



Development of an Electronic Patient Information System



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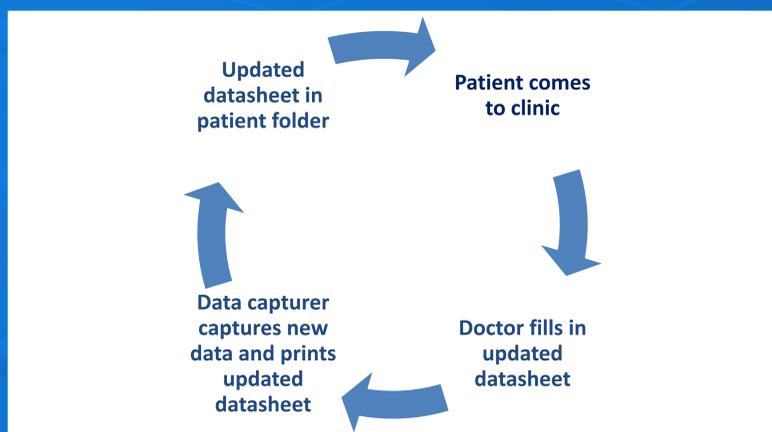
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Introduction

This exhibit is aimed at informing medical practitioners of the benefits and implications of implementing an electronic patient information system. Severe challenges are posed by the national antiretroviral rollout, both in the effective clinical management of large numbers of patients over many years, as well as adequately managing the required statistical reporting duties. We have developed such a system, currently in operation at Tygerberg Hospital's Infectious Diseases Clinic (IDC).

Method

For this exhibit, we invite you into our simulated clinic where we are showcasing this system. As viewer, you will be able to assume the role of a patient attending the Infectious Diseases Clinic. A doctor will simulate data for you during an imaginary consultation and this data will be entered into a replica of the IDC information system. Various uses of the data will be demonstrated and an individualized follow-up visit form will be printed. The individualized follow-up visit form presents a clinician with relevant patient and medical history information for a specific patient at a glance. This form has become indispensable during patient following-up visits as it facilitates thorough follow-up on existing patient conditions and also facilitates any changes to be made to information on existing or previous conditions.



Currently Captured Data

1. Patient details, checked and updated every visit
2. Weight, length, BMI
3. Current ARV regimen, Last previous regimen listed
4. Duration of time on current ARV regimen
5. Current opportunistic infection prophylaxis
6. Current ARV adherence (Pill count)
7. Laboratory results: CD4, Viral Load, FBC, ALT, other
8. Current Tuberculosis status and duration of treatment
9. Previous and current HIV related and other conditions
10. Previous and current ART related side effects
11. Current Reproductive Health: family planning, PAP smears, condom use
12. Current Social Background: partner, substance abuse
13. Visit type: screening, referral, follow up, nurse only, pharmacy only
14. Patient type: new, on ART, primary/tertiary care, on study

Clinical Care Improvements

1. Patient-Doctor interaction
 - Effective communication using accurate overview in history and current issues improves quality of care and optimizes time management
2. PAP smear screening and monitoring at each visit
 - Feedback and prompt referral to Gynecology

Sample Data Sheet ID Clinic

CLINIC FOLLOW UP VISIT Printed 06/08/2008 Visit Date: Visit Date (yyyy/mm/dd)

Alizwa Mpatienti Age: 33 Gender: Female

77084895 Visit Status: Screening / Commence ART / Follow up Reg1 / Follow up Reg>1 / Follow up-off Rx / Unscheduled / New ART patient / New patient-not ART / Follow up-not ART / Missed Appointment

Study pt: N / Y, specify: No

Patient Weight:

Patient CD4 Counts:

Pt's ARVs issued at TBH: Yes / No / N/a

Initial ART Start Date: 06/02/2007

Months on Rollout: 18, on 06/08/2008

Months on Regimen: 18, on 06/08/2008

Current ARVs: 3TC, D4T, NVP

Previous ARVs:

Tel: Cell: 0723456789

ID No: 7401234567890

Address: Summer Street 14, Belville

New Address:

ART DRUG COMPLIANCE

STC	%	D4T	%	NVP	%

LABS (record only results not available via Disalab) X12 Rollout

CD4 X10⁹ value sample date month Other: value sample date

HIV VL: Copies/ml value sample date month Other: value sample date

DOCTOR'S EXAMINATION

Weight: KG 76.05 Height: CM 171 BMI: 26 Pregnant: Yes / No / No Weeks: Weeks

HIV related Conditions New Cont. Ended Previous Conditions

Cervical Dysplasia - High-grade (CIN II or III) Pregnancy

Dermatitis, Seborrhoic Tuberculosis: Pulmonary

Other Conditions: New Cont. Ended

Prophylaxis: CTX / INH / FLU / Other: ART related Side Effects Grade New Cont. Ended

Months on TB treatment, if applicable: months Lipodystrophy

TB Status: Tests negative / Not suspected / MDR / Reg 1 / Reg 2 / Non-standard reg / Awaiting results Not suspected

REPRODUCTIVE HEALTH AND SOCIAL BACKGROUND

Condom use: Yes / No / Abstain / Unknown / Yes Breastfeeding: Yes / No / Suspected / Unknown / N/a / No

Other contraception: Oral / IUD / Injectable Progesterone / Sterilized / Unknown / None Injectable Progesterone

Marital Status: Married / Single / Separated / Partner / Partner Died / Unknown Single

Last PAP smear: Date (yyyy/mm/dd) / Never / Unknown / N/a 14/05/2008 (*Record abnormalities under previous conditions)

Alcohol Use / Abuse: Social / Weekend Abuse / Dependence / Abstinence / Previous Abuse / Unknown Social Use

Illicit Drug Use: Can / Can-MTO / Tik / Cocaine / W / Other / None / Previous Abuse / Unknown / None

PHYSICIAN NOTES Doctor's Name:

ASSESSMENT

PLAN FOR NEXT VISIT: Next Dr Appointment: (yyyy/mm/dd)

To See / Do Next Time Doctor / Counselling / Dietitian / Social Worker / Bloods / Radiology / Nursing Only / Pharmacy Only

LABS requested today: CD4 / VL / ALT / Lactate / Amylase / Creatinine / Lipogram / FBC / Syphilis / TB sputum / XR / other:

ART changed today: Patient Type code (refer to back of form):

Date Patient Transferred: TFO Date (yyyy/mm/dd) Place / Clinic Patient Transferred: Place / Clinic

Current Data Utilisation

1. ARV Roll Out Statistics and PEPFAR statistics
 - Accurate figures for reporting are easily retrieved and reports are easily compiled
2. Monitoring regimen with pharmacy data
 - Regular checks of data consistency are performed in order to identify and rectify inconsistent data and monitor adherence
3. Research
 - Coding patient characteristics makes patient subpopulations searchable, e.g. gender, demographic analysis and co-morbidity
4. Adverse effects
 - Accurate data on incidence are reported and evaluated within clinical team on a monthly basis

Future Improvements

1. Web Access for all team members
 - Web based system enables satellite capturing e.g. at peripheral clinics
2. Automatic referral letter
 - All essential patient information is compiled in a letter and printed at convenience