**Context**

Mitchel's Plain Community Health Center

One of the largest communities in Cape Town, SA

Majority of population has a middle school education

90% of population speaks Afrikaans

20% has HIV/AIDS

3,000 HIV/AIDS patients per month

**Background on HIPAA Security Rules**

**Technical Safeguards**

**Access Control.** A covered entity must implement technical policies and procedures that allow only authorized persons to access electronic protected health information (e-PHI).24

**Audit Controls.** A covered entity must implement hardware, software, and/or procedural mechanisms to record and examine access and other activity in information systems that contain or use e-PHI.25

**Integrity Controls.** A covered entity must implement policies and procedures to ensure that e-PHI is not improperly altered or destroyed. Electronic measures must be put in place to confirm that e-PHI has not been improperly altered or destroyed.26

**Transmission Security.** A covered entity must implement technical security measures that guard against unauthorized access to e-PHI that is being transmitted over an electronic network.27

**Problem Statement**

Loss/Damage to patient files

Delay or hinder treatment progress

Confidentiality of patient files

Data integrity

WHY - This project is for Mitchells Plain Community Healthcare Center in Cape Town, South Africa that treats patients for HIV/AIDS. All patients records are currently hard copy only, and patients’ records get displaced and damaged. Ultimately, a “hassle free treatment process”

**Motivation**

Improved medical records management system

Secure -

Easy to use -

Proposed Solution

Enforce patient confidentiality -

Ensure data integrity -

HIPAA -

MCHC is one of the few public health clinics in South Africa,

Only 2 physicians

**WHAT** - Solve the problem of displacement and damage to patients’ files

Eliminate identity theft

Ensure patient stays on the right regiment

**EMR Systems**

\*\*\*\*Need Pro’s and Con’s\*\*\*\*

\*\*\*\*table/chart\*\*\*\*

Earliest dates back to 1995; VistA

Background info on

VistA- Veterans health info systems and technology Architecture

Used throughout the US Dept of Veteran Affairs

80 different clinical fxns, including: Mental Health, Blind Rehab, Ambulatory care, Radiology, Pharmaceutical, etc, etc etc

Software modules for clinical care and financial fxns

Currently the largest medical system in the US, provides care to 8 million veterans

Already had automated data processing previously, but added a GUI in 1997.

One of the first client-server architectures, that allowed health care providers to review and update a patient’s electronic medical record

THIRRA-  project title Portable System for**T**eleHealth and **H**ealth **I**nformatics for **R**ural and **R**emote **A**reas.

Started in 2007, Written in PHP, with a PostgreSQL database backend.

ZEPRS- The **Zambia Electronic**[**Perinatal**](http://en.wikipedia.org/wiki/Perinatal)**Record System** (**ZEPRS**)

- For an obesity clinic

-lacks security measures (i.e. encryption)

OpenEMR V 1.0 released in June 2001

-3700 downloads p/month

**Overview**

Enforce patient confidentiality

Ensure data integrity

HIPAA

It is important to weigh patient confidentiality against a public responsibility to support national priorities.

HIPAA – Health Insurance Portability & Accountability Act

Pros:

- Hospitals/Clinics more efficient

- Reduce medical errors

- Lower healthcare costs

**Proposed Implementation**

Much simpler than OpenEMR, removed many unneeded features.

Onsite Access through intranet (LAN).

SSL Encryption

**Solution Highlights**

User group access control

Encryption and description algorithms

Secure transmission via openSSL

Audit log

Automatic log off

**Summary**

Lightweight

Secure EMR System

* [Reiterate our main points]
* [point 2]
* [point 3]

Portability of a streamlined secure system

Possible Future Work

Ability to upload existing hardcopy files

Prescriptions:

* Add
* Update
* Control dispensing

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