



Botswana



Describe a successful or challenging e-health initiative your country has taken.

The Integrated Patient Management System is an initiative to have an electronic record of all patients that visit any government health facility. The project started in February 2003 in four hospitals and 16 clinics. These sites were used for piloting admissions, laboratory, electronic ambulatory record system, pharmacy, ordering entry, community wide scheduling microbiology, medical records index and enterprise record modules.

What were the financial challenges and costs associated with implementation of this programme?

The programme was sponsored through a donor agency under the HIV/AIDs programme. The tender requirement of this initiative stipulated a number of functions but at the contract stage some of these could not be undertaken due to donor financial limits. This constraint resulted in splitting the initiative into two phases – implementation of core modules mainly towards ARV treatment and implementation of other modules towards patient care not necessarily related to HIV/AIDs. Ultimately, due to this challenge, the full potential of the initiative has not been realised as more patient centred services have not been implemented.

What have been the main technological challenges to implementing e-health in your country?

For the system to be operational the initiative required a networking infrastructure that supports a centralised database. The Government Data Network (GDN) was used for the deployment of this system.

Bandwidth was found to be a challenging factor for the sites to connect to the GDN. The Botswana Telecommunication Corporation (BTC), who provided leased lines from sites to the GDN, could not meet some of the minimum bandwidth requirements due to technological deficiencies, especially to those sites which are not on the GDN fibre optic backbone. The minimum speed required was 256 KB but in some sites BTC could only provide 64KB at its best. This challenge has resulted in an unsatisfactory system response time.

Other challenges related to human resource development for both user and the provider. Users lacked basic computer skills and the Ministry of Health did not have enough staff with adequate IT skills to support the system. Furthermore, some of the laboratory instruments could not be interfaced to the system as they were in the process of being replaced or were unable to communicate electronically with any other system.

Have any ethical issues been raised during the design and implementation of e-health programmes?

A number of ethical issues were raised during the implementation of the system. Amongst them there were issues of patient data confidentiality, authenticity of system generated prescriptions, electronic data interchange (EDI) between the different hospitals without the manual forms, and the electronic signature. All the issues are still pending except the patient data confidentiality where controlled measures were put in place to guard against access of sensitive patient data to non-authorized personnel. Regarding EDI, data is verified against hand written order forms before action is taken on the transferred data. Currently the government through the Ministry of Communication Science and Technology is developing a legal framework to provide guidance on use and applicability of electronic data.

Has the implementation of e-health programmes required any legal or regulatory changes?

Currently the implementation of e-health has not resulted in or change in legislation or regulations. However, with the roll out of the system, it will facilitate the need for legislation/regulation in areas such as handling of electronic health data, usage and validity of the manual patient card, access to the centralised patient data by other health care providers other than the consulting provider.

What have been the outcomes of your e-health initiatives?

The initiative has just been evaluated and a list of issues and priority areas has been identified for corrective action. The initiative has been successful for laboratory and microbiology where test results are now fed into the system electronically and made available to the consulting health care provider. Once the gaps that have been identified by the evaluation are addressed, the system will be then be rolled out to the remaining facilities.