Pharmacy Dispensing Units (PDUs): Improving Access to Chronic Medicines

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Reaching 90-90-90 in South Africa Part III: Best Practices and Innovations in Linkage, Treatment and Viral Suppression
May 31 - June 1, 2016
Southern Sun Hotel
Pretoria
Our Vision
That every individual has ready access to quality medical services that prevent, treat, and manage HIV infection and associated diseases.

Our Mission
To deliver and support quality clinical services, in Southern Africa, for the prevention, treatment, and management of HIV and associated diseases.

Our Values
• Quality Care
• Responsiveness
• Innovation
Programme Technical Objectives

• Implementation of quality pharmaceutical services through focused TA to counterparts at all levels.
• Improved availability and access to health commodities through effective management systems and use of innovative technologies.
• Support training, capacity-building, research to support sustainable pharmaceutical services.
• Develop strategic collaborations and partnerships with national and provincial stakeholders to address key pharmaceutical priority areas.
Supply Chain Management Priorities

• Develop, evaluate and implement novel technologies, systems and initiatives for supply chain management.

• Monitor shortages and stock-outs, and improve PHC medicines and commodities management.

• Strengthen last-mile medicines distribution to support DMOC through district/sub-district and community-based initiatives.

• Implement strategies to decant stable patients requiring access to chronic medications (CCMDD activities and other initiatives)
Context for Pharmacy Automation

- **Productivity**
  - Work flow optimization
  - Skills utilization
  - Stock control

- **Patient Care**
  - Counselling opportunities
  - Waiting times
  - Errors

↑ Productivity  
↑ Patient Care
Helen Joseph Hospital Themba Lethu Clinic
In-Pharmacy Automation Pilot Project

• High-volume HIV and TB treatment facility with 12000 patients in care.
• Previous pharmacy waiting times of 3.5-4.5 hours.
• Key project objectives:
  – Medicine availability and supply chain integrity
  – Improved operational efficiencies
  – Impact on pharmacy waiting times
• DoH approval to demonstrate the concept.
• Research and evaluation component.
• USAID grant for the pilot project.
In-Pharmacy Automation
Helen Joseph Hospital (Themba Lethu Clinic)
Themba Lethu Clinic Pharmacy
**Patient File Id:** 260379

**Prescriber Details**

- **Prescriber:** MOTLOUNG, Ilumeleng
- **Qualifications:** MBCH
- **HPGSA/SANC Number:** MP 0377 309

**Address**

- Helen Joseph Hospital
- Thembela Lehu Clinic
- Private Bag X47
- 2006, Auckland Park
- South Africa
- **Phone:** 081 489 1011
- **Practice number:** 5681 549

**Patient Details**

- **Date of Birth:** 26/03/1979
- **Age:** 34 yrs
- **Gender:** Male
- **Address:** 2000, Johannesburg
- **Phone (H):**
- **Phone (M):**

**Weight:** 80 kg

**List of allergies:**

- ALT: 40 UL (25/10/2012)
- eGFR: 60 (25/10/2012)
- Hemoglobin: 15.5 g/dL (25/10/2012)
- Cholesterol: 4.1 mmol/L (25/10/2012)
- Triglycerides: 1.0 mmol/L (25/10/2012)

**BMI:** 22.14 kg/m²

**Height:** 190.1 cm

**TB:** No

**Pregnant:** No

**Other drugs**

**Prescription**

- **Elizurant 400 mg Nocie, 1 Month:** 3 repeats
- **Lamivudine 300 mg Nocie, 1 Month:** 3 repeats
- **Tenofovir disoproxil fumarate 300 mg Nocie, 1 Month:** 3 repeats

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**Prescribers Notes**

- **Prescriber Signature:**
  - **Dispenser Signature:**
  - **Date:** 07/11/2013
Key Outcomes of In-Pharmacy Automation

Themba Lethu Clinic at Helen Joseph Hospital

• Reduction in pharmacy waiting times to less than 30 minutes (15 minutes for routine medication collection visits).
• Full stock control from bulk storage through to patient.
• Eliminated stock expiry and losses
• Improved pharmacy operational efficiencies and reporting
• Error-free prescription picking, labelling and dispensing
• Enhanced patient monitoring and counselling
• Specialised attention given to newly-initiated patients
• Increased pharmacist ward services at the hospital
• Reduction in pharmacy working hours
• Formal system for stock forecasting and quantification
• Reduced staff fatigue and burnout
• Improved patient satisfaction and experience
In-Pharmacy Automation Scale-up

- High-Volume Hospitals:
  - Helen Joseph Hospital

- Tertiary and Academic Hospitals (Gauteng):
  - Steve Biko Academic Hospital
  - Chris Hani Baragwanath Academic Hospital
  - Dr George Mukhari Academic Hospital
  - Charlotte Maxeke Johannesburg Academic Hospital

- Others (Western Cape):
  - Groote Schuur Academic Hospital
  - Tygerberg Academic Hospital

- SADC Countries:
  - Engagement with Zambia and Botswana MoH
Automation Design (Perspective View)
Steve Biko Academic Hospital
Next Steps for Automation
Out-of-Pharmacy Remote Automation Services

• **Addressing the HIV/AIDS epidemic:**
  – > 6.8 million Infections in SA
  – ± 300 000 new infections annually
  – 3.4 million patients on treatment currently
  – Impact of new treatment guidelines

• **Chronic medication management:**
  – Priority need to decant stable patients out of facilities and enable more convenient chronic medication collection.
  – Need for integrated chronic medicine access models.
Alternative models for chronic medication access
Pharmacy Dispensing Units (PDUs)

• Practical, convenient, cost-effective and sustainable medication collection.
• Integration with provincial/district supply chain systems.
• Pick-up point for existing chronic medication initiatives (CCMDD, Adherence Clubs).
• Key chronic diseases (HIV, diabetes, CVD).
• Centralised information management systems.
Pharmacy Dispensing Units

• South African innovation, designed and developed to meet the needs of the public sector environment.
• The PDU serves as both a central dispensing service and a pick-up point for chronic medicines.
• Integrates Cloud-based information management and SMS reminder systems for patients.
• Supports counselling and dispensing services by direct pharmacist interaction via an audio-visual link.
• First system in the world that combines remote dispensing of medicines with telepharmacy operations through the integration and management of cloud based data systems.
Pharmacy Dispensing Unit (PDU)
Themba Lethu Clinic
Out-of-Pharmacy Automation
Pharmacy Dispensing Units (PDUs)

- Pick-up points are managed by on-site staff and provides access to a pharmacist via a video interface.
- Real-time medication reconciliation, reporting and accountability.
- All patients receive integrated communication through SMS reminders and follow-up for missed pick-ups.
- Stock control and information management meets required standards to eliminate expired stock and other losses.
Pharmacy Dispensing Units (PDUs)

Additional Benefits

- System enables 24/7 medication collection for patients.
- Efficient medication collection process (3.5 minutes) and reducing patient queues.
- Chronic medicine solution for all chronic diseases.
- Data held in cloud, allowing patients to visit any collection point.
- Minimised patient costs.
Solution Architecture
Scale-up of PDU Initiative
Chronic Medicines Access

• **Department of Health:**
  - City of Johannesburg, Gauteng:
    - Four PDU sites in Gauteng (Soweto, Diepsloot, Alexandra)
    - Helen Joseph Hospital
  - Ehlanzeni District, Mpumalanga:
    - Bushbuck Ridge and Mbombela (Mpumalanga)
  - Others planned:
    - Engagement with Zambia and Botswana MoH

• **Funding Support:**
  - Gauteng pilot project:
    - USAID/PEPFAR
    - GIZ
    - Right to Care
  - Mpumalanga:
    - GFATM
Region D – Soweto (2 PDU Sites)
Mbombela
Engagement with SA Pharmacy Council

- Board Notice 50 (*In-Pharmacy Automation*)
  - Supported SAPC in developing minimum standards for in-pharmacy automation
  - Regulations in place since November of 2014

- Board Notice 49 (*Remote Dispensing Units*)
  - Supported SAPC in developing minimum standards for both public and private sectors
  - Expected regulations in place in 2016
  - Support for pilot evaluation of PDUs
GPP Context

- Registration
- Contingency plan in case of system failure (SOPs)
- Access control
- Record keeping
Disclaimer: This presentation is made possible by the support of the American people through the United States Agency for International Development (USAID). The contents are the sole responsibility of Right to Care and do not necessarily reflect the views of USAID or the United States Government.
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