Health problem addressed

2.5 million children globally are living with HIV infection. Most live in resource limited settings. The global community has committed to make HIV targeted therapy available to infected children. With this, HIV infection can become a chronic manageable medical condition for these children. Unfortunately these children often face a fragmented health system that is not designed for chronic care management.

Product description

The device is a web based electronic health record system embedded with a comprehensive pediatric HIV knowledge base and clinical decision support system, including automated weight based dosing of ART. It allows clinicians to integrate vital pieces of clinical information to manage pediatric HIV at the point of care. It has a novel architecture to ensure secure access over a desktop or mobile device.

Product functionality

The system is installed on a remote server. Users access it over the internet or mobile phone network. Access is password protected. One can use a PC, PDA, or mobile phone to retrieve or record patient data from the point of care. Data can be text, image, dicom, audio, or video. SMS alerts can be sent as well. Off-line browsing, data capturing store and forward technology allow for use in low speed internet settings.

Developer’s claims of product benefits

A lack of patient centered point of care information is a major barrier to the provision of quality care. Pediatric HIV is a chronic disease; it requires the collection, preservation, evaluation and synthesis of a large amount of data over time. This information has to be available at the point of care. Making this possible is crucial. Electronic health records (EHRs) can help organize clinical information systems, and provide point of care clinical decision support. Smart EHRs can be a vital tool when health care delivery is fragmented and providers have varying expertise. With that in mind we designed this smart, web based EHR, with built in clinical decision support and an interface for mobile devices, for the management of pediatric HIV.

Operating steps

Users are doctors, data-entry operators, counsellors, and administrators. Use is password protected. Users access the system with desktop, PDA or mobile phone to retrieve and enter patient data including medical images. The modular design of the system reflects the clinical encounter. For example, a patient’s weight is automatically used to prompt the clinician in choosing appropriate dosing of drugs.

Development stage

Currently the system is being piloted at the Regional Pediatric ART Center Medical College Kolkata. Over three hundred children are registered in the system. Evaluation of the effectiveness of the system is planned on four dimensions: system quality, information quality, service quality and user satisfaction.

Future work and challenges

We would like to pilot test the system in other centers that provide care for children with HIV infection. Our major challenge is to make the connections with interested stakeholders. Capital for sustaining manpower to work on the project is also a major challenge.

Use and maintenance

User: Nurse, midwife, physician, technician
Training: Orientation to the use of the system.
Maintenance: Technician

Environment of use

Requirements: Standard domestic power and clean environment for computers, internet connection of minimum 256 kbps, UPS for power backup. In the absence of dedicated LAN connectivity for the server, dial-up or mobile phone-based link to the internet.

Product specifications

Other features: System comprises software and is compatible with telemedicine systems.
Portable and reusable.
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