Pharmaceutical Systems Strengthening: Experiences from Namibia

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Outline

• Overview of Namibia’s public sector health system
• Health system
• Pharmaceutical system
• Pharmaceutical system strengthening
• Measuring pharmaceutical system strengthening
• Examples from Namibia
• Acknowledgements
Overview of Namibia’s Public Sector Health System

- 14 regions
- 348 Public & Faith Based Organization health facilities
- 52 main ART sites
- 13 designated regional Drug Resistant -TB treatment centers
What is a Health System?

• “A health system consists of all organizations, people and actions whose primary intent is to promote, restore or maintain health.” (WHO 2007)
WHO Health System Building Blocks

System building blocks:
- Leadership / governance
- Health care financing
- Health workforce
- Medical products, technologies
- Information and research
- Service delivery

Goals/outcomes:
- Improved health (level and equity)
- Responsiveness
- Financial risk protection
- Improved efficiency
WHO Health System Building Blocks

- Governance
- Information
- Financing
- Service Delivery
- Work Force
- Medicines & Technologies

Patients

- Improved health
- Responsiveness
- Social & financial risk protection
- Improved efficiency

Access, Coverage, Quality & Safety
The Health System Cube

Chee G et al., Int J Health Plann Mgmt 2013; 28: 85–94.
What is a Pharmaceutical System?

• “…the relationship/interactions between the various actors of the pharmaceutical sector and the way decisions are made in particular in the government.” (WHO 2009)

• “…the actions of public and private stakeholders as they move drugs through the supply chain from purchasing to providing to patients” (Kohler et al. 2014)

• Eight complex subsystems: research and development, clinical trials, registration, manufacturing and packaging, procurement and importing, supply chain, dispensing and sales/use (Roberts & Reich 2011)
What is a Pharmaceutical System?
A subset of the health system

Source: Miralles 2010; RPM Plus 2005
SIAPS pharmaceutical system strengthening framework

Source: SIAPS 2013
Defining a pharmaceutical system

• Pharmaceutical system may include:
  • structures/organizations
  • individuals/people
  • resources
  • functions

• Described in terms of its
  • Functions/ Goals
  • subsystems, or
  • decision points along the medicine chain
Pharmaceutical System Functions

- **Pharmaceutical Supply**
  - Product selection
  - Procurement
  - Distribution and inventory management
  - Compounding and repackaging
  - Quality assurance

- **Dispensing and Supply to Individuals**
  - Sale or supply of pharmaceuticals with or without prescription
  - Support for self-care
  - Provision of medication-related information and counseling

- **Pharmaceutical Services**
  - Safe, Appropriate, Cost-Effective Use
    - Optimization of prescribing and use
    - Preservation of medicine effectiveness
    - Promotion of medicine safety
    - Provision of pharmaceutical care
  - Health Promotion and Disease Prevention
    - Provision of information and advice to promote public health and prevent disease
    - Public health campaigns
    - Provision of or referral for health screening

Source: MSH
Pharmaceutical System Goals

• Improved access and use
  • To …. medicines, pharmaceuticals, medical products, vaccines, and technologies, services?

• Intermediate goals
  • Efficiency, quality, access (Roberts & Reich 2011)
  • Access, coverage, quality and safety (WHO 2007)

• Ultimate goals
  • Health status, financial protection, citizen satisfaction (Roberts & Reich 2011)
  • Improved health, system responsiveness, social and financial risk protection, improved efficiency (WHO 2007)
Three Dimensions of Universal Coverage (UHC)

Linking WHO HSS and UHC: Inputs, Outcomes, Impact
Achieving UHC Goals Requires Balancing Competing Objectives

Ensure Availability of Quality Products
both generic & novel products

Improve Equitable Access
particularly for the poor & near-poor

Encourage Appropriate Use
of needed, safe, & effective medicines
taken properly

Keep Costs Affordable
for households & health system

Wagner et al, BMC Health Services Research, 2014
What is Pharmaceutical Systems Strengthening?

- Improving performance
Pharmaceutical Systems Strengthening Working Definition for SIAPS

• *Pharmaceutical system strengthening* is identifying and implementing strategies and actions that achieve coordinated and sustainable improvements in the critical components of a pharmaceutical system to enhance responsive and resilient system performance for achieving better health outcomes.

The critical components of a pharmaceutical system are its core functions, structures, the supporting health system resources and enabling policy, legal, and governance framework.

(SIAPS Partners Meeting, September 12, 2014)
Pharmaceutical Systems Strengthening: Applying the WHO Health Systems Framework

- Pharmaceutical Service delivery
- Pharmaceutical Leadership and governance
- Strengthening the development of the pharmaceutical health workforce
- Appropriate distribution and use of medicines, vaccines and technologies
- Innovative approaches in the financing of pharmaceuticals and pharmaceutical services
- Pharmaceutical information systems
A Systems Approach to Capacity Building

Human Capacity Development

Components for Measuring Pharmaceutical Systems Strengthening

1. Policy, laws, and governance
2. Regulatory systems
3. Pharmaceutical products and services
4. Human resources
5. Financing
6. Information
7. Innovation, research and development, manufacturing, trade

(SIAPS Partners Meeting: Sep 12, 2014)
EXAMPLES FROM NAMIBIA

1. WORKFORCE DEVELOPMENT

2. INFORMATION SYSTEM

3. SERVICE DELIVERY
Human Resources Development
Above is a pamphlet for promoting pharmacy as a career in high school.

The flow diagram: interventions for improving pharmaceutical human resource availability & capacity in Namibia.
Consultancy report being presented to UNAM management in July 2009
Launch of the pharmacy degree programme at UNAM - March 2011

Namibia’s Founding President and Father of the Nation and Chancellor of UNAM, His Excellency Dr. Sam Nujoma at the launch.
Strengthening pre-service training at UNAM-School of Pharmacy

Development of Pharmacy modules including training of UNAM lecturers

Below: Participants @ AMR/RUM workshop

Above: UNAM lecturers & other stakeholders trained in Pharmacoeconomics

Modules developed include
1. Pharmacoeconomics module
2. Pharmacovigilance module
3. AMR/RUM module
4. Pharmaceutical SCM
Pharmaceutical supply management: People-that-deliver (PtD) initiative

In collaboration with the *People that Deliver* (PtD) initiative and IntraHealth/ CapacityPlus, SCMS supported supply chain human resources development.

Supply chain competency framework development

>> Senior managers at the Div: Pharmaceutical Services attend a leadership and management training session at Imperial Health Sciences facility in South Africa
Pioneer Pharmacists Graduate from the UNAM School of Pharmacy in 2015

14 locally trained pharmacists graduated from Namibia's first and only School of Pharmacy at the University of Namibia (UNAM) on April 24, 2015.
Strengthening training of Pharmacy Assistants (PAs)
The number of PAs graduating from NHTC annually quadrupled from 6 graduates in 2006 to an average of 25 in the last three years.
Technology and Service Delivery
Pharmacy Assistant Nepembe Kafas uses the Electronic Dispensing Tool at the Katutura Health Centre
Ms. Aili Haidula, a Registered Nurse at Intermediate Hospital Oshakati: Private Ward, using the RxSolution system for managing medicines and clinical supplies in referral hospitals.
Ms. Faith Chishiri, a pharmacist at Intermediate Hospital Oshakati: Out-patients Pharmacy using RxSolution. The system reduced patient waiting time from 25 minutes to 8 minutes.
Leveraging Information Technology for Service Delivery:
e-TB Manager, for MDR-TB Management

- Case notification and management
- Medicines supply and stock control
- Epidemiological surveillance / Reports Information
Patient SMS reminder module on the electronic dispensing tool (EDT)
Pharmadex Tool for managing medicines registration
Namibia Pharmaceutical LMIS Dashboard Data Flow

Order Book data download from dashboard & used in SysPro

Upload Monthly Logistics Report

Automatic generation of Monthly Logistics Report & Upload

Automatic generation of Order Book & Upload

CMS/RMS

SysPro warehouse management software

Receive from Warehouse

Transfer to other facility & Issue to Clinics

Electronic Stock Card (Desktop)

Physical Inventory & Stock Adjustments

Internal stock movement updated immediately or in batch

Other health facilities & clinics
Leveraging technology to improve dispensing of medicines

MoHSS’ Deputy Minister, Honourable Petrina Haingura (right) receiving the machines from USAID Acting Mission Director, Ms. Debra Mosel (left) and Dr. Reinhardt Gariseb, Former Medical Superintendent of the Intermediate Hospital Katutura in January 2011. The machines have reduced tablets pre-packing and counting time, freeing staff to focus on patient care activities.
Improvements in pharmaceutical service delivery

The improved overall scores reflect improvements in pharmaceutical service delivery as measured by selected indicators such as storage practices, stock cards use, cold chain management, Therapeutics Committees (TCs), PMIS implementation, use of the EDT for stock and patient management and quantification for pharmaceutical orders.
Other Accomplishments
Essential Medicines List and Standard Treatment Guidelines
Strengthening pharmaceutical storage and inventory management

Left top: warehouse before racking

Bottom right: the same warehouse after racking
PhD Studies at Utrecht University

Sagwa et al. BMC Pharmacology and Toxicology (2015) 16:36

Comparing amikacin and kanamycin-induced hearing loss in multidrug-resistant tuberculosis treatment under programmatic conditions in a Namibian retrospective cohort

Evans L. Sagwa, Nunurai Ruswa, Farai Mavhunga, Timothy Rennie, Hubert G. M. Leufkens and Aukje K. Mantel-Teeuwisse

...4 papers published; 1 under review; 2 being finalized

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Outside of work...drumming
..and cycling
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