

# HID INFO line

## HID ACHIEVEMENTS 2003



Kingdom of Bahrain  
Ministry of Health  
Health Information Directorate

December, Issue No. 10

### Foreword

Today while we living the first decade of the new century the Ministry of Health in facing many challenges which require developing new strategies and mechanisms of the health services delivery. As it was addressed clearly in "Kingdom of Bahrain National Health Strategy", the top main challenges all Health staff have to focus on are: Improving the health of the nation, Financing the Health Services, and promoting Bahrain as an Information Technology Center of Excellence in the health fields.

During the pat year -2003, the Health Information Directorate has successfully completed a number of projects which are listed in this Special Edition of "HID- Info line". Indeed, this newsletter started being published early this year with the main object to disseminate information of achievements and experiences of the Directorate in the field of Information Technology in Healthcare. This sharing of information is not only with MoH staff, but between Ministries, Companies and Regional International Institutions. And we are proud to have received encouraging support from many of these bodies.

On this occasion it is my pleasure to thank all the Ministry of Health Staff especially Health Information Directorate for their hard work, innovation efforts and the team sprit. And thanks to all the companies who sponsored the publication of this newsletter. I am confidence that we will all be able to meet the future challenges and deliver improvements to Healthcare through the implementation of the many different projects outlined in the MoH Health strategy for the Future.

### تقديم

اليوم ونحن على عتبات الألفية الثالثة تواجه وزارة الصحة تحديات رئيسية لا يمكن تجاهلها والتي تتطلب منا تطوير واستحداث سياسات وآليات جديدة لتقديم الخدمات الصحية والمحافظة على ما تم تحقيقه من مكاسب صحية في مجال الرعاية الصحية. وقد تمحورت تلك التحديات وبشكل واضح وجلي في "الاستراتيجية الصحية الوطنية للمملكة البحرين"، ويأتي على قائمة تلك التحديات : تحسين صحة المواطنين، إيجاد حلول و بدائل لتمويل الخدمات الصحية، و الارتقاء بمملكة البحرين لتتبوأ مركز الصدارة في مجال تقنية المعلومات الصحية.

لقد تمكنت إدارة المعلومات الصحية خلال العام المنصرم 2003 من تحقيق العديد من الإنجازات في مجال توظيف و تطبيق تقنية المعلومات الصحية. وأنه لمن دواعي سروري أن انتهز إصدار هذا العدد الخاص لأثني على ما حققته تلك النشرة في مجال "Info-line من نشرة" إثراء المعلومات لقرائها، لتكون بمثابة المنبر المفتوح للتداول والخبرات والإنجازات في مجال تقنية المعلومات الصحية. إذ لم يقتصر الغرض منها على التواصل بين موظفي وزارة الصحة فقط، بل تعدى أسوار الوزارة ليشمل كافة الشركات والمؤسسات الأهلية. مما يجعلنا جميعاً فخورين للدعم المستمر من جميع الجهات المشاركة.

وختاماً، لا يسعني إلا أن أتقدم بالشكر إلى جميع العاملين بوزارة الصحة وأخص بالذكر موظفي إدارة المعلومات الصحية لمساهماتهم وجهودهم الفعالة وتنفيذهم آليات ومنهجيات متحضرة في مجال إنجاز المشاريع وتطبيقات تقنية المعلومات الصحية. كما أتوجه بالشكر لجميع الشركات لمساهماتهم في تمويل إصدارات النشرة. وإبني على يقين بأننا سوف نتمكن من مواجهة التحديات في وقتنا الحاضر ونحقق أهدافنا السامية في المستقبل بركات الجهود وبالعامل بروح الفريق الواحد للارتقاء و رفع مستوى الخدمات الصحية في هذا البلد المعطاء.

H.E. Dr. Khalil Bin Ebrahim Hassan  
Minister of Health



سعادة الدكتور خليل بن إبراهيم حسن  
وزير الصحة



## Ministry of Health Strategy

The Ministry of Health strategy is based on the commitment and implementation of evidence-based management that requires a total restructuring and redevelopment of its information and automation strategies and systems. The Ministry of Health Information Systems Project (MHIS) was initiated in June 2000 to define these strategies and systems, and identify a partner that would re-engineer and modernize the current environment to a knowledge managed performance based health system. It works in parallel with the Ministry of Health Strategic Direction and Framework for Action, in addition to focusing on innovative ideas to support areas such as Health insurance, Health Tourism, Ministry of Health Centre of Excellence, Drug management and cost containment.

## MHIS Background

In June 2000, the MHIS project was initiated, and the ICT strategy was completed in collaboration with Ministry of Health personnel, in addition to key Ministries, the Ministry of Finance and National Economy (MoFNE), and Central Informatics Organization (CIO).

A Request for Proposal was sent out internationally, and 17 written responses were evaluated and short listed to two consortium groups. Site visits, product demonstrations, and a Value Added Study was completed by both vendor groups in July 2002. Recommendations were made to proceed with negotiations.

## MHIS Accomplishments 2003

On May 4, 2003, Cabinet issued a directive to form an Advisory Committee with representatives from the Ministry of State, MoFNE, CIO and MoH, to select the best information system for MoH taking into consideration investment in the private sector through outsourcing, and minimizing duplication of IT investment between ministries.

Meetings were held with the vendors requesting a re-submission of a business proposal taking these two components into consideration.

H.E. the Minister of Health, has been instrumental in marketing the understanding of the essence of MHIS in the implementation of the MoH Strategy. It is through his patronage, that in December 2003, H.M. Shaikh Hamad Bin Isa Al Khalifa the king of the Kingdom of Bahrain provided written support for the implementation of the MHIS project. The project will be named the King Hamad e-Health Governorates Project (KHare).

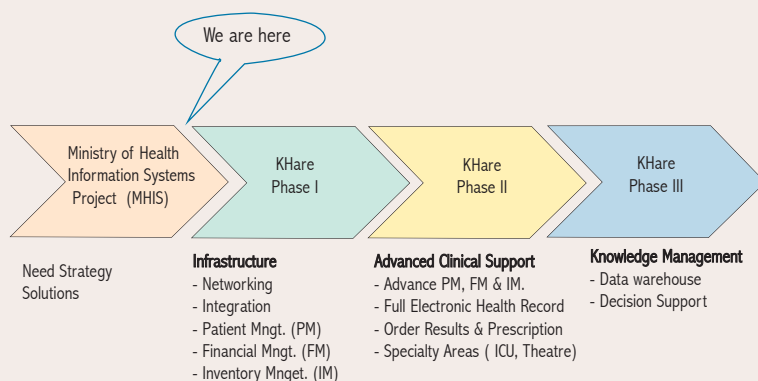
## King Hamad e-Health Governorates Project - KHare

As we embark on 2004, Negotiations and the Contract signing will complete the MHIS project, and it is anticipated that by June the KHare project will be initiated. Visions of a state of the art Healthcare System will become a reality as the Ministry employees

have the unique opportunity to participate in one of the most exciting transitions ever, impacting on democratic government initiatives, focusing on empowerment and enhancing healthcare for the people of Bahrain.

The major strategic goals of KHare have been defined as follows:

- Improve the Physical, Mental, Psychological, Spiritual & Social Health of the nation
- Promote Bahrain as an Information Technology Center of Excellence
- Consolidate and build on achievements
- Connect all Governorates to the Main Health Information Center
- Develop Statistics on Common health issues in the Governorates
- Develop Communication Network among the five Governorates in the Kingdom
- Exchange Information Technology and audio visual related to the Health & environment status of the Governorates
- Promote various Health Surveys to evaluate the Health & environment status of the Governorates
- Consolidate Health gains by activating preventive health programs from chronic diseases such as Periodic Health Screening Programs and Early Detection of Diseases and provide primary Health Care before appearance of health complications
- Coordinate all government and community interests in concerted efforts toward health gain
- Deliver essential, quality and cost- effective services



H.E. in KHare press conference

## Health Centres Automation Project - (HCAP)

Automation of Health Centres is an ongoing efforts by the Ministry of Health. The main aim in such automation is to provide the necessary infrastructure to enable the health centres to exchange information with each other and the major hospital in the kingdom. In addition to that, to improve the quality of services provided to the patients at the health centers and Maternity hospital, reduce manual tasks, and improve staff utilization and efficiency.

Following the successful automation of 10 Health Centres in earlier HCAP projects, a project was initiated in September 2002 to automate 3 more Health Centre (Sh. Salman, NBB

and A'Ali) and 2 Maternity Hospitals (Muharraq and Jidhafs), thus providing them with facilities to assist with patients registration, outpatient appointments, admission transfers and discharge, laboratory tests and radiology examination (where appropriate). This project was completed in May 2003.

A further project was initiated in September 2003 to automate 4 more Health Centre (Jidhafs, Moh'd Jassim Kanoo, Hamad Town, and Budaiya), and possibly 2 others (Kuwait and E.Riffa). Installation in these Health Centres should be completed by March 2004.



Deployment of IT at Health Center

## Lab Result Printing

This project kicked off in March 2002, but was put on hold for several months because of other priorities. The aim of this project is to extend facilities for printing laboratory results and laboratory related enquiries, to remote locations such as clinics, wards and even other hospitals and health centres. This will not only speed up the flow of information to those who need it, but also reduce the time that laboratory technicians spend responding to enquiries, thus affording them more time to concentrate on laboratory work orders.



Automation of Lab Tests

## Intranet Evaluation and Enhancement - (IEE)

A project kicked off on September 2002. The main objectives of IEE includes evaluating MoH Intranet website as well as developing web sites for all medical functions in MoH. Along with developing a new web sites, this project also focuses on marketing Internet, Intranet and Groupware services to the rest of MoH and giving them the opportunity to participate in such a vast technology.

Since the launching of the MoH Intranet website in April 2003, several medical departments have joined the MoH Intranet website. During the period of 2002 - 2003 a total of nine medical and four non medical departments has joined the e-business, these departments are Radiology, Pathology, Paediatrics, Orthopedics, Obstetrics & Gynecology, Accident & Emergency, ENT Department, Nursing Services and Ophthalmology Department. The non-medical departments include Medical Equipment Directorate, Directorate of Engineering & Maintenance, Directorate of Material Management and Directorate of Training with a lot of information about their services. Several features like the staff telephone directory and online helpdesk facility were updated. The website is enriched with informative materials about health conferences, health education, researches, publications, news, ... etc.

The key target goals of continuation of this project are to :

- > Improve the efficiency and effectiveness of MOH workflow.

- > Explore best economical use of the new technologies and all saving possibilities of time, resources, human efforts and the back and forth inquiries.
- > Effective Deployment of the advances in information technology to establish a corporate identity.
- > Improve utilization of real time statistical and information facility.
- > Improve communication
- > Provide information self-service
- > Improve staff knowledge
- > Decrease paperwork and workplace costs
- > Provide a reference tool for staff
- > Provide business rules and guidelines



Launching of MoH Intranet

## MOH Publications

The directorate played a major role on Producing of the following MOH publications;

### I) Health Statistics - 2002 Report and Leaflet.

Health Statistics Report contains statistics and Health indicators which illustrate the Health Status and the commitment to facilitate the provision of health care services to all nationals and residents of Bahrain. The data presented in the reports are collected from all Ministry of Health peripherals, Bahrain Defense force, Private Hospitals and other health institutes in the country by the Health Information Directorate. These data highlights the population characteristics, their demographic, epidemics and health status. The directorate main concerns is data accuracy, thus, it is always necessary to review and evaluate the contents of the reports with the data sources to improve data quality. To announce and publicize the publication of the report, HID has launched the report under the patronage of H.E. the Minister of Health on August 2003.



Launching of Health Statistic 2003 Book

### II) Doctors & Dentists Telephone Directory 2003

Doctors and Dentist Directory contained a list of doctors and dentists in Bahrain along with their contact addresses. The request of having a unified directory for all the doctors came from the Assistant Under-Secretary of Training and Planning. The directory is intended to provide details about doctors and dentists specialties. The directory is available both hardcopy and electronically on the MOH web site since of the first quarter of 2003.

### III) Health Information Directorate Leaflet

The leaflet illustrates HID strategic direction, organization structure, and functions in brief. It was targeted for distribution to external entities such as: WHO, international visitors, ministries, companies, supplies, Information community and selected MoH customers. Internal entities such as: Directorates and departments, HID visitors, existing and new healthcare staff.

### IV) Health Information Directorate Newsletter (HID Infoline)

A periodical newsletter edited and designed in HID. The main objective of the newsletter is served as a communication scheme with MoH staff and to act as a public relation means for HID. The newsletter covers MoH technical news and knowledge. The New letter was an open forum for all participant since first publishing on Nov. 2002

### V) Health Information and Communication Technology Strategy Booklet

The Information & Communication Technology (ICT) Strategy is reviewed and adjusted to align with the Ministry if Health Policies and Strategic Direction. The Modified Strategy is published in Booklet form in a language that is understood by Non-IT specialists.

### VI) Other MOH Publication

Health Information Directorate (HID) was also involved in the production of the following MOH publications such as: MOH Policies and strategic Direction, MOH Annual Report Reflections of 2002, and production of several leaflets for the Ophthalmology Department. All of these publications were also published in both MoH Internet and Intranet.

### VII) Dissemination Health Statistics

The directorate played a major role in the provision of health statistics. HID was coordinating the work of exchanging the data closely with Public Relation office, other ministries and private hospitals. In addition to that HID was responsible on implementation of World Health Organization Health Indicators Database and Executive Office Health Ministers of GCC.

To unify and facilitate health statistics reporting mechanism over the Eastern Mediterranean Region, the Health Information Support with coordination of the statistics section at the World Health Organization (EMRO) office had developed a new database "The regional information Health Statistics system".

The system allows entering values for selected indicators which are categorized into 17 different categories. A project was initiated to install the database on the HID server, test and evaluate the software. The directorate took the responsibility to report electronically using the database on annual bases.



## Interim Death Registration System

This project kicked off in July 2002, but was delayed because of other priority work. It was finally completed in May 2003. The application facilitates capture of data relating to most deaths in Bahrain, and deaths of Bahrainis abroad. This data is accessible to MoH sections and outside agencies (e.g. CSO), and research and statistics previously undertaken manually can be automated.

## Birth Certificate Printing

The purpose of this project is to provide a facility to print birth certificates electronically. The project was started in June 2003, with a planned completion date of December 2003.



Training on the Implementation of Online Birth Certificate Printing

## Interim Fixed Asset Management System

Fixed Assets will be addressed in MHIS (Ministry of Health Information System), but this may not happen until 2005, even 2006. This project is to find a quick and inexpensive solution to help control fixed assets until the full-blown King Hamad e-Health Governorates Project (KHare) solution is implemented. The project was started in June 2003, with a planned completion date of December 2003.

## Electronic Medical Library

Due to the huge role of Internet and the new technologies in providing the information in Health Care, the demand of implementing an electronic Medical Library and providing an Internet Access had increased at Ministry of Health (MoH) Departments. In fact, this was to provide the necessary health science references and self-learning key to all doctors and health professionals all over the Ministry of Health, and to improve the quality and leadership of the Health Information professional in order to foster the art and science of health information services.

To maximize the benefits of the advances in the Information Technology, HID provided the required equipment to the first group of MoH Medical department with access facility to the Electronic Medical Libraries through MOH Intranet, as planned in 2004 another group of MoH Medical department will have this facility. Such examples of the International medical libraries were Glas System, e-journals, Proquest and MD Consult.



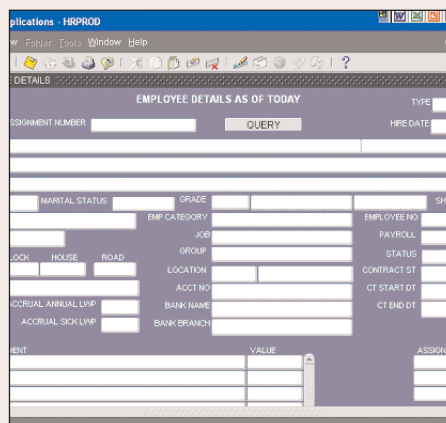
## CSB Human Resource application (HORIZON) interface

Early in 2002, the Civil Service Bureau implemented a new application (named HORIZON) to support Government Human Resource and Payroll processing. As part of a phasing policy, the Ministry of Health will gradually adopt functionality from HORIZON, hence retire functions in its own Human Resource applications.

The Ministry of Health Human Resource applications have interfaced with the old CSB application for several years. These applications and supporting processes needed extensive modification to interface with the new HORIZON application whilst functionality is split between the 2 applications (i.e. until HORIZON fulfils all of MoH Human Resource application requirements).

Many urgent modifications were completed in 2002. Other modifications of a less urgent but more complex nature are being tackled, and implemented progressively. A phase to synchro-

nise the CSB and MoH personnel actions was implemented in October 2003. A phase to interface staff leave data is scheduled to start in November 2003, with a likely completion date of April 2004.



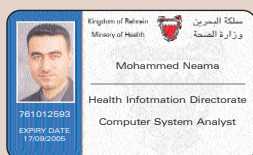
## ORACLE 9i Upgrade

A project was started in April 2003 to upgrade the ORACLE platform to version 9i. This is a standard upgrade recommended by Oracle, designed to provide a more robust environment and improve performance. The project was completed in October 2003.

The following benefits were derived when the Project was implemented:

- A dual-Server environment will be created which will allow greater security when making future modifications.
- Eventually, to establish the same control in current ORACLE Systems.
- Reduction in time taken to enter patient data.
- Establish greater consistency of patient details throughout MoH applications (leading to similar benefits in MHIS).

## Time Attendance and Access Control System



A new smart card based Time attendance and Access Control System is being piloted at HID. The system will replace the existing Access card system.

The new system will use biometric identification by way of fingerprint identification. This will prevent any malpractice in clocking in attendance by staff. The system is being implemented at the Directorate of Personnel and the Directorate of Finance simultaneously. Based on the experience gained, this system can be implemented all over SMC and other MOH facilities.

## Mortuary Registration and Release System

The purpose of the project was to provide facilities to the mortuary staff to register receipt of bodies in the mortuary, control activity such as embalming, and record releases. This information is available to Public Health, who register the death in the Death Registration application, the project been implemented in April 2003.

## Conversion of telephone numbers to 8 digits

In October 2003 a project was started to modify telephone numbers from 6 or 7 digits to 8 digits, as per a government directive. This entailed an impact analysis to determine the scope of application changes followed by 2 further phases, one to make software modifications to accommodate additional digits, the other to convert existing data to the new 8-digit format. The project is targeted for completion in December 2003.

## Telephone Call Management System

A package selection project was initiated in October 2001 to replace the existing Telephone Call Management System with a new system that provides more extensive call capture facilities and a range of management reports to help control telephone usage. The selected package was finally implemented in July 2003.

## Accident and Emergency Enhancements 2003

The MDIS Accident & Emergency System was enhanced based on a study conducted by HID. As part of enhancements, new inquiry features were added for current patient status and previous patient history, new reports were added with statistical information on patient waiting times and look up table help was added wherever required.

The new features will provide valuable information to the management about the bottlenecks in the treatment areas in A&E. They will also eliminate clerical effort of tabulating and generating statis-



tical reports. The system was tested, approved by the user and implemented in November, 2003.

## Medical Commission Case Register



User Training

This project was initiated in May 2003, and completed 2 months later in early July. The purpose of the project was to provide a register which would record all requests received in the Medical Commission, and enable better control of cases, especially related to occupational health and workers compensation.

## Human Resources development

Health Information Directorate believed that human resources are the most important asset, thus, it is committed to investing in training and development of all the staff. The following activities were took place during the 2003:

### I) Computer Based Training (CBT)

To maximize training benefits, HID installed a server and course administration software that facilitates distribution of CBT to staff at their workstations. Using this software, a training administrator can assign courses to individuals or groups of individuals, monitor progress and review assessments of individual performance. To-date, CBT courses on Microsoft Office suite, Project Management and Oracle skills have been distributed using this facility.

### II) Participation in Various Health and IT Conferences

Conferences, workshops, courses and seminars provide an international forum for exploring the advances in the health information technologies and a unique opportunities for human resources development, thus, the Directorate paid special attention in assuring that all staff participate attend these conferences when-ever possible.



HID Staff in FutureIT 2003 conference

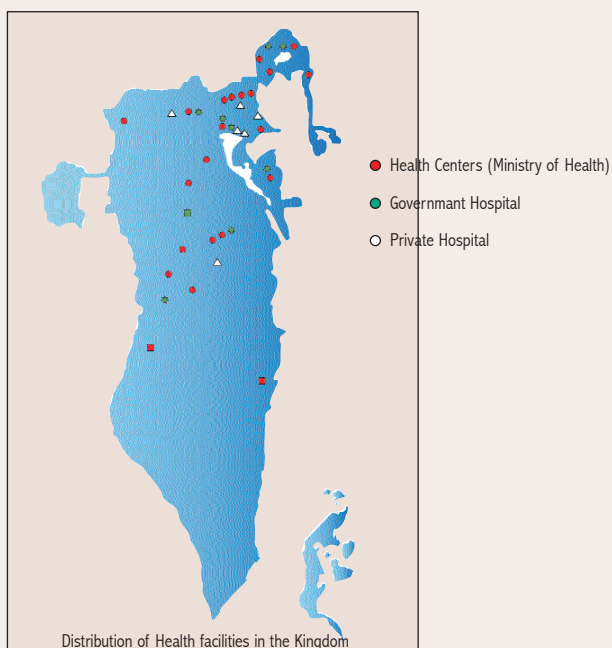


MoH stand in FutureIT 2003 exhibition

## The Ministry of Health Wide Area Network Connection

One of the main goals of Moh was to connect all Ministry of Health premises and Health Centers scattered in the kingdom to the Ministry's Wide Area network. This will enable users to use Health Information Systems, File & Print Sharing and Internet/Intranet connectivity in addition to GroupWise email services.

To cope with the new advances and fast moving technology, the directorate piloted the Wireless Local Area Networking in its perimeter. The IT staff can now roam with their PC's or Laptops without any physical cable connected to the network. Once fully tested, HID will be implementing the same technology in some specified locations. This new technology might be introduced once the King Hamad e-Health Governorates Project (KHare) is implemented.



## Participating in different Committees

The directorate has participated effectively in various committees formulated by the Ministry's top managements at the Ministry level such as:

- Health System Performance Committee
- Health Indicators Committee
- Burden of Disease Committee
- ICD10 Committee
- National Committee of the AIDS
- Health Commission Committee
- Health Centers Decentralization Committee
- MOH Policy Network Committee
- Epidemic Diseases Committee
- MOH project review Committee
- The National Committee for Prevention of Blindness.
- Publish all MOH publications on both Internet and Intranet.

## The norm in HID



Communication at its best through Staff Information Meetings



Opportunities to become closer through Social Activities



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