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Electronic Patient Management System
ePMS – Zimbabwe

Collecting and Managing Data at the Patient Level for Better Treatment and Care

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ePMS Zimbabwe

Introduction:

Health in Zimbabwe

In 2014 Zimbabwe is still recovering from a prolonged period of economic decline that occurred from 1999 to 2008. This resulted in a decrease in funding for social services, and directly contributed to a deterioration of health infrastructure, loss of experienced health professionals, drug shortages and a decline in the quality of health services available. The capacities of most national institutions diminished, with limited financial resources and insufficient numbers and skills in the workforce. It is estimated that over two million Zimbabweans left the country during this period, including many skilled health professionals.

Since 2009 economic growth and a more stable macroeconomic environment have returned to Zimbabwe, but the economic recovery remains fragile. The challenging environment has made service delivery extremely difficult for the Government of Zimbabwe and this has impacted on the country's health system.

Three key diseases continue to impact heavily on Zimbabwe: about 15% of the adult population aged 15-49 are HIV-positive and Malaria and Tuberculosis continue to be a challenge for the Country.

Zimbabwe's Response:

Key Achievements

Significant progress has been achieved over the last decade. The HIV prevalence rate of 15% has declined from more than 25% in 2000, the Malaria incidence dropped by 79% from 2000 to 2013 and Tuberculosis detection and treatment rates increased significantly in the same period.

As of September 2014, 747,384 people living with HIV are now accessing life-saving anti-retroviral therapy; during 2009-2014 8,364,223 people were tested for HIV, and 10,203 patients diagnosed with TB have completed treatment.

These results have been underpinned by the introduction of an electronic Patient Monitoring System (ePMS), to improve access to patient health information and to enable well-informed clinical decisions leading to better patient treatment and care.

This case study was commissioned to assess the how the ePMS has improved services to patients and to document how the partnership between the Zimbabwe Ministry of Health and Child Care (MoHCC), UNDP, the Global Fund and other key external partners has worked to support this.

The Introduction of the

electronic Patient Management System in Zimbabwe

Since the inception of HIV prevention programmes in the late 1990's all patient-related data was collected using manual, paper-based systems. By 2008 the system in Zimbabwe was not functioning properly due to the increase in the volume of patients requiring treatment, which by 2014 had increased to over 740,000 patients. This increase had affected the accurate monitoring and reporting of patients accessing HIV services, as the paper-based patient information systems could not cope, and also translated into a huge workload, straining the already over-burdened health worker.

To address this gap the Ministry of Health and Child Care, in consultation with its partners, resolved to establish an electronic system to collect and manage HIV and TB data at the patient level, with the ultimate aim of phasing out paper registers throughout the Country.

A working group consisting of the MoHCC, UNDP, WHO, UNAIDS, CDC, the National AIDS Council and the Research Triangle Institute (RTI) explored options currently being used in other countries (using Zambia, Tanzania and Namibia as examples) and carried out an assessment of Zimbabwe's needs. This led to the decision to develop an e-PMS system that managed the following:

- Common patient registrations
- Demographic details
- Past medical history
- Patient follow-up visits
- Laboratory investigations
- Prescription and dispensing of drugs

"Sometimes, the data clerk or nurse [had] to fill a number of registers for one individual. This involves a lot of paper-work. That is why our storage facilities are full to the brim with files and registers" explained Dr. Regis Choto (Deputy Coordinator Opportunistic Infections Anti-Retroviral Treatment), HIV and TB Unit, MoHCC.)

A 'road map' for implementation of the Zimbabwe ePMS was developed and three systems were selected for piloting starting in 2012. The University of Dar es Salaam was ultimately contracted to design and implement the system, and a technician from the university initially installed the software at Harare Central Hospital, Marondera Provincial Hospital and Murewa District Hospital and trained MOHCC personnel who would be responsible for the management of the pilot system.

The first phase of full implementation kicked off in 2013 targeting 83 sites, including central, provincial, district hospitals and city clinics. An estimated 61% of patients on ART nationwide were covered by ePMS at these sites by the end of 2013.

In 2014, an additional 267 facilities, comprising rural health centres, mission hospitals and some larger clinics were added, bringing the cumulative sites to 350. Sites chosen focused on those with the majority of patients accessing ART.

The remaining 184 facilities will be covered during Phase 3 in 2015, bringing the total to 534 health facilities and meaning that 97% of patients on ART will be covered by the ePMS.

To enable them to use the ePMS, four nurses, one pharmacist, a matron and all the health information officers from each facility, district and province were trained in the new software.

The initiative to roll out the ePMS was financed with a US $ 2.5 million contribution from the UNDP-administered Global Fund programme and technical support from WHO and other development partners. UNDP committed to the speedy implementation of the ePMS providing Global Fund support for procurement of IT equipment and accessories, as well as the necessary human resources and training for these staff.

UNDP Support to the ePMS

IT Infrastructure:
The existing IT infrastructure was upgraded through fixed and mobile internet connections; to 82 provincial and district offices and hospitals.

Hardware:
Hardware was provided including 1594 laptops, 83 PCs, servers, and printers

Staff Skills:
92% of Health Inofmration Officers have been trained. Numbers of others (nurses etc)

The Benefits of ePMS

The introduction of the electronic Patient Management System (ePMS), supported by the Global Fund programme, has ushered in a new exciting era for patient management.

With the ePMS in place, policy makers have more reliable data on patients, including those on long-term treatment. The information is improving forecasting and quantification for drugs and other commodities, since health officials have more reliable data on the numbers of people undergoing treatment. It improves the ability to track patients and follow up, subsequently increasing the likelihood of adherence to treatment.

ePMS supports easier analysis of the data, while computerized data aggregation has eliminated the multiple entry of patient information across different paper registers, as well as providing information on early warning indicators and the rate of patient survival. The security of patient data is increased and oversight and verification of data is simplified.

In addition, increased access to detailed patient information will create more robust programme evaluations.

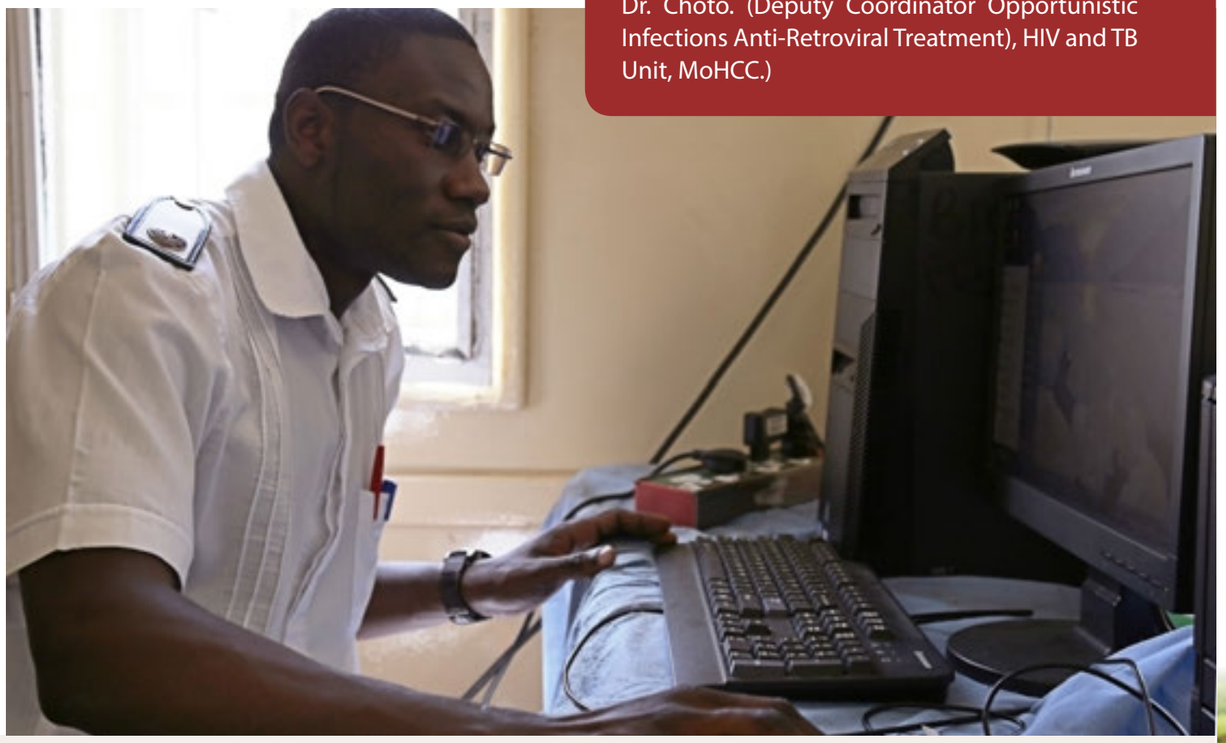
"This labour-intensive task is now being reduced to one paper trail through the use of the mandatory OI/ART booklet. The rest is done electronically through ePMS".

Dr. Choto. (Deputy Coordinator Opportunistic Infections Anti-Retroviral Treatment), HIV and TB Unit, MoHCC.)

A recent assessment of the implementation of the first phase found that 98% of facilities assessed the customised ePMS is doing well both in usability and in terms of sustainability.

Most healthcare workers at these facilities have progressed to an advanced level of understanding of the system, moving beyond a mere realisation that they need to capture records into an electronic system.

> ***"So far, most of our healthcare staff are very excited about the new system. Before it was introduced they had to fill multiple registers forcing them to go home late after work."***
>
> Dr. Choto. (Deputy Coordinator Opportunistic Infections Anti-Retroviral Treatment), HIV and TB Unit, MoHCC.)



Key Results

- ePMS has been installed at 350 ART high volume sites.
- Investments in the electronic Patient Management System (ePMS) have ensured the more efficient and effective management of HIV and TB patients and helped to minimize the lack of follow-up with patients on treatment.
- Data quality, it's use in accurate forecasting and evaluations of interventions are enabling more effective programming.

Building for the Future

The long-term vision of the ministry is to integrate the e-PMS into the national Health Information System for the health sector.

In the Global Fund new funding model, appropriate resources have been approved to support the final third phase of implementation.

Support to Zimbabwe's response:

UNDP, the Global Fund and Partnership

The UNDP-Global Fund Partnership

Since Global Fund grants began in Zimbabwe, three different national organisations have held the Principal Recipient (PR) role. However in 2008, the Global Fund placed Zimbabwe under their Additional Safeguards Policy (ASP), which is invoked to ensure accountable use of Global Fund financing. Under this policy, the Global Fund Secretariat selected UNDP as the PR for Round 8 Global Fund grants in Zimbabwe. The Round 8 Grants had the following goals:

- To reduce the number of new HIV infections among adults and children as well as morbidity and mortality due to HIV and AIDS in Zimbabwe.
- To reduce the malaria incidence to less than 2.5% by 2016.
- To reduce the burden of Tuberculosis by 2015 in line with the Millennium Development Goals and Stop TB Partnership targets.
- Enhanced capacity of the health system to deliver effective scaled-up treatment for HIV, Malaria and TB.

Overall, the Global Fund has provided more than US$ 850 million to Zimbabwe's response to the three diseases. Since UNDP was the PR, the Global Fund grants in Zimbabwe have been consistently high-performing and have achieved significant results in scaling up access to life saving services that have benefited millions of people.

- In 2013 three out of four grants recorded 'A' ratings (the highest grant rating) with the exception of the TB grant that recorded B1 ratings in one quarter.
- In 2013 Zimbabwe was one of the pilot countries for the Global Fund New Funding Model (NFM). This was heralded as a highly successful pilot in rolling out the NFM and is being used as a best practice case in other countries. Quality data and national planning contributed towards this success.
- In 2013 the first grant under the NFM was approved for HIV and is now being implemented.
- In 2015 the TB and Malaria Round 8 will be replaced with new grants recently awarded under the New Funding Model.

The Ministry of Health and Child Care (MOHCC) is responsible for the delivery of health programmes in Zimbabwe and as such plays a key role for the implementation of Global Fund grants. The success of the programmes also depends on the support from technical partners such as WHO and UNAIDS and the collaboration of development partners.

UNDP has a dual role: Firstly, UNDPs role is to function as interim PR of Global Fund grants supported by national entities as Sub Recipients (SRs). Secondly, UNDPs role is to support the strengthening of capacities of the national entities involved with implementing the Global Fund grants, preparing the Country for transition to national management and ownership.

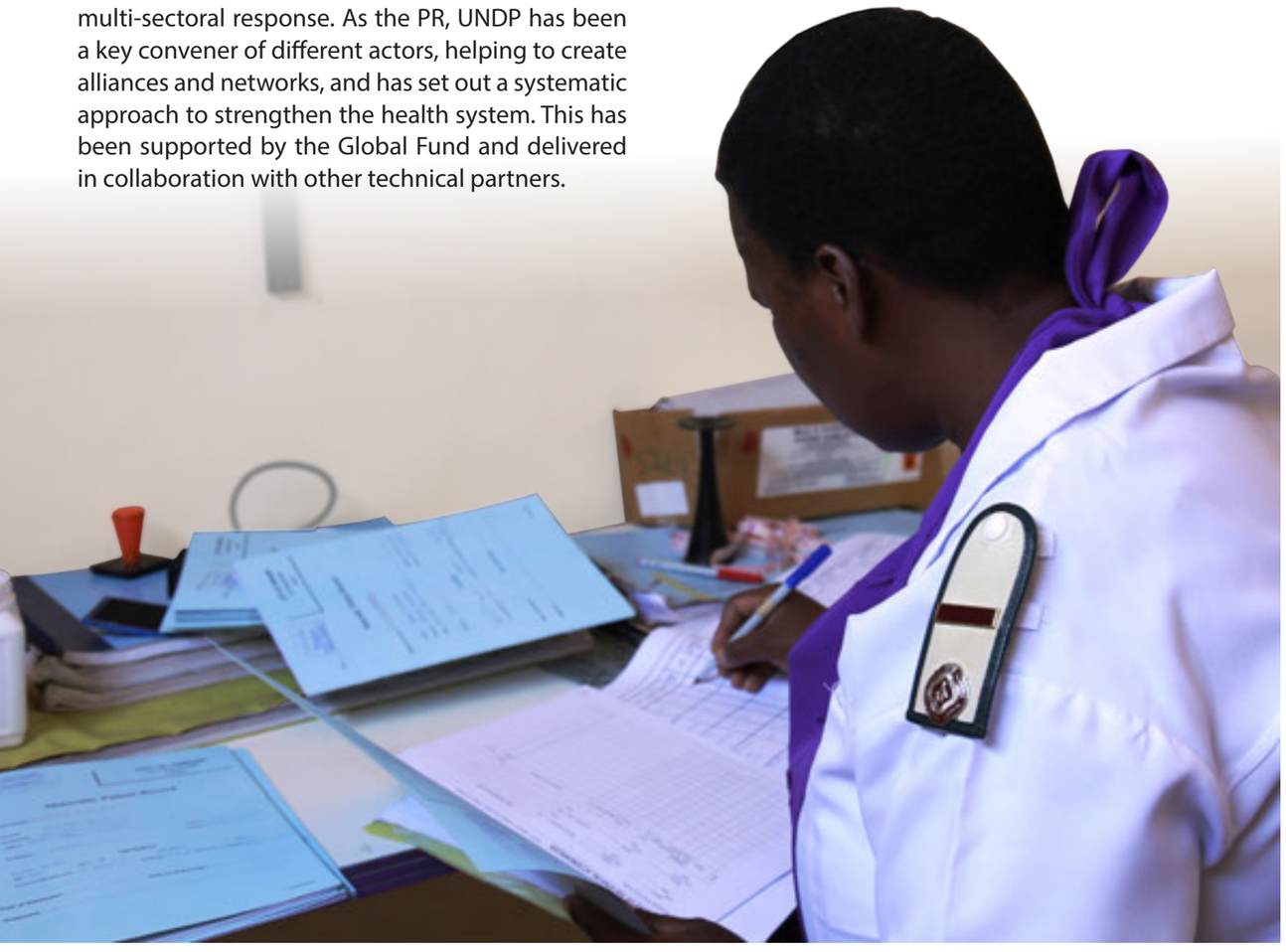
UNDP also works closely with both government and development partners to establish a strong multi-sectoral response. As the PR, UNDP has been a key convener of different actors, helping to create alliances and networks, and has set out a systematic approach to strengthen the health system. This has been supported by the Global Fund and delivered in collaboration with other technical partners.

Partnershipfor the DHIS

The success of the development of the country Health Information System has been significantly enhanced by the partnership and collaboration between UNDP, the government, and other donors and technical partners.

The implementation of the ePMS benefited from a University of Dar es Salaam, Tanzania team that provided technical support for development of the system and training of in-country personnel on the appropriate application of the new system.

WHO collaboration included the provision of technical assistance and support for the conduct of monitoring and evaluation needs assessment in 2012.



Sources

This case study is based on a number of interviews with actors in Zimbabwe's health sector, conducted in 2014. Information from the interviews was supplemented by data from the following reports and data sources:

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