
	N	%	N	%	N	%	
Saving lives via providing medical aid	45		24		21		0.99†
Contribution to society and sacrifice	38	84.4	20	83.3	18	85.7	0.81
Humanitarianism	27	60.0	14	58.3	13	61.9	0.63
Professional competence in fragile state	24	53.3	12	50.0	12	57.1	0.63
A desire for new experiences	24	53.3	9	37.5	15	71.4	0.02
Opportunities for personal growth	24	53.3	9	37.5	15	71.4	0.10
Responsibility for national requests	22	48.9	9	37.5	13	61.9	0.69
Passion for HAFH itself	20	44.4	10	41.7	10	47.6	0.84
Enhancement of national prestige	20	44.4	11	45.8	9	42.9	0.97
Perceived recognition	17	37.8	9	37.5	8	38.1	0.20

† Fisher's exact test

preparedness, compared to the non-experienced, which is probably based on previous difficulties.

Although the study population revealed highly motivated professionals with the skills to address a disaster situation, their willingness to participate in HAFHs was disproportionately low (64.3%). The majority (88%) among those who would not participate in the simulated scenario had a willingness to participate in HAFHs in general. This result shows that there is a discrepancy between a general willingness to volunteer versus actual participation in the specific disaster at hand. Health care providers might also be much less likely to take part in a HAFH in real practice, further contributing to this inconsistency. The study population expressed difficulties in participating in HAFHs although they thought it was worthwhile. The majority of the study

population mentioned that they could participate in a HAFH if the following perceived barriers were removed: 1) pre-scheduled work commitments in home institutions; and 2) the lack of support from their home institutions. Governmental officials should account for the difficulties posed to the disaster-related health care providers, who are the potential human resources of HAFH, in order to ensure optimal HAFH activities at all times. A pre-disaster tripartite treaty for HAFHs between 1) the providers who are willing to join HAFHs, 2) employers of the volunteering providers, and 3) the government, would be a good alternative way to facilitate dispatch as early as possible (15).

Similar to the concerns of the respondents as a whole, the group with prior experience in HAFHs listed team spirit and language proficiency as significant factors for a successful a HAFH compared to the non-experienced professionals' response. Surprisingly only five of the eight respondents who had previous experience of HAFHs answered that they would participate in HAFH again. In other words, their previous experience was not a strongly positive facilitating factor for re-enlisting in HAFHs. Presumably, these two factors (team spirit and language proficiency) might have further discouraged previous participants who were working in extremely hard conditions during their previous involvement in HAFHs. Other studies have also shown that participants in HAFHs might not be able to function professionally under difficult circumstances with linguistic

barriers, and they might also experience physical and psychological illnesses after their return (11, 16). In previous qualitative studies, doctors were concerned that physical insecurity would negatively affect their professional performance in the field, and health care volunteers for NGOs said that it was the organizations' responsibility to verify field security and offer relevant support (11, 17). Appropriate administrative support should be provided: for example, an adequate psychological assessment via a qualified counsellor before and after dispatch and appropriate support for re-adaptation to their home workplaces (11). Emotional health as well as physical health should be evaluated and treated before and after the deployment (16, 18, 19).

The doctors surveyed in this study regarded professionalism,

TABLE 4: DEGREE OF THE BARRIERS AND CONCERNS ABOUT PARTICIPATION IN A HUMANITARIAN ASSISTANCE FIELD HOSPITAL (HAFH) AND THE PERCEIVED KEY FACTORS FOR AN EFFECTIVE HAFH, MEASURED BY A 5-LIKERT SCALE

	Total N=70	Job		p-value	Willingness to participate in a simulated disaster situation			Experience in HAFH		
		Doctor N=42	Other N=28		Yes N=45	No N=25	p-value	Yes N=8	No N=62	p-value
Barriers and concerns										
Pre-scheduled works in home institutions	3.96	4.05	3.82	0.45	4.09	3.72	0.26	4.00	3.95	0.93
Support from home institutions	3.86	3.81	3.93	0.69	4.11	3.40	0.02	3.13	3.95	0.26
Insufficient safety and security	3.64	3.81	3.39	0.20	3.56	3.80	0.47	3.50	3.66	0.78
Opposition from their family members	3.34	3.52	3.07	0.21	3.27	3.48	0.52	2.88	3.40	0.38
Strenuous physical conditions and overburdening	2.83	2.86	2.79	0.84	2.80	2.88	0.81	2.50	2.87	0.39
Requirement for other knowledge and skills besides their own professionalism	2.71	2.81	2.57	0.37	2.78	2.60	0.51	2.63	2.73	0.87
Language barrier with residents in country	2.56	2.43	2.75	0.29	2.67	2.36	0.32	2.50	2.56	0.89
Cultural barrier	2.20	2.10	2.36	0.34	2.40	1.84	0.02	1.88	2.24	0.29
Lack of willingness to examine patients	1.97	1.81	2.21	0.14	1.96	2.00	0.87	1.88	1.98	0.80
Necessary factors to make a good HAFH										
Passion for HAFH itself	4.69	4.62	4.79	0.26	4.73	4.60	0.41	4.75	4.68	0.79
National efforts toward physical safety	4.57	4.50	4.68	0.21	4.64	4.44	0.20	4.63	4.56	0.77
Sacrifice	4.53	4.48	4.61	0.39	4.58	4.44	0.38	4.63	4.52	0.60
Collaborative working and living as team	4.51	4.45	4.61	0.27	4.69	4.20	<0.01	4.88	4.47	0.02
Contribution to society	4.49	4.43	4.57	0.35	4.58	4.32	0.17	4.50	4.48	0.97
Respecting HAFH rules	4.46	4.43	4.50	0.65	4.58	4.24	0.04	4.75	4.42	0.10
Professionalism and experiences	4.43	4.38	4.50	0.48	4.47	4.36	0.53	4.38	4.44	0.83
Interpersonal relations	4.41	4.36	4.50	0.39	4.53	4.20	0.05	4.38	4.42	0.88
Humanitarianism	4.34	4.29	4.43	0.42	4.53	4.00	<0.01	4.38	4.34	0.90
Receiving recognition	4.24	4.07	4.50	0.02	4.31	4.12	0.33	4.63	4.19	0.06
Financial support	3.79	3.69	3.93	0.35	3.82	3.72	0.68	3.63	3.81	0.71
Linguistic ability	3.70	3.74	3.64	0.69	3.80	3.52	0.19	4.25	3.63	0.05

social contribution and responsibility as the most important motivations for them to participate in a disaster response. This is connected to an underlying ethos of empathy-induced altruism, heroism and a sense of justice (17). The non-doctor group had relatively more diverse motives. These findings are consistent with those of previous studies. In a previous study, the desire to make a contribution to a vulnerable society and heroism were identified as a major motivating factors in their decision to volunteer for an NGO's relief activities (12). On the one hand, the opportunities for personal growth were great under challenging conditions, but on the other hand, informants explained that excessive sacrifice was a negative factor and that disaster tourism should be avoided (12, 20). Cooperation between international personnel and robust logistical capacities in service delivery, are important factors in making a meaningful contribution to the recipient country and in satisfying health care providers' personal motives (21, 22). It is important to utilize effective information and communications systems to prepare for the specific real-time needs in the field, and

this is crucial in creating a successful humanitarian relief mission (23, 24).

The respondents who expressed a willingness to participate in HAFHs identified humanitarianism, team spirit, respecting HAFH rules and personnel relations as important factors for an effective HAFH mission. Previous studies disclosed important factors as follows: 1) acquired knowledge (including non-medical aspects); 2) experience and skills; 3) preparatory measures taken before to the mission; and 4) inherent personal qualities (12). This quite dissimilar stress might come from lack of sufficient training before participation in extremely difficult circumstances. It is essential to improve performance in the field for those affected and to make HAFH a fruitful experience for its participants as well. Therefore, it is crucial to implement appropriate training programmes that could better prepare health care professionals (8, 25). Specially designed education programmes would help foster medical and non-medical knowledge and skill acquisition, and help forge healthy working relationships with other participants as one cohesive

HAFH. This measure may change the response in the future towards more positive attitudes to willing participation.

Our study has limitations. The study population was restricted to disaster-related providers, who are one important group of providers, but not all. Even though our study population was the best-prepared frontline providers, further studies with general health care providers are needed.

Conclusion

The willingness to participate in HAFHs in a simulated disaster response scenario requiring prompt humanitarian action was not sufficiently high among professionals specifically related to disaster relief. In order to optimally assemble a HAFH in this context, policy-makers in the Ministry of Foreign Affairs and Ministry of Health must meticulously understand the motives and difficulties of disaster-related health care providers, who are the first group of potential human resources of a HAFH. Policy-makers should actively establish support from employers to guarantee that disaster-related health care providers would have permission to promptly participate in a HAFH according to urgent global health needs for global disaster relief. Well-prepared and qualified health care providers are required for the uncertain, emergency nature of global disasters that will surely occur in the future. □

health, vaccine preventable disease, infectious disease, non-communicable disease and primary health care.

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APPENDIX 1: STUDY POPULATION

	Respondent		Non-respondent		p-value
	N	%	N	%	
Total	70		110		
Sex					0.06
Male	55	78.6	72	65.5	
Female	15	21.4	38	34.5	
Age, mean (IQR)	38 (35-43)		37 (32-41)		0.03
Job					
Doctor	42	60.0	60	54.5	0.47
Nurse	10	14.3	28	25.5	0.07
Paramedic	16	22.9	20	18.2	0.44
Other	2	2.9	2	1.8	0.64

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The well-being and mental health of male and female hospital doctors in Germany



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ABSTRACT: This study focuses on the associations between subjective well-being and mental health. In addition, gender differences are evaluated. The research was conducted as a cross-sectional online survey using a standardized questionnaire to assess physicians' mental health and well-being. Results have shown moderate scores for mental health and well-being in physicians. In general, male physicians perceive a better well-being and higher mental health score than female physicians. Well-being and mental health should be improved to increase physicians' work ability and subsequently, the quality of treatment and patient satisfaction. Mental health prevention should be more widely implemented in hospitals, and its awareness and early treatment should be encouraged. Mental health interventions might include modifying physicians' daily work schedules, providing curricula on mental health and offering training on the awareness of distress and well-being.

Currently German physicians are confronted with cost-effectiveness-orientated medicine, increasing government regulations on health care, and increased clinical job demands, combined with less time for individual-oriented patient care (1). As a consequence it is difficult for physicians to balance their personal and professional lives. Over the last decades there has been remarkable progress in research on diseases and health interventions to treat and renew patients' health. In contrast, due to increased job demands and declining working conditions, physicians in charge have lost their awareness of their own personal health and well-being.

Although many physicians recognize and are aware of the existence of these stresses, it is unknown and complicated to fully understand their effect on mental health and well-being.

Well-being

The concept of well-being is multidimensional and includes different aspects such social, physical, mental, emotional, career and spiritual health (2). Many studies investigated the improved well-being of patients after special treatment (3–5). In contrast, little is known about physicians' well-being. Even though the physicians' well-being could be essential for the quality of their treatment and only a few studies focus on this topic. Previous research addressing physicians' health concentrated on physician distress, burnout, substance abuse, etc (6). A scientometric analysis on publications has shown a misbalance in research: there have been more than 100,000 articles published on burnout and depression during the last decade. In contrast,

less than 6,000 articles on physicians' happiness or life satisfaction have been found.

Prior research studies have illustrated that doctors' satisfaction with their clinical performance and patients' satisfaction with care are affected by features of their clinical working conditions (7). Long working hours without adequate recovery time, working under pressure and lacking supportive help from supervisors or colleagues are key factors in physicians' dissatisfaction. Because previous studies found an association between employees' job satisfaction and their well-being (1), we postulate that physicians' well-being also influences their clinical performance and patients' satisfaction with their care.

Mental health

Mental health is defined as "a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and successfully, and is able to make a contribution to her or his community"[8].

Currently research interest in mental health is increasing. Mental health practitioners try to implement and evaluate mental health interventions across diverse socio-demographic groups and communities (9,10).

These days patients' mental diseases or rehabilitation processes have been well investigated, in comparison to physicians' mental health which is given only a low priority. Until recently, physicians' mental health has only been of interest when quality of treatment suffers due to work overload, medical errors or other job related issues or private conflicts (11,12).

However, research on physician's mental health is important, because when a physician's mental health is in danger due to too many demands, they cannot treat patients as satisfactorily as possible.

Aim

As mentioned above most of the previous studies on physician behaviour concentrated on the "dysfunctional physician" (13). Only a few studies exist on physicians' well-being and mental health in general and what skills and behaviour are important to cope with an enormous workload. Previous studies have stressed, for example, the importance of family background and social support as coping factors (14).

A study on physicians own well-being would add important information about how physicians not only maintain balance and meaning in their lives while they cope with the daily demands and stresses of their practice, but also how they maintain their well-being.

The aim of this study is to investigate how German clinicians perceive their own subjective well-being and mental health. In addition, this study will explore gender differences on well-being and mental health.

Methods

Study design

The study was conducted as a cross-sectional survey using a standardized questionnaire to assess physicians' socio-demographic data, mental health and well-being. Physicians were asked via email contact whether they would fill out a questionnaire. A link was then sent to participating physicians allowing them to start the questionnaire procedure.

Participating hospitals, all located in a large German city, were chosen for their specific care profile. All hospital departments specialized in internal medicine. They were almost equal in size; no significant differences were found between hospitals in terms of the number of physicians and nurses, patient beds or inpatient cases per year. The data collection process took place between 2008 and 2010.

Participants

A total of 400 questionnaires were distributed, of which 265 were returned. After an analysis of statistical outliers data, 27 participants were excluded, leaving a final sample of 238 physicians (115 women, 123 men).

Ethics

The ethical policy was in full agreement with the Helsinki Declaration. This study was approved by the Research Ethics Board at the University of Berlin.

Measures

Items of socio-demographic data were included in the questionnaire; for example gender, and year of birth. In addition, details on physicians' professional background were requested (i.e., working experience, income, marital status, status of children, etc.).

Mental health inventory

The status of a physician's mental health was assessed by using

the Mental Health Inventory-5 (MHI-5) (15,16). This includes questions about mood over the past month, measuring the experience of psychological well-being and the absence of psychological distress; for example, "How much of the time during the last month have you been a happy person?" (15).

Each response to the items was made on a 6-point rating scale (1 = all of the time to 6 = none of the time). Participants can reach score ranges from 6 (lowest) to 30 (highest and best value for mental health).

MHI-5 has been validated sufficiently in previous studies (16,17). We also analysed the psychometric properties of the German version of this questionnaire. Our data have shown a Cronbach's alpha of .81. Satisfactory internal consistency coefficients were reported ($r = .67 - .82$) as well.

Well-being inventory

Psychological well-being scales

In this study a German version of the Short Psychological Well-Being (SPWB) scales (18) were used. The scales are designed as a self-report to assess subjective well-being at a particular moment in time within the following dimensions: purpose in life, environmental mastery, personal growth, autonomy, positive relations with others and self-acceptance (18).

Responses can be made on 3–12 items per scale, on a 6-point Likert scale (18). Scores were transformed into a scale ranging from 0 (minimum value, e.g., "strongly disagree") to 100 points (maximum value, e.g., "strongly agree"). The higher the item is scored, the greater the individual's well-being is on one of the above mentioned dimensions. All scales have been validated in previous evaluation studies (17).

We also validated the questionnaire and found acceptable coefficients of internal consistency for all six dimensions ($r = .72$ (autonomy), $r = .75$ (environmental mastery), $r = .79$ (personal growth), $r = .82$ (positive relations with others), $r = .83$ (purpose in life) and $r = .81$ (self-acceptance). A Cronbach's alpha of .80 was reported.

Statistical data analysis

Descriptive statistics, Mann-Whitney-U-tests, chi square tests and correlation analyses (Pearson correlations and Spearman rank correlations) were performed to examine physicians' mental health, well-being and gender differences.

All p-values given were two-tailed. A p-value of less than .05 was considered significant. Values are given as mean and standard deviation (SD). Data were calculated using the SPSS® software package for social sciences; Version 19.0.

Results

Of the total number of participants in this study, 115 were female and 123 were male physicians with an average age of 33 years (SD = 5.45 years) and an average of 4 years (SD = 2 years) of working experience as a clinician. Significant more female physicians had children ($p < .05$) and were married ($p < .05$) compared to their male colleagues.

Associations with well-being

Participating physicians rated their well-being with moderate scores ($M = 75.1$, $SD = 15.66$). Scores of the subscales are illustrated in Table 1. We found significant differences between

male and female doctors with regard to well-being ($p < .05$). Men rated their well-being significantly higher than women (see Figure 1).

Results for marital status differences were significant. An increasing number of married physicians were found among the responders reporting high well-being scores ($p < .05$). No significant difference in well-being was found between physicians who differed in years of work experience.

With regard to socio-demographic aspects, positive associations between age and well-being could be found ($r = .31, p < .05$). Physicians who reported having kids also described significantly higher well-being scores ($p < .05$). A marginal and not significant association between income rate and well-being was found ($p > .05$).

Associations with mental health

Participating physicians rated their mental health with good scores ($M = 21, SD = 9$). Significant gender differences were also found in mental health perceptions. Female doctors' results showed significantly lower scores of mental health compared to their male colleagues ($p < .05$) (Figure 2). Our findings indicate that 12% of female doctors could be classified as having poor mental health whereas only 5% of male doctors reported poor mental health. Among male doctors, 24% have shown a good or excellent mental health status. In contrast, only 15% of the female clinicians reported having an excellent mental health status.

Significant differences in mental health could be found with regard to family status (married/single) and having children or not. Physicians who are married and have children, reported higher mental health scores than physicians who are single and childless ($p < .05$).

Physicians' income and years of working experience were not significantly associated with mental health ($p > .05$). The variable

TABLE 1: MEAN AND STANDARD DEVIATIONS OF PHYSICIANS' WELL-BEING

Variable	Mean	SD
Purpose in life	78.10	16.85
Environmental mastery	75.32	13.67
Personal growth	71.53	18.12
Autonomy	78.16	17.58
Positive relationships with others	82.90	12.23
Self-acceptance	71.59	19.03

“physicians' age” has been shown as important for mental health: a significant association was found. Younger physicians reported a better status of mental health than older physicians $r = -.25, p < .05$).

Well-being and mental health

Our results showed there is a significant association between well-being and mental health ($r = .54, p < .01$). In addition, the variables that were positively correlated with mental health scores were also positively correlated with well-being.

Discussion

This study focussed on the well-being and mental health of German physicians working in hospitals. To our knowledge, it is the first of its kind investigating well-being and mental health of clinicians with regard to gender differences.

Well-being and mental health

Our data illustrated that most of the investigated German doctors perceive they have only a moderate subjective well-being and mental health. To our knowledge no comparable study exists that has investigated these research subjects in Germany; therefore a comparison and verification of our results is not given at the moment.

Moreover, our results demonstrated a strong association

FIGURE 1: GENDER DIFFERENCES IN WELL-BEING

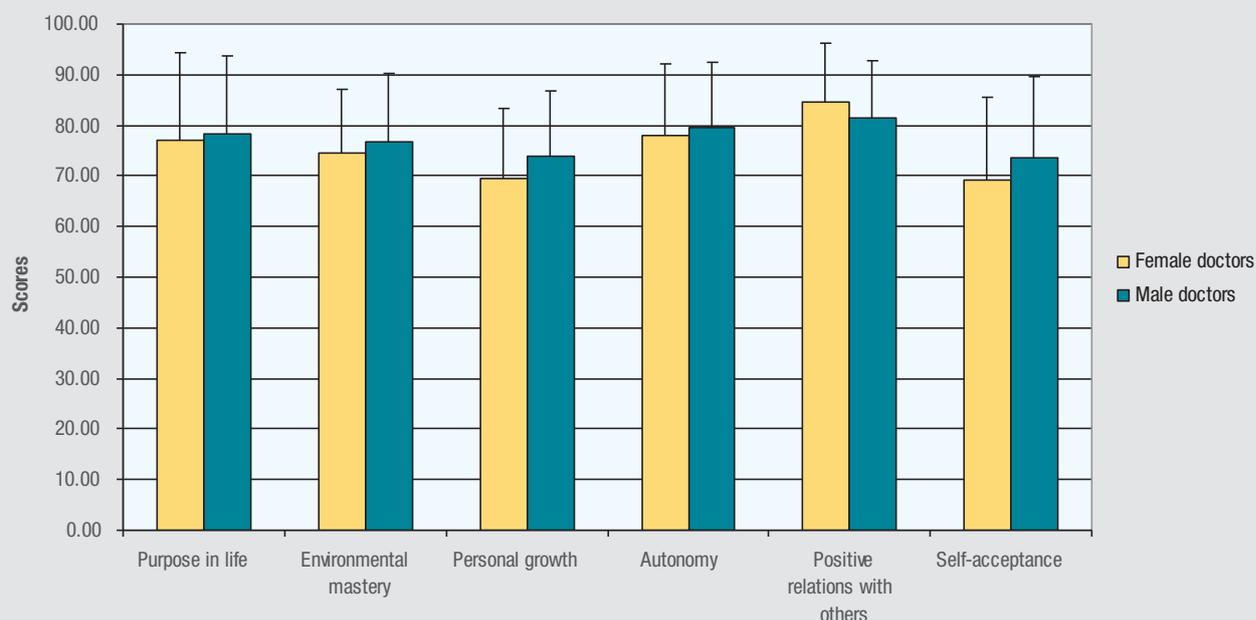
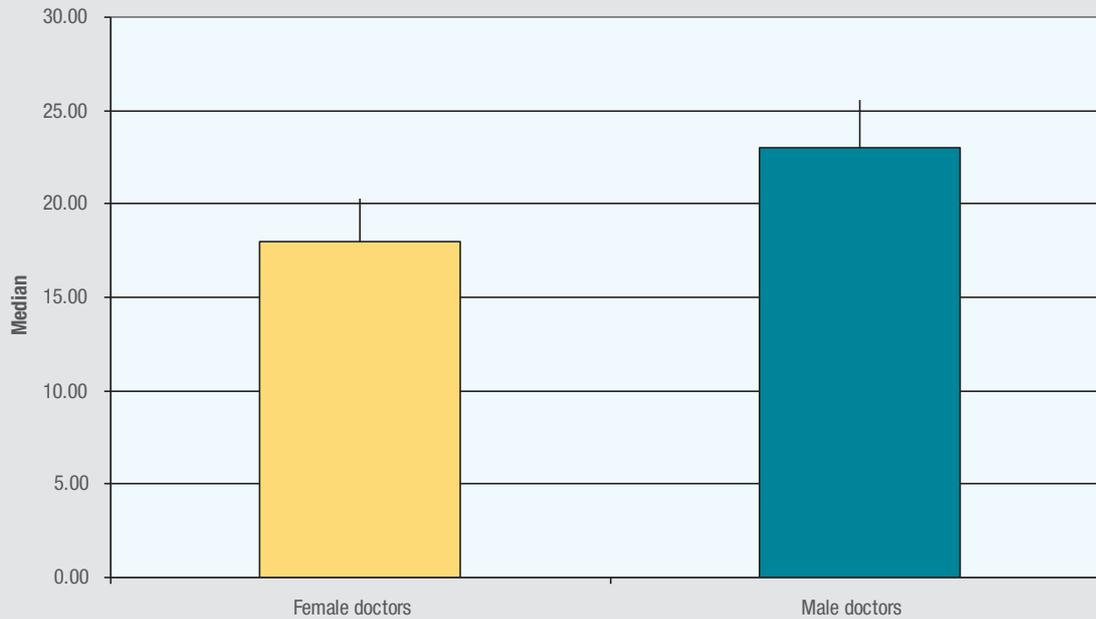


FIGURE 2: DIFFERENCES IN PERCEPTIONS OF MENTAL HEALTH AMONG MALE AND FEMALE PHYSICIANS



between mental health and well-being. Prior research confirms this outcome. A study by Van Lente et al. showed that well-being and health behaviours correlate with both positive and negative mental health (19). These findings highlight the need to endorse comprehensive approaches to population mental health promotion. The inclusion of both positive and negative mental health indicators in future population health surveys is supported by the findings.

Besides, well-being is one of the dimensions belonging to the mental health concept, therefore an association was already anticipated in advance.

The question is why German physicians only perceive themselves as having moderate well-being and mental health scores? Previous research investigated general factors which might influence well-being and mental health perceptions. These factors can be linked to the physicians' working environment as well as private and social circumstances, and relationships. During the last few years more and more physicians have complained about an endless increase in working demands, working overtime, loss of control over the practice environment, experience with suffering and medical errors (1). In consequence, the so called life-domain-balance is not there for most of the physicians working in German clinics. That means there is an imbalance between working time and leisure time. Only a little time is left for social relationships, leisure time activities (such as doing exercise, etc.) or for having enough time with family members and kids. In addition, time for interpersonal contacts with colleagues is also declining; social support does not exist in most of the clinics.

However, previous research has shown these activities have a strong influence on well-being and happiness (19). A variety of stresses inherent in medical work and practice can erode a physician's sense of well-being. So far, this association might explain the moderate scores for German physicians' well-being.

Although much has been written about the characteristics of a professional, the factors contributing to the development and

maintenance of well-being are less well-defined. Organizational and personal factors influence physicians' well-being (20, 21). Well-being is one essential requirement for being a good and professional doctor. Therefore, future studies should investigate associations between physicians' working conditions (job demands/resources) and well-being.

Personal factors such as poor self-care, maladaptive coping strategies and other stressful life events have been shown to lead to moderate or low well-being and mental health perceptions (22–24). In contrast, augmenting positive coping strategies and concepts of mindfulness and self-awareness could increase physicians' well-being and mental health (24, 25). Therefore future studies and prevention programmes should focus on how physicians can be trained with positive skills to cope with stress.

In general mental health and well-being should not be seen as the absence of diseases or distress, but more as a continuum: at the positive end of this continuum, well-being should involve multiple and different aspects of life-satisfaction and happiness in various life domains (e.g., work, family or health).

The question is how physicians can improve their well-being and mental health status?

There are a lot of strategies, techniques and methods which could increase physicians' well-being and mental health. These can be divided into individual or setting-based prevention methods. Setting-based initiatives contain, for example, changes in organizational structures. First, physicians' influence, control over schedules and participation at work should be increased. It is important for well-being and mental health that physicians have the chance and space to act independently and be flexible.

Second, physicians should be supported during their work as much as possible. A supportive system is needed including adequate administrative, laboratory and nursing support.

In addition the clinic leaders/management should improve the organizational climate and relationships among clinicians and

other team members (e.g., by social activities).

Moreover previous studies showed that work-privacy conflicts have a huge impact on satisfaction and well-being. The hospital manager should help balance the physician's work-life-domains and work-home interference by providing them with adequate vacation time, limits on overtime work, overtime compensation through time off as well as accessible child care and extra days for special life events such as weddings, illness or funerals.

Mentoring programmes, special courses on health promotion and periodic sabbaticals have been proven as being beneficial for mental health and well-being.

Health promotion programmes should educate physicians on how they can increase and stabilize their well-being and mental health status.

Gender differences

Our results illustrated that female physicians reported a lower perception of well-being than male physicians. Previous research showed similar findings. Our results are in accordance with study results found by Gore et al. (26) and Briscoe (27).

Possible explanations can be seen in male and female social roles. The female gender role is characterized with greater emotional sensitivity, awareness and expressiveness of emotional experiences in general (28, 29). It is also known that women are more aware of their well-being. Negative changes in their well-being are perceived and expressed sooner and more often by women than by men (30). From this perspective, women's style of coping with stress factors, etc. is often characterized by having depressive feelings that emphasize the negative emotions (31). Consequently, this behaviour has a negative impact on their well-being. In contrast, studies confirmed that men adopt a more active style of coping by ignoring negative feelings or experiences (30).

In addition, our results illustrated a greater proportion of men express more positive scores on mental health than female physicians.

Gender is a critical determinant of mental health and mental illness. Previous research illustrated a higher prevalence for mental diseases in women than for men. For example, depression and anxiety affect more women than men (32). In general, morbidity associated with mental illness has received substantially more attention than the gender specific determinants and mechanisms that promote and protect mental health and foster resilience to stress and adversity. Therefore our study explains only a slight part of a vast and important research topic which is not investigated sufficiently at the moment. Further research is strongly needed to increase knowledge on the associations between gender and mental health.

Socio-demographic variables, mental health and well-being

Our results have illustrated the participating physicians who have children and were married reported higher scores for mental health and well-being than single, childless physicians. Previous studies illustrated that being married and having kids has a positive influence on happiness and well-being (33, 34).

In addition prior studies confirm our result that income does play a role in well-being but not the most important one (35–37).

Limitations

Despite the importance of our results our study has some limitations

which might limit their more general application.

The main limitation reflects the study sample. Specifically, our sample included physicians who were able to participate, had time and were highly motivated to participate in the research. Other physicians who did not participate probably had a full workload and therefore experienced less well-being.

Thus, it is likely that our findings are biased and underestimate the proportion of physicians who show a low well-being and mental health status.

However, we believe that despite this possible bias, the findings from the current study are a valid contribution to the literature on well-being and mental health especially for health professionals.

Another limitation of this study is its cross-sectional nature. A longitudinal approach is needed to generalize our results in combination with causal associations.

A further limitation refers to the complexity of variables that may have contributed to the results. Although the variables of age, gender and years of experience have been controlled, there are other factors that we have not included.

Subsequent studies with larger samples should examine these and other factors in greater detail to verify our results.

Conclusion

Well-being and mental health should be improved to increase physicians' work ability and subsequently the quality of treatment and patient satisfaction. Mental health prevention should be more widely implemented in German hospitals and its awareness and early treatment should be encouraged.

Our results are important for all physicians, medical educators and policy-makers to understand the influencing factors and to promote physicians' well-being and mental health. Based on our findings and future studies, prevention programmes including interventions can be developed which can enhance mental health. In addition the findings are relevant for teachers in medical schools and resident programmes who teach coping skills to their students.

In general greater synergy between personal strengths, well-being and mental health research might help to promote innovative interventions that can improve health of the overall population.

Future studies should evaluate the full spectrum of personal, professional and organizational elements that influence and most notably promote physician well-being, mental health and satisfaction. A study on how physicians' can stabilize their own well-being and mental health would add important information. In addition health programmes can be developed based on this information including learning tools on how physicians can maintain balance and meaning in their lives while they cope with the stresses of practising medicine. Examples might include modifying physicians' daily work schedules, providing curricula on mental health and offering training on awareness of distress and well-being. □

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The effects of hospital reforms on the management of public hospitals in Tanzania: Challenges and lessons learnt



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ABSTRACT: Although hospital reforms are being advocated internationally as part of a solution to hospital management problems in developing countries, studies have shown that they do give rise to some challenges. A study was undertaken that used in-depth interviews, focus group discussion and document review to examine hospital reforms. The article examines the effects of reforms on the management of Level II public hospitals in Tanzania and documents the related challenges and lessons learnt. It is shown that hospital reforms have mixed effects in resource-strained hospitals, and that hospital reform actions may have replaced the bureaucratic inefficiencies associated with hospitals being managed from the central level (MoHSW) with the equally bureaucratic inefficiencies that characterize the management of these hospitals from a supposedly local level, the office of the Regional Administrative Secretary (RAS). Managing hospitals from this level seems to cause many hospital management problems to be left unattended.

Since the early 1990s there has been varying interest in reforming the management of public sector hospitals in Africa. Thousands of government hospitals were taking up a considerable portion of their countries' health budgets, but most were delivering poor and ineffective services. With this realization, a number of "hospital reform" initiatives were launched, introducing changes in the way that hospitals were organized, managed and financed. Most of these reforms have been based on the World Bank inspired belief that management would improve as a result of hospital reforms which included the granting of autonomy to public hospitals (1); this would in turn improve performance, with managers now being able to make immediate decisions on behalf of their hospitals (2). Although hospital reforms are being advocated internationally as part of a solution to hospital management problems in developing countries, studies have shown that these reforms do give rise to some challenges. One of these challenges may be the following: the government reform policies have had several unintended consequences, including creating more layers of administration as well as centralizing the operational decision-making processes at the hospital level (1, 3, 4). This article reports the findings of a study that examined the effects of related reforms on the management of Level II public hospitals in Tanzania, documenting the successes, pitfalls, challenges and lessons learnt.

Background

The Tanzania government introduced hospital reforms in 1997 as a new element in the country's health sector reform strategy for improving service delivery in regional and district hospitals. The idea behind hospital reform was "to promote accountability, efficiency and effective hospital management structures" and "to streamline the lines of responsibilities and to provide more

authority to hospitals to mobilize and make decisions over resources" (5); these are things that were missing from public hospital management. Reforms were planned to be gradually implemented on an incremental basis, in phases starting with pilot reforms in a few hospitals. The government began implementing hospital reforms in tertiary and secondary level hospitals. Of interest to this study are the hospital reform pilots in secondary level hospitals (6). Administrators responsible for delivering services had very limited management powers in decision-making, accountability and resource mobilization (staffing and raising revenue). It was expected that hospital reforms would show tangible results to be used when reforms were applied to all hospitals in the country. Very few studies have explored the effects of the implementation of the reforms on Level II public hospitals; most fragmented studies have explored and reported the reform results in tertiary hospitals. However, these are resource intensive settings and do not necessarily reflect the true nature of reform results in Level II hospitals at the regional level.

Methodology

Study setting

We conducted the study in Kagera and Bombo regional hospitals to learn their experiences with regard to the initial stages of implementing the reforms, and in Kitete and Ligula regional hospitals to learn their experiences with regard to the follow-up stages of the reforms. The study setting is at public Level II hospitals, where piloting of the hospital management reforms occurred for ten years (1999–2009).

Data and method

We drew on qualitative data collected using in-depth interviews, focus group discussions (FGDs) and document reviews at four

levels involved in hospital reforms; namely, the national, regional and hospital levels, as well as the implementing partner level. In-depth interviews were conducted with 12 officials at national level (The Regional Administration and Local Government and the Ministry of Health) who were responsible for steering hospital reforms, policies, central government structures and regional restructuring to facilitate the reforms. At the regional level, interviews were conducted with 20 Regional secretariat members. Those members were supposed to oversee and guide the reforms at regional level and provide support to management reforms. At the hospital level, interviews were conducted with five hospital board members acting as the overseers of regional hospitals, 17 hospital management team members and 15 heads of departments in the hospitals who act as managers of regional hospitals on a daily basis. Through FGDs, general staff informed us on the effects of hospital management reforms had on themselves, hospital structures and patients. Data was analysed qualitatively using QSR N6 Software (QSR International Pty Ltd, 2004) for qualitative data analysis (7).

Results

Notwithstanding the intended results of delegating more authority to hospitals for mobilizing resources and making decisions (promoting greater accountability and streamlining lines of responsibilities), the study findings indicate mixed results in Level II hospitals piloting reforms. The study results are presented here in three categories: positive effects of reforms, negative effects and pitfalls in hospital reforms.

Positive effects of reforms

Management systems change

The tripartite system became team management, with the use of hospital therapeutic committees, hospital management teams and hospital boards (Figure 1).

Hospital management teams (HMTs) were established in all four Level II hospitals that were piloting reforms and were operating. Two hospitals were able to establish interim hospital boards to govern the hospitals. Further responses from hospital managers indicated that hospital managements gained some authority to make decisions on their hospital services, buying new equipment and refurbishing hospital buildings, including constructing new ones. In addition, responses from interviews with board members indicated that hospitals were able to raise and retain revenue collected from user fees and use it locally and transparently as measured by the degree of hospital income and expenditure disclosure.

The negative effects of reform

When the hospital management structure and system changed, hospitals moved from MoHSW bureaucracy at the national level to be attached to that of the Regional Administrative Secretary (RAS) (another central level). Reviews of documents have shown that the Public Service Act 2002, and its Regulations 2003, strengthened regional authority control over regional hospital resources. That is, reforms freed hospitals from MoHSW bureaucracy, but tied them to RAS bureaucracy, and Level II regional hospitals have become units under RAS's health department.

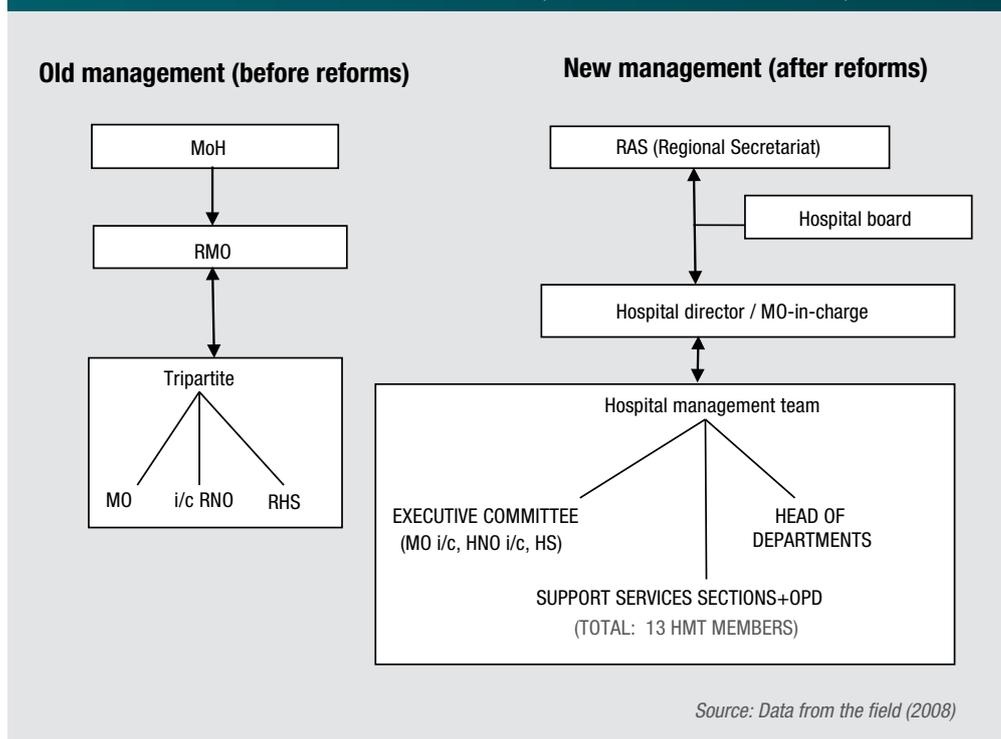
Additionally, the overwhelming majority of respondents from interviews felt that reforms created dual accountability in Level II hospitals. Respondents asserted that reforms have created four lines of accountability, different appointing and employment authorities, and consequently weakened the management accountability in hospitals. For instance, responses from interviews with hospital board members indicated the presence of three lines of Board accountability (Figure 2): one to the Regional Commissioners (RC) who appointed the board members, one to the RAS as the authoritative body for the regional hospital, and one to the MoHSW.

However, it was reported that "RAS could not hold hospital Boards accountable for anything except the Regional Commissioner. Line of accountability in Level II hospitals is more confusing than it was before".

Hospitals piloting the reforms were found to have Regional hospital Boards, HMTs and some members of HMTs accountable to different appointing authorities as a result. Respondents observed that board members were appointed by the RC, Medical Officers in-charge were appointed by RAS, and members of the hospital management team were appointed by the RMO.

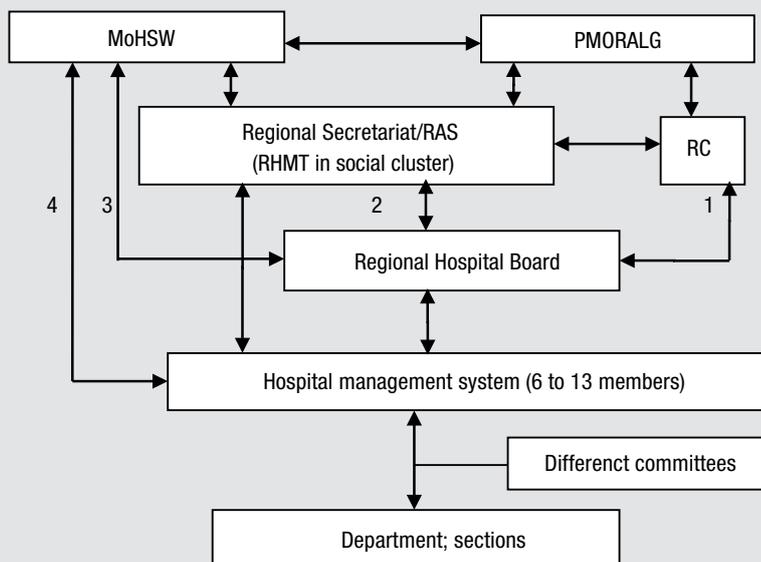
The study revealed other negative effects of reforms, namely private sector to government hospitals staff shifts, overcrowding of regional hospitals and an increased shortage of health workers. Responses from interviews and FGDs with general hospital staff indicated that hospital

FIGURE 1: OLD AND NEW LEVEL 2 MANAGEMENT STRUCTURE (TRIPARTITE VS TEAM MANAGEMENT)



Source: Data from the field (2008)

FIGURE 2: LINES OF MANAGEMENT ACCOUNTABILITY IN PRACTICE AFTER REFORMS



Source: Data from the field (2008)

reforms drew workers from the private sector to government hospitals intensifying the staff shortage problem in private hospitals. Consequently, more patients were attracted to Level II hospitals. Staff shift and patient attraction lead to overcrowding in regional hospitals along with patients by-passing lower level health facilities.

Pitfalls in hospital reforms

The review of hospital reform implementation reports show that reforms did not streamline lines of management control of health staff from traditional parallel and vertical to horizontal lines being done by HMT. Instead, controls remained fragmented into profession (doctors being controlled by MO in-charge; nurses by matron and the hospital secretary controlling general hospital staff). Furthermore, interviews with the MoHSW indicated that there has been a failure to enact new laws or amend existing laws to reinforce the reforms due to inadequate political will. The review of decision-making in Level II hospitals showed two management teams – HMTs and RHMTs – were not completely separated and were thus unable to end functional overlap and RHMTs overriding HMTs.

Discussions

Challenges to hospital reforms

The resulting challenges are: first, reforms were not fully implemented. The MoHSW implemented the hospital management reform policy approach of “hands-off, eyes-on”, assuming that the policy would be implemented as planned. However, on the ground, regions and regional hospital managers understood and implemented it differently from how it had been planned. Therefore, the full implementation of hospital reforms was not achieved (8). Second, decentralization of authority became centralization at the RAS. Third, reforms have been implemented without any enforcement laws due to inadequate political will and a process of harmonizing laws judged to be too slow. Reforms have been

implemented by discretion and not as mandated; most plans for hospital reforms have remained on paper, resources were not devolved and reforms were monopolized by the MoHSW. Fourth, the structure of accountability remains blocked in regional hospitals. The Public Service Act of 2002 has centralized employment and disciplinary authority to RAS and RMO instead of Boards and HMTs, contrary to reform documents (9). Fifth, reform implementation has been slow, the time-frame has not been defined and commitment to reforms has been minimal.

Lessons learnt

This study reveals useful lessons for implementing future reforms. First, hospital reform is possible: hospitals, if given authority and opportunity can do more. Second, involvement of the RAS from the beginning of the reform process is vital to accelerating hospital management reforms. It creates an environment conducive to the restructuring of management in the hospital, as the RAS plays the role of the employer and owner of the regional hospital. It

thus reduces contradictory decisions between the RAS and the hospital reform task force. Thirdly, under the current set-up, the RAS and RMO's influence is still prevalent in regional hospitals (overriding hospital boards and HMTs decisions) due to the lack of legal instruments for the HMT and hospital boards. Fourth, and finally, the pace of hospital reform has been slow: it cannot move quickly without being aided by the power of the law backing up future reforms.

Conclusion

The study has documented several mixed effects of hospital management reform, the positive effects ranging from visible improvements to infrastructure and equipment, hospital boards and HMTs being more clearly defined, and regional hospital managements gaining minimal authority with a sense of having new strategic management in place. The negative effects of reforms include reforms freed hospitals from MoHSW bureaucracy, but tied them to those of Regional Administrative Secretary (RAS) (another central level). The study further reveals the failure to enact a law to back up reforms due to inadequate political will; hospital reform has created several lines of accountability instead of a single one consequently weakening the management accountability in hospitals, and hospitals implemented reforms differently. Unless hospital reform policy is revisited, expanding reforms will be difficult.

Recommendation

In order to effectively expand reforms and achieve the stated objectives of those intended reforms (public hospitals with more authority, clear lines of responsibility, accountability for actions and the ability to mobilize resources), it is important that hospital reform policy be reviewed to focus attention on lessons learnt, challenges and ways to overcome those challenges during implementation. To minimize higher authority from overriding hospital boards and HMTs decisions Level II hospitals should sign and execute service

agreements between the hospital, RAS and MoHSW, clearly stipulating the functions of each party (as was the case at Kagera regional hospital). □

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Patient safety initiatives in Germany: The hospital perspective*



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ABSTRACT: Patient safety has become a major focus in German socio-political awareness over the past decade. Efforts to improve patient safety have been increased nationwide and involve all stakeholders in the German health care system. The government aims to improve the quality of health care services both in the hospital and in the ambulatory care sector with a quality campaign. On one hand it strengthens patients' power and participation in decision-making and on the other hand it stresses the need for health care providers themselves to enhance patient safety and to ensure the nationwide provision of excellent health care, whereby hospitals play a vital role in providing a comprehensive system of locally available clinical treatment. This article focuses particularly on the numerous mandatory and voluntary initiatives provided by hospitals with respect to quality of care and patient safety, however further information about the context can be found in the online version cited in the footnote below.

Initiatives in Germany

The German legal framework has targeted patient safety as a national focus and encourages stakeholders in both the hospital and the ambulatory care sector to develop strategies for patient safety.

The new regulations strengthen existing mandatory patient safety initiatives in hospitals and encourage providers to develop more voluntary relevant activities. At present there are numerous local, regional and national activities with respect to patient safety in the hospital sector, whereby best practice examples are increasingly rewarded to stimulate exchange of experience and sharing safety lessons among the entire health care community.

For a long time, patients' rights in Germany were laid down in a variety of laws and were often based on judicial decisions. Since February 2013, however, the "Act on Patient Rights" has covered a variety of aspects; these include for example, the medical treatment contract, which is codified in the German Civil Code (BGB) which regulates the contractual relationship between patients and physicians, and the minimum requirements for risk management and critical incident reporting, which are codified in the Social Code Book V (SGB V).

The Federal Joint Committee (G-BA), the highest decision-making body in the German health care system, plays a major role in developing normative directives with respect to quality of care. While patient safety issues played only a minor role in most early directives, the topic has now become a major focus of attention in later directives, especially in those regarding quality management in health care institutions. The G-BA has also recently been commissioned to improve the quality of hospital reports, especially with regard to their validity and the degree of comprehensibility for patients.

In past years, a widespread network of actors in the German health care system has been developed. This network, which

includes all major decision-makers as well as other influential stakeholders, provides a variety of projects and initiatives that address patient safety issues. As a response to the need for a national promotion strategy for patient safety, a national patient safety forum was founded in 2005. This forum addresses critical aspects of patient safety, including identification of errors and the analysis of their causes, by both collecting and reporting information on issues as well as improving overall safety through recommended evidence-based interventions, tools and practices. This coalition has set up several working groups focused on different topics and publishes practice-oriented recommendations on their homepage. Last year, the "Patient Safety – Best Practice Award" competition was launched, receiving a huge number of applicants that covered a large and diverse selection of topics. It was highly successful in its first year and will be awarded annually from now on.

A wide range of qualification opportunities are now available, offered by stakeholders at both national and Federal State levels, including graduate and postgraduate education designed to provide health care professionals with a uniform standard of competence covering relevant knowledge, attitude and skills necessary to improve treatment safety. Special programmes exist to address skills in physician leadership, collaborative efforts and integration of safety; curriculums are available for quality management in health care institutions, peer reviews and other relevant topics. Continuous medical education has always been a focus in Germany, aimed at increasing professional competence. Multidisciplinary patient safety on-the-job education and local training for health professionals, relevant management and administrative staff are widely used to this end. Since patient safety was selected as a new national health target in 2013, a newly set up interdisciplinary working group is currently preparing a framework and bringing together various health care stakeholders. Their results will form the basis for recommendations and advice provided to politicians and other decision-making parties in the health care system.

* This article is the executive summary of a paper published online by the IHF that you can find at the following address: <http://www.ihf-fih.org/en/Publications/IHF-Publications/Other-publications>

In Germany, both the professional medical community and the general public have access to a database currently of more than 850 clinical guidelines and recommendations, all based on the best available evidence. These guidelines are regularly updated and discussed during congresses and meetings. Special national clinical practice guidelines provide a standard of care within the German health care system based on nationally accepted reference standards and evidence-based decisions.

Communication issues are increasingly targeted by specific interdisciplinary working groups and quality circles (groups of professionals from a similar background who analyze and evaluate communication structures and prepare them for practical implementation). Their work is usually based on studies that indicate patient-oriented communication leads to fewer communication problems, resulting in better quality of care and ultimately in enhanced patient safety. For many years, German Medical Associations have collected (potential) liability-based adverse events, a task undertaken at Federal State level which has led to a national database.

The Federal Ministry of Health (BMG) has launched several national action plans in past years to promote the safety of medication treatment. The latest action plan, published in 2013, contained a number of individual measures ranging from information leaflets and patient surveys via interdisciplinary platforms to databases for the collection of medication error information. The primary objective of these plans is to improve patient safety and to avoid the distress of additional treatment or patient harm due to medication errors.

With the new role of patients, including more active involvement at all levels of the German health care system, patient representatives are increasingly engaged in the development of safety issues within policies and programmes. Numerous initiatives have led to an increase in patient information and empowerment, as well as the further development of relevant instruments of learning directly from the patients' perspective, such as the management of complaint procedures and patient surveys. A variety of advocacy groups also represent patients' interests at high levels of decision-making. Their elected representatives may attend all meetings and take part in discussions at all hierarchy levels at the G-BA. Nationwide, there are many patient counselling services that offer independent and sometimes free-of-charge help to patients regarding a variety of medical and health-related legal issues. Furthermore, various online portals exist explicitly for patients, providing platforms for the exchange of information. Structural patient education and patient empowerment programmes address practical self-management designed to help patients deal with different health problems. Holistic education, provided by medical societies for specific treatments include patient training which has been shown to reduce complications. The concept of a "partnership of equals" represents a form of "shared decision-making" that emphasizes informed consent, involving the presentation and discussion of all possible treatment options and the active participation of patients. Other publicly available central databases offer representative overviews of many voluntary quality-related initiatives in Germany, in compliance with German rules on the protection of personal data. The objective is to provide the opportunity for any health care provider to participate and to allow stakeholders of initiatives to increase awareness of their activities.

Hospital initiatives

German hospitals have longstanding experience with mandatory data-based quality assurance and internal quality management. They continually strive to improve the quality of care and increasingly recognize the importance of an appropriate safety culture. Using quality indicators for treatment improvement and benchmarking has been comprehensively established in the German health care system for more than a decade and is unparalleled internationally. Hospital quality assurance, as defined by the SGB V, is not a static but rather a dynamic process; it embraces major trends (e.g., transparency) and adapts to new evidence that emerges on medical care. Public hospital reports, available since 2005, can facilitate efforts to compare providers according to certain standards of quality performance within either a specified geographic region or nationwide, and assist patients in their decision-making process by providing detailed information. In the near future, clinical risk management, critical incident reporting, and hygiene aspects will become part of annual public hospital reporting. The G-BA has been assigned the task of improving its meaningfulness and comprehensibility whilst integrating both the aspects of patient safety and the results of patient surveys.

The purpose of quality management in hospitals is to establish a system that measures and manages patient care in a way that provides the optimal care for all patients. A quality management directive for hospitals has been in force since 2005, setting out goals, the implementation and running of a quality management system, whereby local circumstances have to be respected. Since April 2014, this mandatory directive has been complemented by minimum requirements of risk management and critical incident reporting systems, according to SGB V, as demanded in the Act on Patient Rights. Clinical risk management comprises processes and structures and the entire culture that are directed towards identifying potential risks and managing adverse events in order to avoid harm to patients. Top management support should create an environment in which quality and risk management activities are rewarded. From a quality management point of view, hospital staff are the most valuable resource for business success, working together as an interprofessional, interdepartmental and cooperative team. German hospitals use a variety of quality initiatives and instruments in the context of clinical risk management; these are usually embedded within the quality management system and often address issues of patient safety directly. They are usually complemented by other quality activities, such as mandatory vigilance systems and certification processes and an increasing number of local and regional voluntary initiatives on patient safety.

While critical incident reporting systems (CIRS) are already established in many hospitals, under the new quality management directive, blame-free reporting and learning systems are now mandatory and required to be easily accessible to staff with guaranteed anonymity. All patient safety incident submissions are voluntary and reports sent to a CIRS are strictly confidential. The current public discussion, initiated by the new Act on Patient Rights, has enhanced the sensitivity of hospital staff encouraging them to participate. In Germany there are already many cross-facility CIRS, ranging from general databases to databases focused on specific health care professions or geographical regions. In such systems, all types of case reports are collected, analyzed and provided with expert opinion and complemented by

references to guidelines and recommendations (e.g., of medical societies). This is an effective way to learn and share safety lessons and experience within the entire health care community.

The management of complaint procedures is usually included in Federal State legislation with the aim of enhancing patients' personal and social autonomy. The new legislation guarantees a patient's right to complain to the health care provider if they feel their interests have been harmed. As laid down in the new quality management directive, a systematic approach for capturing, investigating, resolving and reporting customer complaints is recommended, thus enabling hospitals to use the information for improvement of their processes and strengthen their relationship with patients.

There are several laws in Germany regulating hygiene and infection prevention in hospitals, which have recently been complemented by a variety of measures designed to reduce hospital acquired infections. The "Clean Your Hands" initiative, for instance, is part of a major global effort led by World Health Organization to highlight the importance of clean hands. Since the launch of the first initiatives in Germany, health care professionals have demonstrated increased sensitivity towards this issue. Currently, any hospital or rehabilitation centre can receive a multi-degree certificate that demonstrates their level of commitment to clean hands to the public. This initiative is complemented by other voluntary initiatives, such as the Hospital Infections Surveillance System, which actively engages hospitals with hygiene-related issues, among others. Currently, the G-BA is developing two cross-sectoral modules focusing on postoperative wound-infection and catheter-associated infection.

Medical peer review in hospitals is a voluntary – and increasingly popular – process by which a professional review body assesses process pathways in a clinical setting and determines whether defined standards of patient care have been met. Such peer reviews may be initiated in the context of quality management or clinical risk management, and can be conducted by physicians or by other health professionals, as long as they possess a similar background of expertise.

Over the past decade, a growing number of hospitals have received some form of certification. At present, there is no legal requirement for hospitals to receive certifications, but it is widely accepted that achieving certification makes a strong statement to the community about an organization's efforts to provide high-quality care. Additionally, a certificate can promote a culture of excellence across the organization to maintain a consistently high levels of quality through effective performance improvement. In some certification requirements, quality management and clinical risk management are core competencies and include specific modules for patient safety. However, certification alone does not prove the sustained efficiency of a risk-prevention system; it must always be embedded within a provider's entire quality and safety culture. From 2015 onwards, the new Institute for Transparency and Quality in Health Care will be commissioned to assess the degree of validity of certificates and to develop criteria to judge their significance in the health care system.

Patient surveys assess the patients' perspective and experience of the care they received. Their results can provide additional information that can be used to further enhance patient safety and improve patient care. Most hospitals currently conduct surveys and the G-BA has been commissioned to develop official survey

instruments in the context of cross-sectoral quality assurance.

The German Hospital Federation

The German Hospital Federation (*Deutsche Krankenhausgesellschaft* (DKG)), a leading stakeholder in the German health care system, represents currently 1996 hospitals in all health policy decisions, including on issues of quality of care and patient safety. The DKG, together with other self-governing partners, is a member of the Federal Joint Committee shaping the provision of patient medical services within the Statutory Health Insurance System. It also engages in policy affairs at an international level by advocating for hospital interests and promoting awareness for issues concerning the German hospital sector. The DKG actively represents its members in public relations, for instance through congresses and the mass media. It issues regular updates on patient safety issues through media such as a monthly circular letter on a "CIRS case of the month," and publishes information also on quality and safety issues in its monthly magazine *DAS KRANKENHAUS*. The DKG engages in surveys among German hospitals regarding the implementation of quality management and clinical risk management programme and, as a co-founder of a national cross-facility hospital CIRS, highlights the importance of building up an active safety culture and providing timely implementation of solutions.

The DKG welcomes the new government's Quality Campaign, although the hospital sector has already implemented a variety of quality measures designed to improve patient care. Although delivering a continuously high level of care has become challenging in an increasingly economics-driven environment, the recently published Quality Assurance Report confirmed that hospital quality targets have again been met. No other sector has shown such a degree of transparency and has made such a commitment to public reporting. The DKG always puts an emphasis on free patient choice of hospitals considering hospital availability near the home to be an indication of systemic quality and one of the main service tasks of a health care system. Hospitals must be easily accessible within a short period of time, even in rural areas, and it is the duty of the DKG to maintain that close-meshed availability of hospital care. It is down to local professional self-regulation to deal with problems of poor performance among providers.

A couple of weeks ago, the DKG launched a nationwide Hospital Campaign and promoted themed weeks to underscore the commitment of German hospitals to providing high quality care and facilitating patient safety. Local and regional initiatives, such as exhibitions, workshops and action days focused on "Clean Hands" and other important patient safety issues, were launched to raise awareness of health care providers' services and to demonstrate the dedication of hospital staff to patient care. Despite the current financial restraints, hospitals are committed to deliver high quality care. The campaign was therefore also designed to alert politicians of the need to supply hospitals with sufficient resources in order to maintain high standards in quality of care.

Further information online

The article takes a broad approach to patient safety initiatives in Germany, providing a representative sample of relevant aspects that allow a general understanding of the current patient safety issues. The online article describes the German legal framework

(including laws, directives and safety schemes), emphasizes important patient safety-related projects currently underway, reveals the new role of patients in terms of empowerment and participation, highlights mandatory and voluntary initiatives taken at hospitals and illustrates the position of the German Hospital Federation on overall quality of care and patient safety. □

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The Apollo Accreditation Program: A web-based Joint Commission International standards compliance management tool



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ABSTRACT: Creating and implementing processes to deliver quality care in compliance with accreditation standards is a challenging task but even more daunting is sustaining these processes and systems. There is need for frequent monitoring of the gap between the expected level of care and the level of care actually delivered so as to achieve consistent level of care. The Apollo Accreditation Program (AAP) was implemented as a web-based single measurable dashboard to display, measure and compare compliance levels for established standards of care in JCI accredited hospitals every quarter and resulted in an overall 15.5% improvement in compliance levels over one year.

Accreditation is a widely recognized seal of approval that brings international and national recognition to a health care organization for its commitment to excellence, accountability, high professional standards and continuous improvement. Hospitals benefit from both the status and the process of accreditation at each step of the review cycle, which continues to unfold over the long-term in its journey towards improving quality.

Creating and implementing processes to deliver quality care according to accreditation standards is a challenging task but even more daunting is sustaining these processes and systems (1). To comply, as well as monitor and manage the 329 standards and 1,196 measurable elements (2) as established by Joint Commission International is indeed a challenge. There is need for a frequent monitoring of the gap between the expected level of

care and the level of care actually delivered so as to provide standardized care consistently.

The Apollo Accreditation Program (AAP) was developed with this intention in mind. The aim was to provide a single online measurable dashboard to display, measure and compare compliance levels for established standards of care in JCI accredited hospitals within the Apollo Group with live data current until the last working day of the previous quarter.

This tool was implemented in January 2012.

Methods

AAP comprises of an online module outlining all the standards and measurable elements, within each chapter of the JCI Standards Manual with provision for each location to report compliance to each measurable element on a quarterly basis. An example in

outlined in Table 1.

After creating the online module, the Director Medical Services of the JCI accredited Apollo hospitals were given unique login IDs for overall responsibility and supervisory control for the programme.

Within each hospital, the Director Medical Services assigned the various standards of care to Head of Departments as champions for the chapter based on their role and responsibilities. For example, “Anaesthesia and surgical care” and “Medication management and usage” were assigned to the medical superintendents of the hospitals. The medical superintendents ensured that all policies, protocols and processes relevant to these chapters were being regularly monitored so as to ensure compliance and to sustain them. Similarly, the Head of Operations measured and reported compliance to standards related to “Hospital facility and management systems” and ensured that they were well in place. The champions were provided with login IDs and passwords for their respective chapters as in Figure 1.

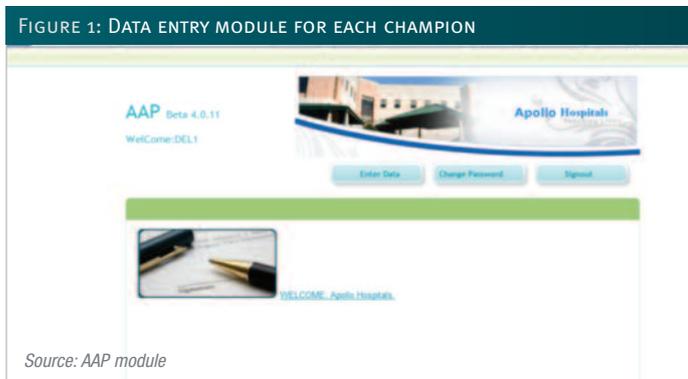
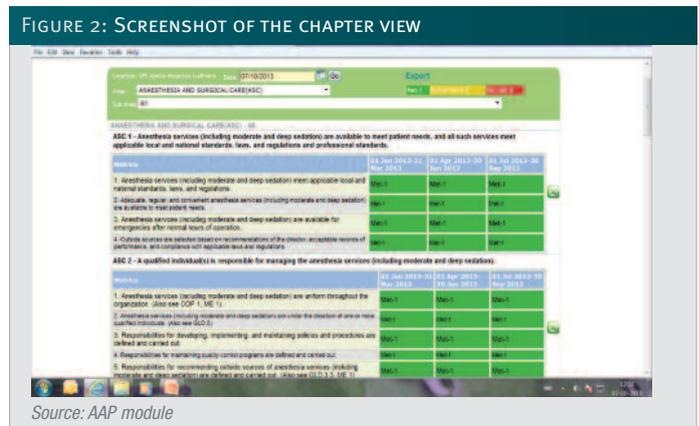


TABLE 1: EXAMPLE OF STANDARD, INTENT, MEASURABLE ELEMENTS AND SCORES IN THE AAP MODULE

Chapter	Standard	Intent	Measurable elements	Source			Evidence
				Met - 1	Partially Met - 0.5	Not Met - 0	
PFE	Health care professionals caring for the patient collaborate to provide education	When health care professionals understand one another's contributions to patient education, they can collaborate more effectively. Collaboration in turn helps ensure that the information patients and families receive is comprehensive, consistent, and as effective as possible. Collaboration is based on the patient's needs and therefore may not always be necessary. Knowledge of the subject matter, available adequate time, and ability to communicate effectively are important considerations in effective education	Patient and family is provided collaboratively when indicated				
			Those who provide education have the subject knowledge to do so				
			Those who provide education have adequate time to do so				
			Those who provide education have the communication skills to do so				

Source: Joint Commission International Standards 4th Edition, AAP module

The Director of Medical Services could view the chapter compliance for his hospital as in Figure 3.

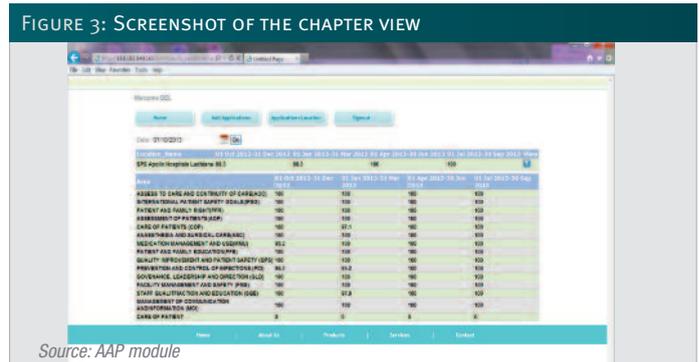


Each location submitted their data for a quarter within the first 10 days of next quarter, which was then centrally assessed for each location to eventually give the overall compliance level for the entire Group. A single dashboard view summarized the overall compliance at each location and for all JCI accredited Apollo Hospitals as a single entity as in Figure 4. The dashboard along with the details for each location could be viewed by the leadership

Each measurable element in the standards was scored by the champions on a three-point scale of “0” which indicated non-compliance or “not met”; (4 or less out of 10 records or observations demonstrated compliance), “0.5” indicated partial compliance or “partially met” (5 to 8 out of 10 records or observations demonstrated compliance) and “1” which indicated satisfactory compliance or “fully met” (9 out of 10 records or observations demonstrated compliance). The scores were reported on the module as in Figure 2.

The scores were colour coded as:
 “0” = Non-compliance or not met depicted as ■
 “0.5” = Partial compliance or “partially met” depicted as ■
 “1” = Satisfactory compliance or “fully met” depicted as ■

Compliance to measurable elements was verified through multiple approaches including regular tracers by the quality team, clinical audits by the medical team, medication management audits by the clinical pharmacologists and facility rounds by the operations team.

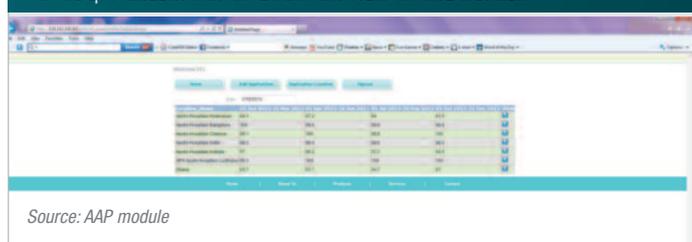


and accordingly further management and quality governance strategies could be formulated.

The data submitted online was validated by a team of auditors from Apollo Hospitals through surveys.

This web-based tool was created by Apollo's IT Team and was developed completely by our in-house professionals and did not incur any extra costs. This initiative can be extended to any number of hospitals.

FIGURE 4: SCREENSHOT OF LOCATION VIEW OF THE SCORES



Results

There was an overall increase of 15.5% in the compliance levels for the JCI accredited hospitals within the Apollo Group over the one year of AAP implementation as shown in Figure 5. AAP helped not only to adapt and sustain high quality standards but also helped in visualising the gap between the expected level of care and the level of care actually delivered.

Discussion

The main objective of the programme was to provide hospitals with a comprehensive tool to be used as a governance dashboard to maintain continued compliance through shared responsibility.

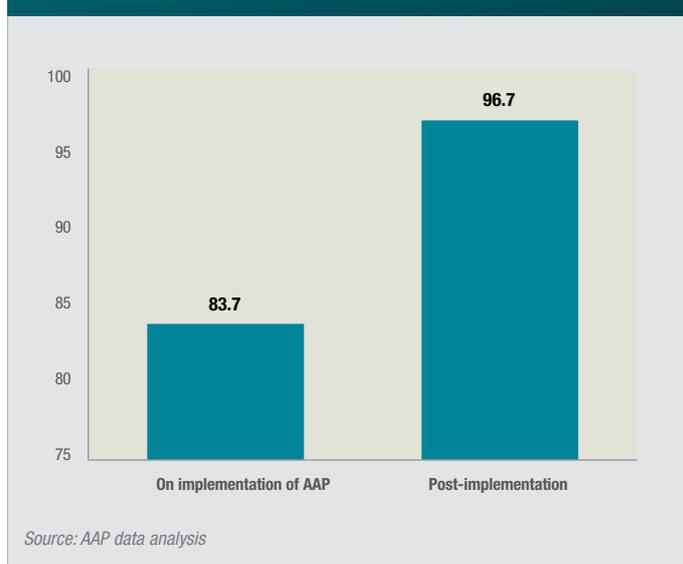
Prior to this programme, weekly audits were undertaken by the quality team. Looking at 1,196 measurable elements was a huge task. AAP has divided the responsibilities among the “champions” who do regular audits regarding the chapters assigned to them. This has developed a sense of ownership among them and has equipped them to understand the requirement of the standards in collaboration with the quality teams. The champions are able to interpret the standards better, which subsequently improved the implementation process. Moreover, cross-sectional audits have helped in reducing the interdepartmental gaps and loopholes thereby enhancing the efficiency or effectiveness of co-departments. This has led to enhanced compliance levels.

Moreover, the dashboard showed where a particular hospital had a problem and could be helped by another hospital. Sharing of best practice among the quality heads helped improve the processes holistically. Thoroughly tried and tested systems across different geographic locations and demographics eventually benefited the patients more.

Next steps

After the success of this programme, we are developing a platform on similar lines for Apollo hospitals accredited under the National Accreditation Board for Hospitals & Healthcare Providers (NABH) – an Indian Accreditation Board. We also plan to extend the scope of this tool for other accreditation standards like National Accreditation Board for Testing and Calibration Laboratories (NABL) for laboratories and blood banks. The AAP module for JCI accredited hospitals has now been updated to the 5th edition standards.

FIGURE 5: PERCENTAGE COMPLIANCE TO STANDARDS ACROSS THE JCI ACCREDITED APOLLO HOSPITALS



Conclusion

AAP has served as an effective tool to promote continued monitoring and compliance to JCI accreditation standards throughout the survey cycle. It has promoted collaborative effort by all stakeholders in maintaining this compliance, both within one hospital and in sharing of best practices between various Apollo hospitals. □

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Environmental pollution: An enormous and invisible burden on health systems in low- and middle-income countries



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ABSTRACT: Background. Environmental pollution has become the leading risk factor for death in low- and middle-income countries (LMICs). The World Health Organization and others calculate that exposures to polluted air – indoor and outdoor, water and soil resulted in 8.4 million deaths in LMICs in 2012. By comparison, HIV/AIDS causes 1.5 million deaths per year, and malaria and tuberculosis less than 1 million each. The diseases caused by pollution include the traditional scourges of pneumonia and diarrhea, but increasingly they also include chronic, non-communicable diseases (NCDs) such as heart disease, stroke and cancer. Method. We review the diseases caused by pollution and the multiple economic and human burdens that these diseases impose on health systems in countries with already limited resources.

Results. We find that diseases caused by pollution increase health care costs, especially for high-cost NCDs. They impose an unnecessary load on health care delivery systems by increasing hospital staffing needs and thus diverting resources from essential prevention programmes such as childhood immunizations, infection control and maternal and child health. They undermine the development of poor countries by reducing the health, intelligence and economic productivity of entire generations. Pollution is highly preventable and pollution prevention is highly cost-effective. Yet despite their high economic and human costs and amenability to prevention, the diseases caused by pollution have not received the attention that they deserve in policy planning or in the international development agenda.

Conclusion. Pollution is not inevitable. It is a problem that can be solved in our lifetime. Given the great impact of pollution on health and health care resources and the high cost-benefit ratio of pollution prevention, efforts to mitigate pollution should become a key strategic priority for international funders and for governments of LMICs.

Recommendation. Assisting LMICs to prioritize disease prevention through the management of pollution is a highly cost-effective strategy for enhancing population health, reducing the burden on limited health resources and advancing national development.

Environmental pollution – contamination of air, water or soil caused by human activity – is the largest cause of disease and death in the developing world. The World Health Organization calculates that in 2012 exposures to polluted soil, water and air resulted in an estimated 8.4 million deaths in low- and middle-income countries (LMICs), and 8.9 million deaths worldwide. (1, 2) By comparison, HIV/AIDS causes 1.5 million deaths per year (3) and malaria and tuberculosis fewer than 1 million each (4). More than one death in seven worldwide is the result of environmental pollution (5).

Pollution comes in many forms, and each has a distinct set of sources, environmental pathways, health impacts and solutions. Particulates from power plants, cars and trucks pollute outdoor air, especially in cities. Poorly ventilated cook stoves that burn wood, dung or other forms of biomass poison indoor air. Mercury, lead and other heavy metals from industry, power plants, mining and smelting contaminate the soil, water and food. Chemical wastes and sewage pollute rivers. An enormous amount of highly sophisticated research has characterized the various types of pollution and their health and environmental consequences.

Pollution is undercounted

In health planning and in calculations of the Global Burden of

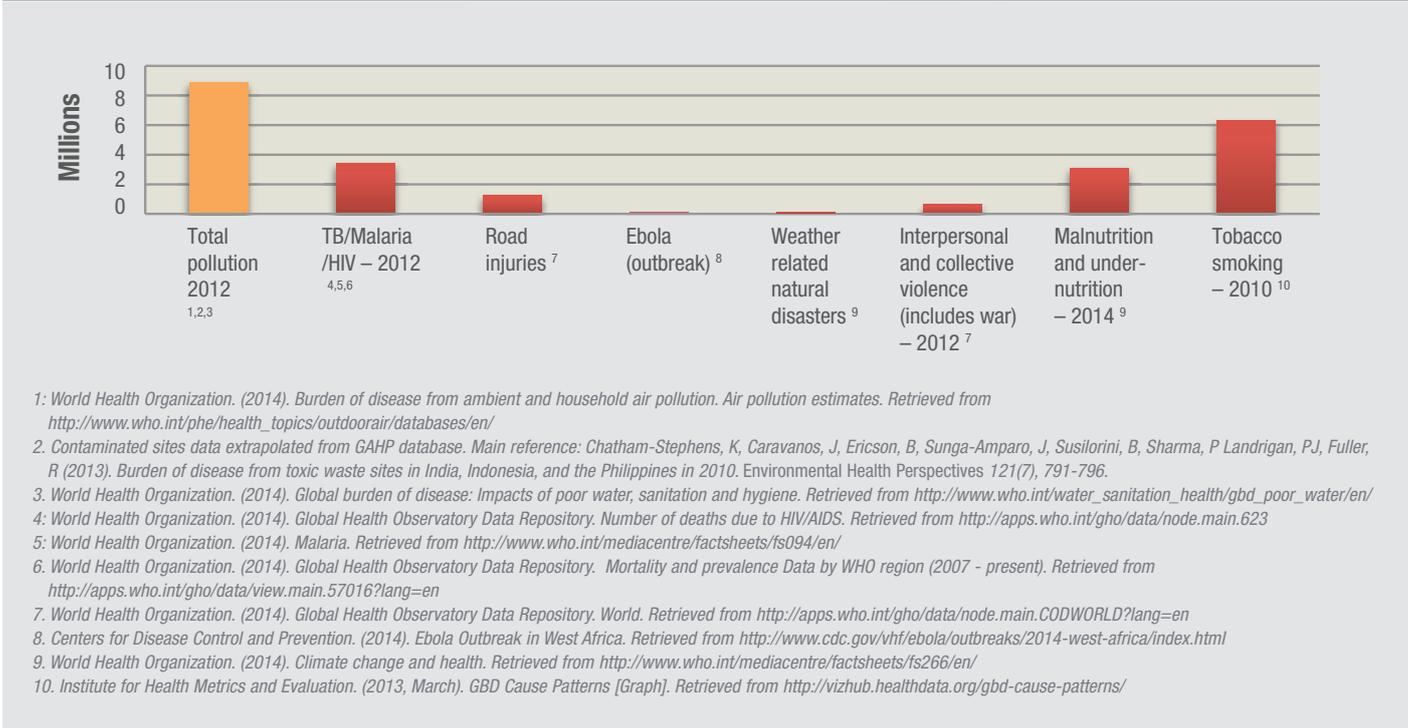
Disease, which provide a critical input to health planning at both the national and the international levels, the various components of pollution have usually been considered separately, one at a time, each apart from the others (6). This disaggregated approach reflects the typical approach to environmental research, which focuses on one pollutant at a time. It is consistent also with the structures of public health and environmental protection agencies that typically have separate bureaus dealing with air, water and solid waste.

But an unintended consequence of this fragmented approach is that it minimizes the total burden of pollution and hence fails to give pollution the full attention it deserves in planning and policy-making. To counteract this fragmentation and to elevate pollution in the policy agenda, we argue that pollution is best considered in the aggregate, and that the impacts of pollution should be examined as the sum total of man-made environmental contamination in all of its forms.

Types of pollution

Data characterizing each type of pollution and its impacts on human health are at varying states of definition and certainty. Best estimates regionally and on a country-by-country basis are available from the World Health Organization (WHO) (5) and the

FIGURE 1: POLLUTION DEATHS VERSUS OTHER MAJOR CAUSES (WORLD)



Institute for Health Metrics and Evaluation (IHME) (6).

Air pollution

Contamination of both outdoor air (urban air) and indoor air (cooking stoves) – poses the largest and best characterized pollution-related threat to health. Mortality data for air pollution have recently been revised upward by WHO as new links between air pollution and health have been discovered, most notably links between air pollution, cardiovascular disease and cancer (1, 2).

Water pollution

Sewage-contaminated water has long been recognized as a major cause of diarrheal disease (7).

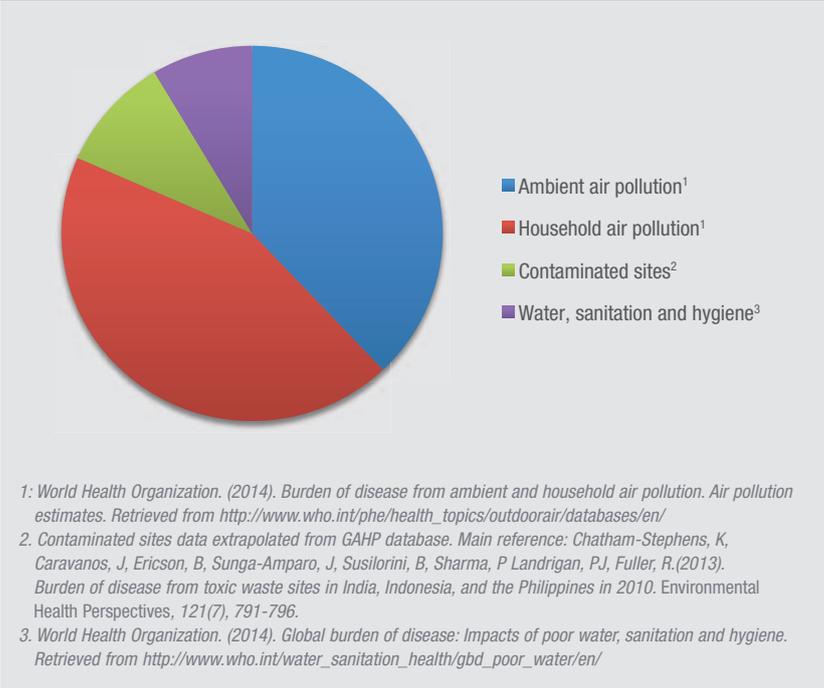
Soil pollution

The health impacts of soil pollution have only begun to be studied in detail. Thus mercury, a significant global contaminant of soil and a well-established cause of neurodevelopmental disorders, does not appear in any published databases calculating the Global Burden of Disease because a quantitative relationship between metallic mercury and health has not yet been defined. Data on the number of mercury-contaminated sites worldwide and on the size of the exposed populations are also still incomplete. Preliminary estimates suggest that contaminated soils may be responsible for 13.8% of cancer deaths worldwide (8, 9).

Globalization – A powerful driver of pollution

A powerful driver of pollution in LMICs is globalization of the chemical manufacturing industry, the recycling industry and other polluting industries. These industries are relocating from Europe, Japan and the United States to poor countries that lack

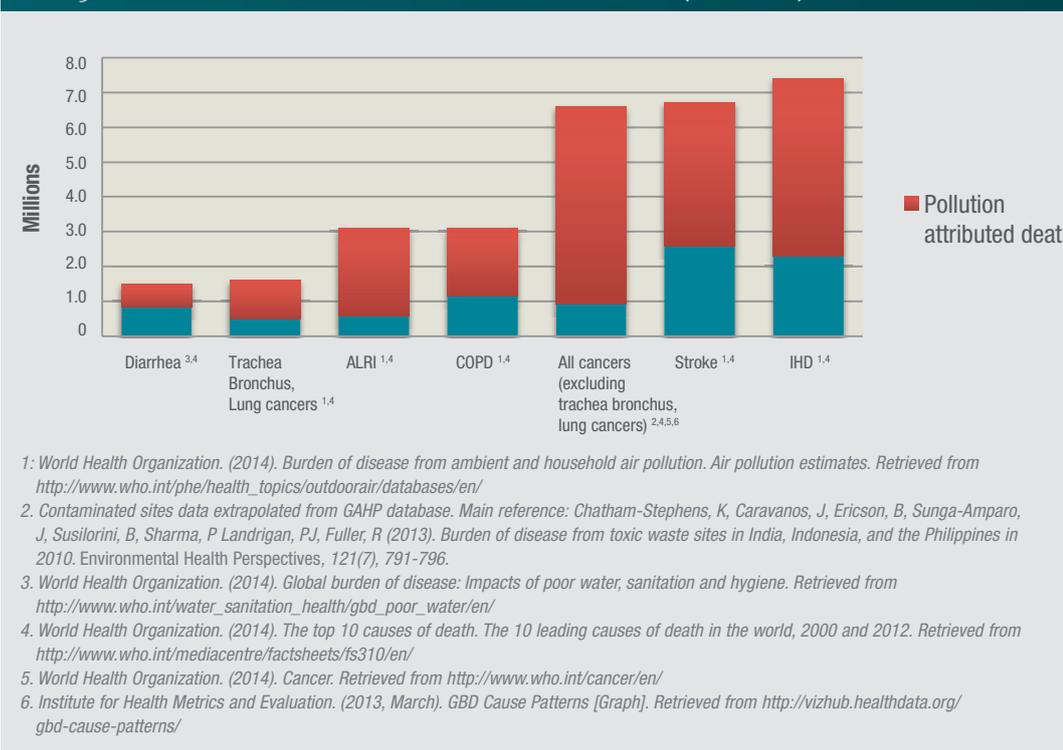
FIGURE 2: DEATH CAUSED BY POLLUTION 2012



environmental regulations and technology and thus are the countries in the world least well equipped to deal with environmental contamination. The result is that workers and communities in these countries can be massively exposed to toxic chemicals, often under highly uncontrolled conditions.

The Bhopal disaster in India where thousands of people died and were severely injured 30 years ago after acute exposure to methyl isocyanate following an explosion in a pesticide manufacturing facility provides a classic example of the consequences of poorly controlled globalization of the chemical manufacturing industry

FIGURE 3: LEADING CAUSES OF DEATHS AND PORTION CAUSED BY POLLUTION (WORLD 2012)



disease and cancer (1, 2). On the basis of new scientific knowledge about the links between pollution and chronic disease, WHO reported in 2014 that indoor and outdoor air pollution are now considered to be responsible for 7 million deaths each year (1). These numbers represent a significant upgrade over previous estimates, and this increase is driven principally by new knowledge of links between air pollution and NCDs gained through large epidemiologic studies in multiple countries. The largest increases in numbers of deaths attributed to air pollution are seen for heart disease (16), stroke (16) and cancer (17).

Figure 3 presents data showing the incremental burden of disease and death

(10). Another slower moving catastrophe may be seen in the case of asbestos (11). Global sales of new asbestos currently amount to 2 million tons per year. Virtually all of this asbestos is used in LMICs. An estimated 1.25 million persons are exposed. A global epidemic of malignant mesothelioma and of the other cancers caused by asbestos may be expected to result. Electronic waste (e-waste) is pouring into poor countries at a rate of almost 40 million tons per year (12). Although not well publicized, the “chemical revolution” is one of the most important of the environmental changes that have transformed the developing world in the past half century.

The need to track global pollution

Mapping of pollution is essential to establishing its health and environmental impacts and to developing remediation strategies (13, 14). Yet at present time only a handful of LMICs have established rudimentary databases for tracking releases of pollutants to the environment. The Global Alliance on Health and Pollution, a consortium of development banks, affected countries, and UN agencies has undertaken preliminary studies in 50 countries, and has the best dataset on contaminated hazardous waste sites worldwide (15).

The diseases caused by pollution

The diseases caused by pollution are diverse. They include pneumonia and diarrheal disease, the two acute diseases traditionally linked to air and water pollution. WHO estimates that 50% of pneumonia deaths worldwide in children younger than five years are attributable to indoor air pollution (1). Deaths from sewage – contaminated water are estimated to account for 56% of deaths from diarrheal diseases.

But additionally it is now recognized that environmental pollution is strongly linked to chronic, non-communicable diseases (NCDs), including the major fatal diseases of adult life – stroke, heart

attributable to environmental pollution. The number of deaths caused by pollution is greater than that from any other major cause, including HIV/AIDS, malaria or tuberculosis.

Vulnerable populations

Pollution is strongly linked to poverty (18). The overwhelming majority (94%) of the burden of disease and death caused by pollution falls on LMICs. These countries lack strong health and environmental protection programmes. In contrast to High-Income Countries, they are poorly equipped to deal with the problems of pollution. The result is that poor people in developing countries continue to be poisoned, suffer lifelong disabilities, and die prematurely from pollution.

Children are especially vulnerable to environmental pollution (19, 20). Prenatal exposures to pollution can cause birth defects, developmental and neurological disabilities, damage to the immune system, and reproductive impairment (21). Moreover, exposures to pollution during windows of susceptibility in early life have been shown to increase risk for chronic non-communicable diseases in adult life such as hypertension, heart disease, stroke, diabetes, kidney disease and cancer (22–24).

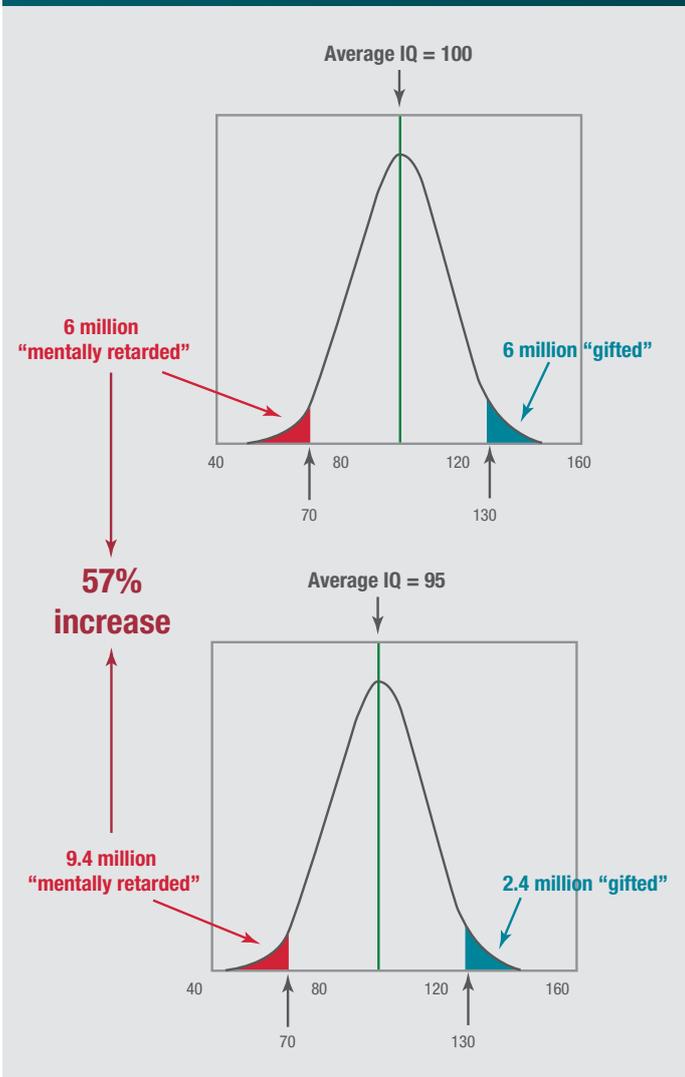
Workers are another group highly vulnerable to pollution, and pollution causes a number of occupational diseases – lead poisoning, acute and chronic pesticide poisoning, silicosis, and the diseases of asbestos (25).

The costs of pollution

Cost is an inevitable, but often overlooked and undercounted consequence of environmental pollution (26). The costs of pollution may be examined under several headings:

✚ **Direct medical expenses.** The diseases caused by pollution, especially the high-cost chronic, non-communicable diseases (NCDs) such as stroke, heart disease and cancer that are now linked to air and soil pollution impose heavy financial burdens

FIGURE 4: LOSSES ASSOCIATED WITH FIVE-POINT DROP IN IQ ON A PROPORTION OF 100 MILLION. BASED ON WEISS AND MODIFIED BY [HTTP://WWW.OURSTOLENFUTURE.ORG/NEWSCIENCE/BEHAVIOR/IQSHIFT.HTM](http://www.ourstolenfuture.org/NewScience/BEHAVIOR/IQSHIFT.HTM)



on already overburdened health systems in LMICs.

+ Indirect health-related costs. The diseases caused by pollution, especially NCDs are responsible for large indirect health-related costs such as time lost from school and work, costs of rehabilitation and costs of special education.

Estimates have been made of the direct and indirect medical costs of disease caused by environmental pollution. In 2011 Trasande and Liu (27) examined the costs of disease caused by environmental pollution in children in the United States. They found that the annual costs of lead poisoning, prenatal methylmercury exposure, childhood cancer, asthma, intellectual disability, autism, and attention deficit hyperactivity disorder of environmental origin amount to US\$ 76.6 billion. Leigh et al. examined the costs of occupational diseases and injuries across the United States (28). They found that occupational diseases and injuries cost the United States US\$ 250 billion each year. Direct medical costs accounted for 38% of this total, while the remainder was the result of indirect health-related costs.

+ Human Costs. Diseases caused by environmental pollution impose a heavy and unnecessary load on health care delivery

systems in poor countries that already are facing a human resources crisis in the health sector. These costly diseases increase hospital staffing needs and thus divert resources from essential prevention programmes such as childhood immunizations, infection control and maternal and child health.

+ Diminished economic productivity. In societies where the brains, lungs or other organ systems of large numbers of persons have been damaged by widespread environmental pollution, the economic productivity of entire countries can be diminished. For example, widespread exposure to lead in countries that utilized leaded gasoline and thus suffered widespread low-grade lead poisoning with cognitive impairment is estimated to have reduced population mean IQ in those countries by about five points.

This downward shift in cognitive function across the entire population had the effect of reducing by more than 50% the number of persons with IQ scores above 130 – people who have the potential to be future leaders – and at the same time increasing by more than 50% the number of persons with IQ scores below 70, many of whom will impose a lifelong human and economic burden upon their societies (29) (Figure 3). Such widespread cognitive impairment can reduce the intelligence and lifelong economic productivity of entire generations thus undermining the developmental trajectory of entire societies.

- + Loss of irreplaceable environmental treasures** such as the Everglades or the Black Forest that are beautiful treasures in their own right and that have the potential to be current or future sources of revenue from tourism.
- + Costs of environmental clean-up.**

Pollution can be controlled

High-income countries have identified and controlled many of their worst problems of environmental pollution. They have developed practical, cost-effective and replicable control strategies to control environmental and occupational disease. These strategies succeed principally by controlling exposures at source. Lead has been removed from gasoline. Asbestos use has been sharply curtailed and in some countries banned. Air and water pollution have been reduced. Highly toxic pesticides have been replaced. These actions have produced tangible benefits for health. These strategies can be utilized in LMICs.

Pollution control is highly cost-effective

Control of environmental pollution has been shown to yield great economic benefits. Grosse et al. studied the economic benefits of removing lead from the United States' gasoline supply (30). They found that from 1976 to 1999, the total decline in mean blood lead level in United States children aged 1–5 years that resulted from the removal of lead from gasoline was 15.1 micrograms/dL. From published data on the relationship between blood lead levels and IQ scores, they calculated that this decline in lead levels had produced a gain in the mean IQ score of United States children of between 2.2 and 4.7 points. Because each IQ point increases mean economic productivity over a lifetime by 1.76–2.38%, the authors estimated that the removal of lead from gasoline had generated an economic benefit in each year's birth cohort since the 1990s of US\$ 213 billion (range US\$ 110 to US\$ 318 billion).

Thus the aggregate economic benefit over two decades of removing lead from gasoline was more than US\$ 3 trillion.

Based on that experience, lead has now been removed from the gasoline supplies of more than 150 countries around the world. However, in LMICs, lead continues to be a significant burden on societies, with exposures occurring from battery recycling throughout the world (31), and from exposure to leaded glazes in pottery in certain countries, including Mexico (32).

Pollution has not received the attention or investment it deserves

Given the great impact of pollution on health and health resources and the high cost-benefit of pollution prevention, efforts to mitigate pollution should become a key strategic priority for international funders and for LMIC governments.

Yet despite its global importance and amenability to prevention, environmental pollution has not received the priority it deserves in the international development agenda (32). Although international aid through the Global Fund for HIV, Malaria and Tuberculosis exceeded US\$ 28 billion in 2013 (34), less than US\$ 100 million in international aid resources are directed each year toward the control of pollution. This lack of attention in the programme priorities of major international organizations is striking. It is especially startling, given the substantial impact and favourable cost: benefit ratio of pollution control programmes. The likely reason for this lack of attention is a lack of awareness of the scope of the problem, as well as real uncertainty about where to begin to address this complex set of problems.

Why should wealthy countries care about pollution in poor countries?

The increasing interconnectedness of countries around the world provides one rationale for dedicating more resources to controlling pollution in poor countries at its source. With globalization, the health and environmental problems of any country have the potential to rapidly become the problems of many other countries. This potential has been graphically illustrated by the recent spread of the West African Ebola Virus epidemic. The principal reason that Ebola spread uncontrollably in West Africa and then jumped to Europe and the United States was that health systems in the affected countries of Liberia, Guinea and Sierra Leone were seriously weakened by years of war, neglect and insufficient local and international investment and thus were not able to contain the disease. A similar situation is seen in the case of environmental pollution. Contaminated air from China now travels across the Pacific and can be measured in countries around the Pacific Rim including the countries of North America. Mercury from gold mining and coal plants crosses international boundaries and can be found in global stocks of fish. Arsenic has been found in imported rice.

A second reason that rich countries should care about pollution in poor countries is that in their role as international donors who invest in strengthening health systems in poor countries, the world's wealthy countries want to see a strong return on their investment. Pollution control can yield highly favourable return on investment and thus represents a cost-effective deployment of development dollars. By contrast, rampant pollution that undercuts the effectiveness of health care delivery systems in poor countries diminishes return on development investment.

A third reason to invest in pollution prevention is to assist poor countries to achieve optimal trajectories of development that contribute to reductions in poverty and to the calming of civil unrest. Widespread pollution that degrades the environment, undermines societal development and social cohesion, and condemns future generations in poor countries to continuing poverty and endless poor health encourages social unrest and catalyzes forced migration and war.

A final argument for prioritizing the prevention and clean-up of toxic pollution in the international development agenda is that pollution control will mitigate some aspects of climate change such as carbon black emissions and reduce threats to biodiversity.

Conclusion

LMICs are beginning to request international support to clean up their pollution. International development assistance that supports training, capacity-building and technology transfer provides a means for achieving this goal. But to be effective, pollution control programmes need to be assigned high priority in the international development agenda. They need to move beyond their current limited foci on mercury, toxic pesticides and protection of the ozone layer. And most importantly, they need to be adequately funded.

The good news is that pollution can be controlled. High-income countries have created public health and environmental protection programmes, and they have identified and controlled many of their worst environmental problems. They have developed practical, cost-effective control strategies to control environmental and occupational disease. These strategies succeed by controlling exposures. Lead has been removed from gasoline. Asbestos use has been sharply curtailed and in some countries banned. Air and water pollution have been reduced. Highly toxic pesticides have been replaced. These actions provide a blueprint that can be replicated in developing countries.

High-income countries are now in a position to transfer know-how, technology and funding to LMICs to help control pollution. Clean technologies and strategies for green growth that have been developed in rich countries can also be pursued by emerging economies. Early adoption of these strategies by developing countries can help prevent repetition of the mistakes of the past and can prevent decades of future contamination.

Pollution prevention and control have produced tangible benefits for health in countries around the world. Pollution control has lifted the economies of entire nations (30). Knowledge-based organizations such as the Global Alliance on Health and Pollution (GAHP) are galvanizing resources to assist LMICs address priority pollution problems (15).

Pollution control will convey particular benefits to the health sector in LMICs. It will reduce the economic and human burdens on the health sector of high-cost NCDs such as stroke, heart disease and cancer. Reduction in incidence and prevalence of those diseases will reduce indirect health-related costs. And reduction in the frequency of NCDs will reduce hospital staffing needs and thus allow health care resources to be directed toward essential prevention programmes such as childhood immunizations, infection control and maternal and child health.

Pollution is not inevitable. It is a problem that is solvable in our lifetime. Assisting LMICs to prioritize prevention, through management of pollution, is a highly cost-effective way to reduce

the burden on limited health resources and accelerate national development. □

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Résumés en Français

Certification des centres de médecine mammaire en Europe

La procédure de certification participe au processus de qualité en améliorant les comportements administratifs et cliniques, et donc les critères de soins. Elle nécessite une attitude critique vis à vis du travail quotidien et oblige à consacrer le temps requis à l'analyse multidisciplinaire sur les activités et les performances des centres de médecine mammaire.

Breast Centres Certification (BCCERT, Certification des centres de médecine mammaire) est une association sans but lucratif qui fonctionne dans le respect des normes internationales de certifications, et gère la certification volontaire des centres de soins mammaires conformément aux exigences de la European Society of Breast Cancer Specialists (EUSOMA, société européenne des spécialistes du cancer mammaire), dans le but d'améliorer et de standardiser le niveau de soins des patients dans toute l'Europe.

rehaVital-Stroke-Network – Nouveau modèle de soins intégrés lancé par des experts en matériel médical durable: Assumer la responsabilité des patients après les soins hospitaliers.

En consultation externe, les soins aux patients atteints de pathologies chroniques en Allemagne (par exemple patients ayant eu un AVC) sont actuellement fragmentés sans beaucoup d'interconnexions entre les différents prestataires de soins. Après avoir été hospitalisés et soignés dans un milieu extrêmement structuré, les patients sont souvent renvoyés seuls dans leur foyer avec des soins de soutien limités. Pour accompagner les patients vers une mobilité autonome et le retour à la vie sociale, les membres de rehaVital ont élaboré un modèle de soins intégrés. Dans ce modèle, la perspective des patients et leurs besoins sont reconnus comme jouant un rôle central dans leurs soins post-hospitaliers. Une interconnexion structurée entre les divers dispensateurs de soins et une optique de transparence des objectifs thérapeutiques et de la progression démontrés par des indicateurs de qualité sont aussi des éléments essentiels.

Volonté des prestataires de soins de santé coréens et obstacles rencontrés pour travailler dans un hôpital de campagne d'assistance humanitaire en réponse aux urgences mondiales de santé

Objectif : A mesure qu'augmente le nombre de catastrophes et de crises humanitaires, il importe d'axer les efforts sur la mise en place d'hôpitaux de campagne d'assistance humanitaire (humanitarian assistance field hospital, HAFHs) pour parer le plus rapidement possible aux besoins des populations prises de panique. L'un des facteurs les plus importants pour la réussite des activités des HAFH est la motivation personnelle des participants. Les objectifs de cette étude sont d'évaluer si les agents de santé sont disposés à travailler dans les HAFH lors d'urgences sanitaires mondiales et d'examiner leurs motifs, les obstacles qu'ils redoutent et leurs préoccupations grâce à un scénario de

simulation de crise mondiale.

Résultats: Soixante-dix prestataires de soins ont mené à bien une étude leur demandant s'ils accepteraient de travailler aux répartitions d'urgence au moyen des HAFH. Quarante-cinq des soixante-dix répondants (64,3%) ont répondu qu'ils acceptaient de travailler avec les HAFH, qui partent dans les 24 heures qui suivent un hypothétique tremblement de terre. Les principaux obstacles perçus à la participation aux HAFH étaient "des engagements de travail déjà pris avec leurs établissements respectifs," "le manque de soutien de la part de leurs propres établissements," et "le manque de sécurité et de sûreté sur le terrain."

Conclusion: Les décideurs doivent obtenir au préalable le soutien des établissements qui emploient des prestataires de soins d'urgence dans les situations de catastrophes pour assurer la participation aux HAFH et un état de préparation optimal pour les opérations de secours en cas de catastrophe dans le monde.

Bien-être et santé mentale des médecins hospitaliers des deux sexes en Allemagne

Cet article porte sur le bien-être subjectif et la santé mentale et leurs relations. Les différences entre les sexes sont également évaluées. L'enquête a été menée par une étude transversale en ligne utilisant un questionnaire standardisé pour évaluer la santé mentale et le bien-être de médecins. Les résultats montraient des scores modérés de ces paramètres. En général, les médecins hommes donnaient des scores plus élevés de bien-être et de santé mentale que les médecins femmes. Un bon niveau de bien-être et de santé mentale devrait améliorer la capacité de travail des médecins et par conséquent, la qualité des traitements et la satisfaction des patients. Il convient d'instaurer un système de prévention en santé mentale dans les hôpitaux, et d'encourager la sensibilisation à ce problème et son traitement précoce. Les interventions de santé mentale pourraient inclure la modification des horaires de travail des médecins et des programmes de formation en santé mentale et de prise de conscience du bien-être et de la détresse.

Effets des réformes hospitalières sur la gestion des hôpitaux publics en Tanzanie: Défis et leçons

Bien que l'on ait préconisé une réforme des hôpitaux à l'échelle internationale pour essayer de résoudre les problèmes de gestion hospitalière dans les pays en développement, des études ont montré que sa mise en œuvre se heurte à certaines difficultés. Une enquête a été menée pour évaluer des réformes hospitalières. Elle était basée sur des entretiens en profondeur, des discussions thématiques de groupe et l'examen de documents. Cet article examine les effets des réformes sur les hôpitaux publics de niveau II de Tanzanie et rapporte les difficultés rencontrées et les leçons apprises. Il montre que les réformes hospitalières ont des effets mitigés sur les hôpitaux dont les ressources sont limitées, et que les opérations de réformes ont peut-être remplacé l'inefficacité bureaucratique inhérente aux hôpitaux gérés au niveau centralisé

(MOHSW) par une inefficacité bureaucratique comparable qui caractérise la gestion de ces hôpitaux au niveau soi-disant local, le bureau du secrétaire administratif régional (Regional Administrative Secretary, RAS). La gestion des hôpitaux à ce niveau semble laisser beaucoup de problèmes non résolus de gestion hospitalière.

Les initiatives visant la sécurité des patients en Allemagne – La perspective de l'hôpital

Depuis une dizaine d'années, la sécurité des patients est devenue un enjeu majeur dans la sensibilité socio-politique de l'Allemagne. Des efforts pour améliorer cette sécurité des patients ont été déployés à l'échelle nationale et impliquent tous les acteurs du système de santé allemand. Le gouvernement vise à améliorer la qualité des services de santé dans les secteurs ambulatoires et hospitaliers avec une "Campagne de qualité", lancée au moyen de son "Accord de coalition" actuel. L'intention est d'assurer les prestations de santé nationales, où les hôpitaux jouent un rôle central en assurant un système complet de traitements cliniques disponibles localement. Les questions essentielles sont, entre autres, le droit à un second avis, les conseils sur les droits des patients, les instruments de gestion du risque, la prévention des infections. Le gouvernement d'une part renforce les pouvoirs des patients et leur participation aux prises de décisions, et d'autre part souligne la nécessité pour les prestataires de soins eux-mêmes d'optimiser la sécurité des patients.

Programme d'accréditation Apollo (AAP): outil de gestion de la conformité aux normes de la Joint Commission International (JCI) basé sur le web

La création et la mise en œuvre de processus pour fournir des soins de qualité dans le respect des normes d'accréditation sont une tâche difficile, mais encore plus redoutable est la subsistance de ces processus et systèmes. Il est nécessaire pour une surveillance fréquente de l'écart entre le niveau attendu des soins et le niveau de soins effectivement livrés de manière à atteindre le niveau de soins uniforme. Le programme d'accréditation Apollo (AAP) a été mis en œuvre comme un tableau de bord mesurables unique basé sur le Web pour afficher, mesurer et comparer les niveaux de conformité pour les normes de soins établies dans JCI accrédités hôpitaux chaque trimestre et a abouti à une amélioration globale de 15,5% des taux de conformité sur un an.

Contamination environnementale - un fardeau énorme et invisible sur les systèmes de santé dans les pays à revenu faible et intermédiaire désigne

Arrière-plan. La pollution environnementale est devenue le principal facteur de risque de décès dans les pays à faible revenu et les médias (PIBM). L'Organisation mondiale de la santé estime que l'exposition à l'air – pollution de l'eau et les sols intérieurs et extérieure, ont fait des morts 8,4 millions dans les PRFM en 2012. En comparaison, le VIH / SIDA provoque 1,5 millions de morts par an et le paludisme et la tuberculose, moins de 1 million chacun. Maladies causées par la pollution comprennent des ravageurs traditionnels de la pneumonie et la diarrhée, mais de plus en plus comprennent également les maladies chroniques non transmissibles (MNT), telles que maladie, accident, accident vasculaire cérébral et le cancer.

Méthode. Nous passons en revue les maladies causées par la pollution et l'accumulation des charges humaines et économiques

imposées par ces maladies pour les systèmes de santé dans les pays dont les ressources déjà limitées.

Résultats. Nous avons trouvé que les maladies causées par la pollution augmentent les coûts des soins de santé, en particulier pour les maladies non transmissibles de coût élevé. Ils imposent un fardeau inutile sur les systèmes de soins de santé en augmentant les besoins de personnel de l'hôpital et donc détourné des ressources des programmes essentiels de prévention, telles que l'immunisation, lutte contre les infections et maternelle et santé de l'enfant. Ils menacent le développement des pays pauvres en réduisant la santé, l'intelligence et la productivité économique des générations entières. La pollution est très évitable, et prévention de la contamination est très rentable. Cependant, malgré son coût économique et humain élevé et la susceptibilité à la prévention, les maladies causées par la pollution n'ont pas reçu l'attention qu'ils méritent dans la planification des politiques, ou sur le programme de développement international.

Environnement non polluante Un fardeau énorme et invisible sur les systèmes de santé en basse et moyenne comtés revenu

Contexte. Pollution de l'environnement est devenue le principal facteur de risque de décès à faible revenu et pays à revenu intermédiaire (PFR-PRI). L'Organisation mondiale de la Santé calcule que l'exposition à l'air pollué - intérieur et extérieur, de l'eau et des sols ont entraîné 8,4 millions de décès dans les PFR-PRI en 2012. Par comparaison, le VIH / sida provoque 1,5 million de décès par an, et moins de 1 million de paludisme et la tuberculose chaque . Les maladies causées par la pollution comprennent les fléaux traditionnels de la pneumonie et de la diarrhée, mais en plus ils comprennent également chroniques, les maladies non transmissibles (MNT), telles que les maladies cardiaques, accidents vasculaires cérébraux et le cancer.

Méthode. Nous passons en revue les maladies causées par la pollution et les multiples fardeaux économiques et humaines que ces maladies imposent aux systèmes de santé dans les pays avec des ressources déjà limitées.

Results. Nous trouver que les maladies causées par la pollution augmentent les coûts des soins de santé, en particulier pour les maladies non transmissibles à coût élevé. Ils imposent une charge inutile sur les systèmes de prestation de soins de santé en augmentant les besoins en personnel de l'hôpital et donc de détourner des ressources des programmes de prévention essentiels tels que la vaccination des enfants, la prévention des infections et la santé maternelle et infantile. Ils sapent le développement des pays pauvres en réduisant la santé, l'intelligence et la productivité économique des générations entières. La pollution est facilement évitable et la prévention de la pollution est très rentable. Pourtant, en dépit de leurs coûts économiques et humains élevés et la susceptibilité à la prévention, les maladies causées par la pollution ne ont pas reçu l'attention qu'ils méritent dans la planification de la politique ou dans le programme de développement international.

Resumen en Español

Centros de certificación de mama en Europa

El procedimiento de certificación ayuda a mejorar el proceso de calidad en cuanto modifica los comportamientos organizativos y clínicos beneficiando con una mayor calidad los estándares de atención. Muestra una actitud crítica hacia el trabajo diario y pide dedicar el tiempo suficiente para el análisis multidisciplinario de las actividades y el rendimiento de la organización de los centros de mama.

Los Centros de Certificación de Mama (BCCERT, Brest Centres Certification) es una Asociación sin ánimo de lucro, que opera cumpliendo con las normas internacionales en materia de certificaciones, y lleva a cabo la certificación voluntaria de Centros de mama basándose en los requisitos de la Sociedad Europea de Especialistas en cáncer de mama (EUSOMA), con el objetivo de mejorar y normalizar el nivel de atención de los pacientes en toda Europa.

Rehavit-Stroke-Network – Nuevo modelo de atención integrada iniciado por expertos en equipos médicos duraderos: Asumir la responsabilidad de los pacientes después de la atención hospitalaria.

La atención ambulatoria para los pacientes con enfermedades crónicas en Alemania (por ejemplo, los pacientes con accidente cerebrovascular) está actualmente fragmentada con poca interconectividad entre los diferentes proveedores de atención. Después de haber sido atendidos y hospitalizados en un ambiente altamente estructurado, a los pacientes a menudo se les da de alta solos con limitada atención de apoyo en casa. Con el objetivo de acompañar a los pacientes en su camino de regreso a la movilidad autónoma y su reinserción social, los miembros de Rehavit desarrollaron un modelo de atención integrada. En este modelo, las perspectivas y necesidades de los pacientes son reconocidas como determinantes centrales en su cuidado post-hospitalario. Una interconexión estructurada entre los distintos proveedores de cuidados con la transparencia de los objetivos del tratamiento y los avances dados por los indicadores de calidad son otras características clave.

La voluntad y las barreras de los proveedores de salud de Corea en participar en un hospital de campaña de ayuda humanitaria para responder a la necesidad urgente de salud global

Propósito: A medida que aumenta el número de desastres y de crisis humanitaria, hay un énfasis en enviar rápidamente hospitales de campaña de asistencia humanitaria (HCAH) con el fin de aliviar lo antes posible a la sociedad afectada por el desastre. La motivación individual de los participantes constituye uno de los factores importantes para lograr actividades exitosas de los HCAH. Los objetivos de este estudio son evaluar la disposición de los proveedores de salud para participar en los HCAH en urgencias sanitarias mundiales y examinar sus motivos, las barreras percibidas y sus preocupaciones usando un escenario

simulado de desastre global.

Resultados: Setenta profesionales de la salud completaron una encuesta que les preguntaba por su disposición de incorporarse de forma urgente y ser enviados a través de los HCAH. Cuarenta y cinco de los setenta encuestados (64,3%) respondieron que estaban dispuestos a unirse a los HCAH, que salen dentro de las 24 horas siguientes a un hipotético terremoto. Las principales barreras percibidas para la participación en los HCAH incluyen "compromisos pre-programados de trabajo en sus instituciones respectivas", "el apoyo insuficiente de sus propias instituciones" y "insuficiente seguridad y protección en el terreno".

Conclusión: Los responsables políticos deben establecer de forma preliminar el apoyo de las instituciones que emplean a profesionales de la salud en las situaciones relacionadas con los desastres, con el fin de asegurar la participación en los HCAH y asegurar una óptima preparación en las actividades de socorro a nivel mundial.

El bienestar y la salud mental de los médicos del hospital de sexo masculino y femenino en Alemania

Este estudio se centra en el bienestar subjetivo y la salud mental con respecto a sus relaciones. Además, se evaluaron las diferencias de género. La investigación se llevó a cabo por una encuesta en línea transversal mediante un cuestionario estandarizado para evaluar la salud mental de los médicos y su bienestar. Los resultados han demostrado un puntaje moderado para la salud mental y el bienestar en los médicos. En general, los médicos varones perciben un mejor bienestar y obtienen mayor puntuación en salud mental que las médicas. El bienestar y la salud mental deben mejorarse para aumentar la capacidad de trabajo de los médicos y, posteriormente, la calidad del tratamiento y la satisfacción del paciente. Es conveniente instaurar un sistema de prevención de salud mental en los hospitales, y alentar la sensibilidad a este problema y a un tratamiento precoz. Las intervenciones de salud mental podrían incluir la modificación de los horarios de trabajo de los médicos, proporcionar programas de formación sobre la salud mental, y ofrecer capacitación sobre la toma de conciencia de la angustia y el bienestar.

Efectos de las reformas hospitalarias sobre la gestión de los hospitales públicos en Tanzania: Desafíos y Lecciones Aprendidas

Aunque las reformas de hospitales se pregonan a nivel mundial como parte de una solución a los problemas de gestión de los hospitales en los países en desarrollo, los estudios han demostrado que su puesta en práctica genera algunos retos. Se realizó un estudio que utilizó entrevistas en profundidad, grupos de discusión y revisión de documentos para examinar las reformas del hospital. El documento examina los efectos de las reformas en la gestión de los hospitales públicos de nivel II en Tanzania y documenta los desafíos relacionados y las lecciones aprendidas. Se muestra que las reformas del hospital han tenido efectos

mezclados en los hospitales de recursos limitados y que las acciones de reforma del hospital pueden haber sustituido las ineficiencias burocráticas asociadas con los hospitales que se gestionan desde el nivel central (MOHSW) con ineficiencias burocráticas comparables que caracterizan la gestión de estos hospitales de un nivel supuestamente local, la oficina del Secretario Administrativo Regional (SAR). La gestión de los hospitales de este nivel parece causar muchos problemas no resueltos de gestión del hospital.

Iniciativas de Seguridad del Paciente en Alemania - Desde la perspectiva del hospital

La seguridad del paciente se ha convertido en un foco importante en la conciencia socio-política alemana durante la última década. Los esfuerzos para mejorar la seguridad del paciente se han incrementado en todo el país y han involucrado a todos los actores del sistema de salud alemán. El gobierno tiene como objetivo mejorar la calidad de los servicios de salud, tanto en el hospital como en el sector de la atención ambulatoria con una "Campaña de Calidad", lanzada a través de su actual "Acuerdo de Coalición". La intención es garantizar la prestación de la asistencia sanitaria en todo el país, donde los hospitales desempeñan un papel vital en el suministro de un sistema integral de tratamiento clínico disponible localmente. Las cuestiones claves son, por ejemplo, el derecho a una segunda opinión, aconsejar a los pacientes sobre sus derechos, los instrumentos para la gestión de riesgos y la prevención de infecciones entre otros. El gobierno, por un lado fortalece el poder de los pacientes y la participación en la toma de decisiones y, por otra parte hace hincapié en la necesidad de que los propios profesionales de la salud mejoren la seguridad del paciente.

Programa de acreditación Apolo (AAP): Herramienta de gestión de cumplimiento de normas de la Joint Commission International (JCI) basada en una web

Crear y poner en práctica procesos para ofrecer atención de calidad en conformidad con los estándares de acreditación son una tarea difícil pero aún más desalentador es sostener estos procesos y sistemas. Existe la necesidad de un monitoreo frecuente de la brecha entre el nivel esperado de la atención y el nivel de atención efectivamente entregado con el fin de lograr un nivel constante de la atención. El Programa de Acreditación de Apolo (AAP) se implementó como un tablero único de

instrumentos medible basado en la web para visualizar, medir y comparar los niveles de cumplimiento de las normas establecidas de atención en los hospitales acreditados por la JCI cada trimestre y dio lugar a una mejora general de 15,5% en los niveles de cumplimiento durante un año.

Contaminación Ambiental - Una carga enorme e invisible en los Sistemas de Salud de los países de ingresos Bajos y Medios

Antecedentes. La Contaminación ambiental se ha convertido en el principal factor de riesgo de muerte en países de ingresos bajos y medios (PIBM). La Organización Mundial de la Salud calcula que la exposición a la contaminación del aire - en interiores y exteriores, agua y suelo resultó en 8,4 millones de muertes en los PIBM en 2012. En comparación, el VIH / SIDA causa 1,5 millones de muertes por año, y la malaria y la tuberculosis menos de 1 millón cada una. Las enfermedades causadas por la contaminación incluyen las plagas tradicionales de la neumonía y la diarrea, pero cada vez más también incluyen las enfermedades crónicas no transmisibles (ENT), tales como enfermedad cardíaca, accidente cerebrovascular y cáncer.

Método. Revisamos las enfermedades causadas por la contaminación y la acumulación de cargas económicas y humanas que estas enfermedades imponen a los sistemas de salud en los países que ya cuenta con recursos limitados.

Resultados. Encontramos que las enfermedades causadas por la contaminación aumentan los costos de atención de salud, especialmente para las enfermedades no transmisibles de alto costo. Imponen una carga innecesaria en los sistemas de atención de la salud mediante el aumento de las necesidades de personal del hospital y así se desvían recursos de los programas esenciales de prevención, tales como vacunas infantiles, control de infecciones y la salud materno-infantil. Ellas atentan contra el desarrollo de los países pobres mediante la reducción de la salud, la inteligencia y la productividad económica de generaciones enteras. La contaminación es altamente prevenible y la prevención de la contaminación es altamente rentable. Sin embargo, a pesar de sus altos costos económicos y humanos y la susceptibilidad a la prevención, las enfermedades causadas por la contaminación no han recibido la atención que merecen en la planificación de políticas o en la agenda internacional de desarrollo.

CALL FOR ABSTRACTS

Introduction

The IHF World Hospital Congress is a unique global forum where multidisciplinary exchange of knowledge, expertise and experiences in health sector management and service delivery is facilitated. This forum brings together leaders, gurus, delegates and participants conversant in healthcare policies and reforms, management practices, financing trends and solutions, quality and safety, to engage in constructive dialogue on best practices and innovations in hospital and healthcare management aimed at improving the overall health and wellness of our patients and communities.

Hosted by the American Hospital Association (AHA) and the American College of Healthcare Executives (ACHE), the IHF 39th World Hospital Congress will be held on 6-8 October 2015 in Chicago, USA with the theme: ***Advancing Global Health and Health Care***, with the following subthemes and tracks:

- ***Equity and Access to Care***
- ***Quality and Safety***
- ***Patient/Community Engagement and Empowerment***
- ***Healthcare Management and Leadership Opportunities and Challenges***
- ***Innovation in Healthcare Delivery***
- ***Ethics***

Submission of Abstracts

Authors wishing to present their work, orally or as a poster, at the IHF 39th World Hospital Congress are invited to submit an abstract of no more than 300 words, by using the online submission form to the Scientific Committee for consideration.

Important dates:

<i>Open for abstract submission</i>	<i>1 October 2014</i>
<i>Deadline for abstract submission</i>	<i>19 January 2015</i>
<i>Notification to authors (to author's email address)</i>	<i>3 April 2015</i>

Important notes:

The Congress language is English. All abstracts submitted for oral or poster presentation must be in English. All abstract submissions must be made electronically via the *online submission form* available at the official Congress website: www.worldhospitalcongress.org. Abstracts sent by post or email will **NOT** be accepted.

Please carefully read the information below before proceeding to online submission of abstracts

General criteria for assessment of abstracts:

- Presents an experience and knowledge sharing opportunity for the global healthcare community
- Addresses major issues of importance according to the 2015 Congress themes
- Will be of benefit to a large audience
- Findings presented will generate information that could be useful in advancing global health and healthcare
- Materials and methods are well presented and analysed, with appropriate case studies

Financial support policy:

1. No honorarium or financial support will be provided to authors for abstracts accepted for oral or poster presentation.
2. Authors wishing to present their abstracts accepted for oral and poster presentation at the Congress must register to attend the Congress by paying a special discount Congress registration fee of US \$350. The registration fee must be paid on or before **15 July 2015**.

General and Technical Requirements:

- Best online abstract submission system—Internet Explorer 7.0 or higher/Mozilla Firefox 3.0 or higher; Cookies and JavaScript need enabling in order to submit.
- Conflict of interest: Author(s) must declare any potential conflicts of interest when submitting their abstract.
- After the submission deadline, only requested changes by the Scientific Committee reviewer will be accepted.
- Poster content should include introduction, objectives, material and methods, results and conclusions.
- Poster dimensions should be 152 cm (60 inches) wide x 102 cm (40 inches) tall.
- Only abstracts in “final submission” status will be considered.
- **All decisions on Abstract submission by the International Scientific Committee are final.**

For further information please contact:

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Tel: +41 (0) 22 850 94 22 Email: 2015congress@ihf-fih.org

2014 Corporate Partnership Programme



Supporting collaboration, ideas and innovation
in global healthcare

Who We Are

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

Our vision and objectives

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

The objective of the IHF is to develop and maintain a spirit of cooperation and communication among its members and other stakeholders so as to create an environment that facilitates the **cross – fertilization and exchange of ideas** and information in healthcare policy, finance and management.

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

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

What IHF Accomplishes

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

What Is the Corporate Partnership Programme?

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

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

The Partnership package provides **access to hospital and healthcare decision makers** from around the world. The Programme provides an exclusive opportunity for relationship building and sharing of ideas and experiences between corporate leaders and executives in the hospital and healthcare sector. **Dialogue** through this platform will ultimately introduce new ideas and expand knowledge in the healthcare market.

The benefits of the Programme are designed to maximise interaction between actual and potential clients through a **"one-stop shop" approach**.

Opportunity to ultimately create a **corporate leadership body**, to act as a neutral platform for wide-ranging intra-industry discussions on issues of mutual concern beyond and outside of traditional parameters of marketing in order to **foster collaboration** and **enhance confidence** in commercial relations in the health sector as well as **performance** and quality of services and **life** to the **community** at large.

Becoming a Corporate Partner

Contract Terms

- ✦ **Payment** covers a calendar year period of:

1 January – 31 December

(For the 2-year option, payment can be made on annual basis)

- ✦ **Letter of Agreement**

The Corporate Partnership is established upon signature of a letter of agreement by representatives of both the International Hospital Federation and an authorised signatory of the Corporate Partner organisation.

Application

For additional information, please contact:

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2014 Corporate Partners



Transparency is our highest technology



Meet IHF corporate partners



Transparência é nossa maior tecnologia

Bionexo is the center of a community comprised of over 15,000 players of the hospital business. Through our web platform, we integrate hospitals throughout the supply chain sector, focusing on business development and relationships. Established in 2000, in just 10 years, Bionexo was structured in Brazil, becoming the largest marketplace reference to the hospital industry and contributing significantly to the professionalization of the purchasing sector and growth of the healthcare market. The success of this innovative business model has led to Bionexo for Latin America and Europe, where also attained leadership in addition to export technology and implement a new concept in commercial transactions of organizations. Everything happened in a short time, just like businesses are made between the companies that integrate our platforms. This makes Bionexo the largest core of the hospital sector in Brazil. Pioneering and innovation, helping thousands of companies and hospitals.

www.bionexo.com.br



Esri is the world leader in GIS technology. Esri software promotes exploring, analyzing and visualizing massive amounts of information according to spatial relationships. Health surveillance systems are used to gather, integrate and analyze health data; interpret disease transmission and spread; and monitor the capabilities of health systems. GIS is a powerful tool for identifying health service needs. Esri software is extensively used by health organizations throughout the world, including the US Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO), 127 national health ministries, and over 400 hospitals.

For more information, contact Christina Bivona-Tellez, CBivona-Tellez@esri.com. www.esri.com/health



DNV Business Assurance, a world leading certification body, is part of the DNV Group; an independent foundation whose purpose is to safeguard life, property and the environment. With over 140 years' experience in developing safety standards in high risk industries, we work with hospitals, healthcare organizations and other businesses to assure the performance and safety of their organisations, products, processes and facilities through accreditation, certification, verification, assessment and training. Within healthcare we are recognised as a leader in identifying, assessing and managing risk to mitigate harm to patients. Our 1,800 employees worldwide help customers build sustainable business performance and create stakeholder trust.

IHF events calendar

2015

IHF

IHF 39th World Hospital Congress

6–8 October 2015, Chicago, USA

For more information, contact sheila.anazonwu@ihf-fih.org

2016 IHF 40th World Hospital Congress

Durban, South Africa For more information, contact sheila.anazonwu@ihf-fih.org

2017 IHF 41st World Hospital Congress

November 2017, Kaohsiung City, Taiwan

For more information, contact sheila.anazonwu@ihf-fih.org

2015

MEMBERS

NETHERLANDS

Hong Kong Hospital Authority Convention

18–19 May, Hong Kong. Organized by Hong Kong Hospital Authority

More information <http://www.ha.org.hk>

JAPAN

65th JHA Congress 2015 Karuizawa

18–19 June, Nagano, Japan

Japan Hospital Association

SWITZERLAND

H+ Congress

11 November, Berne

H+ Les Hôpitaux de Suisse

GERMANY

German Hospital Conference

16–19 November, Düsseldorf

Deutsche Krankenhausgesellschaft

For further details contact: IHF Partnerships and Projects, International Hospital Federation,
151 Route de Loëx, 1233 Bernex, Switzerland; E-mail: sheila.anazonwu@ihf-fih.org or visit the IHF website: <http://www.ihf-fih.org>



Mark Your Calendar

International Hospital Federation
39th World Hospital Congress

ADVANCING GLOBAL HEALTH & HEALTH CARE

October 6–8, 2015 * * * * Chicago, USA

Exchange ideas and best practices with
visionary healthcare leaders from around the world.



Come to Chicago— A World-Class City

Home to a vibrant health care market with 116 hospitals in the greater metropolitan area, including 15 teaching hospitals. Congress attendees will get a behind-the-scenes look at several leading health care organizations.

Enjoy top-rated restaurants, museums, entertainment and a shopping district known as The Magnificent Mile.

The Hyatt Regency Chicago—the program site—is a prime location with breathtaking skyline and Lake Michigan views.

More information will be forthcoming at www.ihf-fih.org, but for now, save the date!



International
Hospital
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American Hospital
Association



American College of
Healthcare Executives
for leaders who care®