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SUPPORTING PRE- AND IN-SERVICE TRAINING PROGRAMS TO EXPAND AND STRENGTHEN THE PHARMACEUTICAL WORKFORCE



CHALLENGE Effective pharmaceutical services hampered by human resource shortages and medication errors

A number of low resource countries are facing a severe and prolonged shortage of health workers, particularly in the pharmaceutical sector where pharmacists, pharmacy assistants, and technicians are becoming especially scarce. With treatment programs, such as those for HIV/AIDS and TB, expanding in many countries, more pharmacists and pharmacy assistants are required to provide effective services. Additionally, overstretched pharmacists and other healthcare workers are often unable to provide effective patient-centered pharmaceutical care which recognized as a critical opportunity to prevent drug resistance, reduce irrational medicines use, eliminate wasteful spending, and most importantly, improve patient health outcomes.

287 government facilities shared a total of 16 pharmacists.¹

In Ethiopia, a shortage of qualified pharmacy personnel contributed to an environment where pharmacists are rarely included as members of the clinical team and are unable to provide patient-centered pharmaceutical care. As a result, some studies show that nearly 75% of patients experience drug-related problems during treatment.²

In 2010, Swaziland's 287 government facilities shared a total of 16 pharmacists.

Until recently, Swaziland, like many developing countries, did not have an established training program for pharmaceutical health workers, instead relying on programs in South Africa, Ukraine, or Russia to train their students. However, these students frequently find other work and decide not to practice in their home country which further exacerbates existing shortages in the pharmaceutical workforce. In 2010, Swaziland's



Students practice interpreting laboratory results as part of the pharmacy training program at SANU.

SIAPS ACTIVITIES

Bolstering Pre- and In-Service Training Opportunities

Swaziland: Developing a first-ever in-country pharmacy training program

Given the dearth of pharmacy workers, coupled with new federal regulations which specify the specialized training required for pharmaceutical personnel, the Ministry of Health (MOH) set out to establish the first-ever pharmacy training program in Swaziland with support from SIAPS.

After SIAPS conducted a feasibility study, the MOH decided that the training program would support three types of pharmacy personnel (pharmacy assistants, pharmacy technicians, and pharmacists). In a widely consultative process, the training curricula were developed with inputs from tertiary educational institutions, private sector pharmacists, MOH stakeholders, the Pharmacy Association, local pharmaceutical companies, and non-governmental institutions. SIAPS worked with local stakeholders to identify training needs, create the curriculum content, and outline job descriptions for the new functions. After receiving government funding for the program, the Southern Africa Nazarene University (SANU) established the Department of Pharmacy at its Faculty of Health Sciences in 2012 and with technical support and guidance from SIAPS began offering a two-year certificate and a three-year diploma in pharmacy services.

Ethiopia: Improving care through patient-centered clinical pharmacy services

Staff shortages combined with high-levels of drug-related problems among patients spurred SIAPS to partner with local organizations (including the Pharmaceutical Fund and Supply Agency (PFSA), the Ethiopian Pharmaceutical Association (EPA), and schools of pharmacy from four Ethiopian universities) to create consensus and advocate for a more patient-centered approach for the provision of pharmaceutical services, one that integrates pharmaceutical personnel into an interdisciplinary team of care providers.

Continuing and building upon previous efforts from SIAPS' predecessor program (Strengthening Pharmaceutical Systems [SPS]), SIAPS worked with its local partners to hold forums, trainings, and workshops to introduce the concepts of clinical pharmacy services to active health practitioners, university staff, and policymakers. SIAPS also supported the incorporation of patient-oriented pharmacy services into national guidelines and standards, and developed a range of short-term intensive in-service trainings, as well as training of trainers sessions, and routine in-service sessions to rapidly expand the implementation and practice of clinical pharmacy services.

RESULTS

Building a cadre of skilled pharmaceutical professionals

Swaziland: Increased local capacity to train pharmacy personnel

Since the inception of SANU's pharmacy program, nearly 50 students have entered the training program, the first of whom graduated with a Certificate of Pharmacy in July 2014. With this new cadre of pharmacy workers entering workforce, Swaziland has taken an important step forward in meeting its human resources needs to deliver high-quality pharmaceutical care and services. The Diploma in Pharmacy program (three-year program) was also launched in 2014 and additional academic institutions have expressed interest in offering the program and adapting it for part-time or distance learning.

Ethiopia: Clinical pharmacy services improve quality of care and patient outcomes

More than 150 pharmacists across 44 hospitals have been trained through in-service training programs supported by SIAPS, PFSA, EPA, and local universities; and clinical pharmacy services are now being provided at over 40 facilities nationwide. The pharmacist is increasingly viewed as an integral member of the clinical team and the practice of patient-centered clinical pharmacy services is becoming the standard at many facilities across Ethiopia. This shift in pharmacy services has also triggered improvements in the recognition and resolution of drug-therapy problems (Figure 1), documentation of patient medication profiles (Figure 3), medication adherence, and reporting of adverse drug reactions. Pharmacists also now have greater and more meaningful interaction with patients which

Since the inception of SANU's pharmacy program, nearly 50 students have enrolled.

has served as a critical opportunity for better patient education, counseling, and follow up.

Figure 1. Drug-therapy problems identified and percent addressed between August 2012 and May 2014

Type of DTPs	# DTPs	% addressed
Unnecessary drug therapy	514	82
Needs additional drug therapy	906	83
Ineffective drug	346	73
Dosage too low	316	89
Adverse drug reaction	162	73
Dosage too high	311	85
Noncompliance	349	92
Total	2904	83

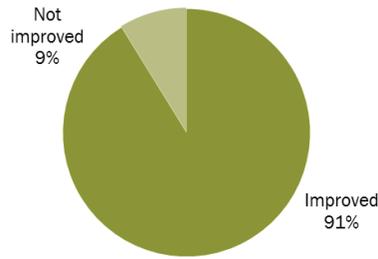
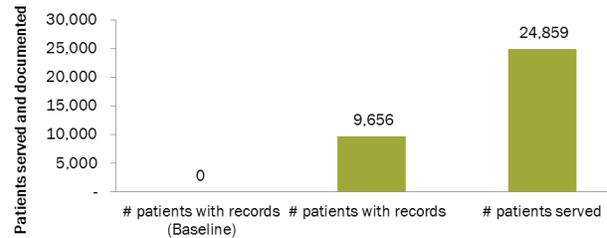


Figure 2. Improvements in therapy outcome as a result of pharmacist interventions between Aug 2012 to May 2014 (N=26 hospitals)

Figure 3. Improvements in documentation of patient medication records, August 2012 to May 2014 (N=26 hospitals)



NEXT STEPS Supporting additional opportunities for pharmaceutical education

In Swaziland, based on the experiences and key lessons learned from the implementation of the initial pharmacy program, SIAPS continues to support SANU to implement the Diploma in Pharmacy program to expand the program and provide students with a choice of training facilities across Swaziland.

In Ethiopia, new pharmacy students are now acting as ambassadors for the continued scale

up of clinical pharmacy services and help to complement previously held in-service trainings. While persistent attrition and staff shortages continue to challenge the health system, SIAPS continues to work with its local partners and universities to institutionalize and ensure sustainability of clinical pharmacy services. SIAPS is also planning to support partners in evaluating the impact of clinical pharmacy services and disseminate results to all relevant stakeholders.

1. Service Availability Mapping Report (2010). Swaziland Ministry of Health.
2. Bereket et al. 2014. Drug-related problems among medical ward patients in Jimma University specialized hospital, Southwest Ethiopia. *Journal of Research in Pharmacy Practice*. 3(1):1-5

ABOUT SIAPS | The Systems for Improved Access to Pharmaceuticals and Services (SIAPS) program works to assure access to quality pharmaceutical products and effective pharmaceutical services through systems-strengthening approaches to achieve positive and lasting health outcomes. SIAPS is funded by the US Agency for International Development (USAID) and is implemented by Management Sciences for Health. For more information, visit www.SIAPSprogram.org.



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