

5.4 Country case study: Kenya

Authors

Grace N. Thoithi, Dean, gnthoithi@yahoo.com; and Faith A. Okalebo, Lecturer, okalebof@yahoo.com; School of Pharmacy, University of Nairobi. P. O. Box 19676-00202 Nairobi. Kenya.

Summary

- In the last two decades, Kenya has put in place strategies to strengthen the pharmacy workforce through government policies aimed at increased training; improvement of distribution; creating an enabling working environment; recognition; financial and nonfinancial incentives; and strengthening regulation.
- The majority of the pharmacy workforce is locally trained and there are now three schools of pharmacy and eighteen colleges offering pharmaceutical technology diplomas.
- There has been an increase in the number of pharmacists from 1,866 in 2002 to 2,775 in 2008, while pharmaceutical technologists have increased from 1,399 in 2002 to 2,324 in 2009, an increase of 48% and 66%, respectively.
- The majority of the workforce is in the community pharmacy sector. In the public sector, personnel have increased from 433 in 2005 to 609 in 2008, an increase of 40%.
- Growth of personnel in the public sector, rural-urban distribution and regulation of the community sector still remain challenges.

This country case study describes policy reform and other strategies that have led to strengthening of the pharmacy workforce in Kenya.

5.4.1 Background

History

Training of pharmaceutical personnel along with other disciplines of health began in 1926 at what is currently the Kenya Medical Training College (KMTTC). The college started training compounders, then dispensers and later pharmacy assistants. In 1968, the government started a three-year diploma in pharmaceutical technology at KMTTC. Over the last five years, the regulatory authority, the Pharmacy and Poisons Board (PPB), has accredited 17 more institutions to offer diplomas. Since its inception in 1974, the School of Pharmacy of the

University of Nairobi has been the only institution training pharmacists in Kenya. In 2009, one more public and one private university started offering degrees in pharmacy.

Workforce description and services

Out of the 2,775 pharmacists who are in the country, 2,063 had been registered to practice by April 2009. The total number of technologists by April 2009 was 2,324.[1] Most of the pharmacy workforce is distributed amongst the 1,700 registered community pharmacies and 212 wholesale outlets. A 2003 national household survey showed that 5.6 to 24.6% of the Kenyan public use retail pharmacy outlets for outpatient healthcare.[2]

In the last ten years the role of the pharmacist has been shifting more towards patient care as a result of the introduction of clinical pharmacy both at undergraduate and postgraduate levels. Kenya is the largest manufacturer of pharmaceutical products in the Common Market for Eastern and Southern Africa (COMESA), supplying 50% of the region's market through 45 manufacturing industries. The pharmaceutical industry employs few pharmacists.[3]

Other pharmaceutical personnel are employed in organizations such as the Kenya Medical Supply Agency (KEMSA); non-governmental organisations; the Pharmacy and Poisons Board; and the WHO pre-qualified National Quality Control Laboratory. A number of pharmacists with specializations are employed in academia and in public research institutions and those with Master's degrees in public health work in policy development.

5.4.2 Key issues, challenges and strategies

Workforce supply

Both the public and private health sectors are consistently understaffed and shortages are particularly acute amongst pharmacy and laboratory departments. This is due to government economic constraints as well as policies which were advocated by the International Monetary Fund (IMF) to freeze public sector employment.[4] It has been estimated that for the country to meet its health-related Millennium Development Goals (MDGs), the pharmacy workforce needs to grow by 28% annually between 2010 and 2015.[5] Kenya has about eight pharmacists for every 100,000 people.[1] This is a

significant improvement from 1998 when the ratio was less than 1: 100 000.[6]

Over the period from 1978 to 2000, the University of Nairobi produced about 25 graduates every year. This number doubled by 2005 and rose to about 80 in 2008. In addition, about 40 Kenyan pharmacists trained outside of the country apply for registration each year, half of whom are successful. In 2009, Kenyatta University (public) and Mount Kenya University (private) started offering degrees in pharmacy. Their first graduates will be registered in 2014 and it is expected that by 2020 the national pharmacy workforce will be growing steadily and significantly. Universities that wish to establish undergraduate training programs are currently constrained by insufficient pool of trainers with higher degrees in pharmacy, but this will soon change because University of Nairobi has Master's and doctoral degrees in various pharmacy specializations.

The massive growth in training of pharmaceutical technologists has been two-fold. Firstly, due to the introduction of privately sponsored students in the nine public institutions, admission is not restricted to government sponsorship. Secondly, many institutions which had been offering diplomas in other fields have now introduced pharmaceutical technology, thus taking advantage of existing infrastructure and using graduate pharmacists as their trainers.

The growth of institutions offering pharmacy degrees and diplomas is partly due to the general demand for tertiary education in Kenya as well as the fact that pharmacy is one of the well-paying professions. The numbers trained at these institutions is determined by the capacity of the institutions and not by the demand for professionals.

Development in education has largely been as a result of efforts within institutions and not as a result of national planning.

Workforce distribution and retention

Although the public sector comprises 58% of the health facilities in Kenya, there is a significant public-private distribution imbalance of pharmaceutical personnel.[7] In 2008, there were 382 pharmacists and 227 pharmaceutical technologists employed in the public sector, representing 14% of the workforce.[1] Health workforce distribution, including that of pharmacy personnel, is heavily skewed toward urban areas.

[5,8,9] In the private sector, the quality of health services was lower in rural and poor urban neighbourhoods compared to the more affluent urban areas.[10]

Until the late 1990s, most public hospitals were unable to retain pharmacists due to poor salaries.[11] Most of the staffing reforms in the public sector can be attributed to the Kenya Health Policy Framework, which includes strategies to improve distribution of health personnel; promote service delivery and workers' morale; improve training, supervision and ethical practice.[12] Despite considerable improvement in the retention of staff in the health public sector, a human resource mapping exercise carried out in 2004 found that staffing levels in public hospitals did not meet the MoH staffing norms.[11] In addition, every year about twenty pharmacists apply to migrate and practice abroad especially to Australia, Canada, USA and the UK. The PPB estimated that there were 190 pharmacists who had migrated abroad in the ten years prior to 2006.[13]

Workforce planning

The Central Bureau of Statistics has no information on pharmaceutical workforce planning in the private sector.[14,15] A comprehensive planning mechanism for pharmaceutical personnel in the public sector has been guided by the Kenya Health Policy Framework. This policy was implemented through the National Health Sector Strategic Plans.[16,17] Some of the proposals that had been raised during the formulation of the Kenya National Drug Policy were not implemented in the Kenya National Drug Policy Implementation Plan. [18,19] These recommendations included: training progression of technologists to pharmacists; post-graduate pharmacy training; improvement of the scheme of service; identification of pre-service and in-service training needs. Nonetheless, some of them have been achieved, largely as a result of the independent efforts. The KNDP is currently under review and it has been renamed the Kenya National Pharmaceutical Policy. It proposes a human resource development plan to improve the supply, skills mix and retention of personnel.[7]

Education capacity

Most employers are satisfied with the skills of graduates in community, hospital and manufacturing industry sectors. However, some think that more emphasis should be given to clinical pharmacy, drug supply chain management and industrial specialization. Curricula have undergone various

changes. The KMTC introduced drug supply management in its diploma training and also for practising pharmaceutical technologists. At the School of Pharmacy, University of Nairobi, clinical pharmacy and pharmacy management, amongst others, were introduced in the undergraduate program. The school also offers Master's degrees in pharmaceutical analysis, clinical pharmacy and pharmacognosy and complementary medicine, as well as doctoral degrees. More Master's degrees in the fields of pharmacology and industrial pharmacy will be launched this year. One private firm offers short courses in Good Manufacturing Practices and has trained 1,500 personnel since 2003.

The pharmacist is viewed as an accessible healthcare provider and this has created a huge demand for education at diploma, degree and post-graduate levels. However, there is need for more active engagement between education institutions and the private and public pharmaceutical sector to make curricula more relevant to existing needs.

Regulation and Practice

Effective regulation of medicines, pharmaceutical workforce, pharmaceutical services and premises has been hampered in part due to lack of human resources and capacity within the PPB. Strategies to strengthen the PPB were first initiated through the KNDP in 1994.[18] It was developed by participants from various government ministries, universities, research institutions and professional institutions, among others and it was supported by WHO, Department for International Development (UK) and the government of The Netherlands. The aim was to strengthen the Pharmacy Department of the Ministry of Health, which serves the public sector, and to reform the PPB in order to strengthen drug legislation and regulation of the profession. A review of the KNDP Implementation Plan showed that there was lack of clarity of the role of PPB, inefficiency, inadequate representation of stakeholders in the PPB, lack of an organizational structure and scheme of service, understaffing and lack of statutory powers to enforce a code of ethics.[19] As a result, strategies were laid out to establish and/or strengthen registration of personnel and drugs, pharmaceutical inspectorate, drug information, licensing of pharmaceutical premises and the training and assessment committee. Other strategies included developing an organizational structure, standard operating procedures, terms of service and job descriptions and recruitment. Since then, the above-named units have been set up and more staff have been employed and trained in areas such as drug regulatory

affairs and pharmacovigilance. Legal services have been facilitated through the recruitment of a lawyer. In addition, the PPB has acquired better premises and facilities.

Involvement of a wide range of stakeholders in the formulation of the strategic plan, the support of development partners, engagement of legal experts and a reasonable revenue base have been enabling factors in strengthening the PPB. However, although the operations of PPB have been considerably strengthened, it still has insufficient human capacity to handle illegal and unethical activities.[20,21] These include the manufacture and importation of substandard and counterfeit medicines, supply of medicines to unauthorized persons and operation of establishments by unauthorized persons.[22] It is estimated that about two-thirds of pharmacy retail outlets need to be shut down for operating without a license.[21]

The Commission for Higher Education is responsible for registration of universities and the courses they offer. However, for recognition and hence the registration of the graduates, the universities must be accredited by the PPB. Likewise, only PTs from accredited colleges are enrolled by the PPB. Lack of autonomy from the ministry and inadequate representation of the private sector in the PPB still remain as setbacks. The Pharmacy and Poisons Act and Public Health Act are currently under review to deal with some of these issues.

The Pharmaceutical Society of Kenya (PSK) has contributed to improved practice standards through advocacy in the media and training activities. Continuous professional development (CPD) programs were first suggested in 1998 and implemented in 2006 by the PSK.[6] This initiative has been successful because it is a requirement for renewal of the annual practice license from the PPB. Adoption of green cross as a symbol of ethical practice was started in 1998 but this initiative failed due to lack of adequate publicity.[23]

5.4.3 Outcomes

Due to the implementation of various independent strategies, progress has been made to expand the training of pharmacists and pharmaceutical technologists and strengthen the pharmacy workforce. Outcomes of particular note include:

- Expansion to three schools of pharmacy and 18 colleges training pharmaceutical technologists.
- Increase in the number of pharmacists from 1866 in 2002 to 2,775 in 2008, while pharmaceutical technologists have increased from 1,399 in 2002 to 2,324 in 2009.[24,1]
- Increase in public sector pharmaceutical personnel from 433 in 2005 to 609 in 2008.[1]
- Improved skills mix and the role of pharmacists is now more oriented to patient care.[25,26]
- Improved policies and terms of service in the public sector have led to higher retention.
- Improved role, structure and human resources for the regulatory authority.
- Enhanced contribution of professional bodies to the enforcement of better practice.

distribution, personnel migration, and non-practicing personnel;

- Autonomy of the regulatory body from the ministry is key to the delivery of effective regulation;
- Professional associations have an important role in enforcing and improving pharmacy practice.

Acknowledgements

The authors are grateful to the following persons for contributing information about pharmacy workshop in Kenya: Dr. Ahmed Mohammed, Pharmacy and Poisons Board; Dr. Juliana Ogolla, Kenya Medical Training College; Dr. W. O. Wanyanga, PharmaQ Limited; Dr. D. S.K. Ngugi, Pharmaceutical Society of Kenya; Dr. J. Maundu, Management Sciences for Health; and Dr. J. Kivai and Mr. O. Wanyama, Kenyatta National Hospital.

5.4.4 Conclusion

Kenya has made significant progress in pharmacy education, distribution, retention and regulation. Growth of the workforce in the public sector, rural-urban distribution and regulation of the community sector still need improvement. The following recommendations should be considered in the strategies to improve the workforce:

- There is need to plan for further increase of pharmacy workforce supply and improved retention, especially in the public sector;
- Workforce supply requires a central coordinated planning effort, involving stakeholders in both the public and private sector.
- The training institutions have to be involved in the workforce planning process in order to successfully meet the supply needs;
- Training should be designed to meet sector needs and have a more patient care approach;
- Pharmacists with higher degrees and academic competencies are required for development of more pharmacy schools;
- For purposes of planning, information systems need to gather data on gender, age, practice area, geographical

References

1. Ministry of Health. *Health Information Management Systems: Facts and Figures on Health and Related Indicators*. Nairobi. 2008.
2. Ministry of Health. *Kenya household expenditure and utilization survey*. Nairobi. 2003.
3. Export Processing Zones Authority. *Kenya Pharmaceutical Industry*. Nairobi. 2005.
4. Soren A. Kenya: IMF policies and health care crisis. 2006. Available at <http://www.pambazuka.org>.
5. Kombe G. and Munchiri S. 2006. Issue brief: *Confronting HIV/AIDS, TB and Malaria. Stepping up health worker capacity to scale up services in Kenya*. USAID, Ministry of Health, PHRPlus. 2006.
6. Lewa M. *Manpower development for the pharmacy regulatory systems and services in Kenya. Report of the 18th Annual Pharmaceutical Society of Kenya Symposium*. Aberdare Country Club. *Pharmaceutical Regulatory Systems in Kenya*. 29 May to 1 June 1998. Ed. R. Atebe. Page 24-28.
7. Ministry of Medical Services. *The Kenya National Pharmaceutical Policy (draft)*. Nairobi. 2008. P18-19.
8. Ministry of Health. *National Health Sector Strategic Plan 2005-2010 (NHSSP II)*. Nairobi.
9. Ndetei DM, Khasakhala L, Omolo JO. *Discussion Paper 62: Incentives for health workers in Kenya: An assessment of current practice*.
www.equineafrica.org/bibl/docs/DIS62HRndetei.pdf.
10. Goel PK, Ross-Degnan D, McLaughlin TJ, Soumerai SB. *Influence of location and staff knowledge on quality of retail pharmacy prescribing for childhood diarrhea in Kenya*. *International Journal for Quality Health Care* 2006, 8: 519-526.
11. Ministry of Health. *Human Resource Mapping and Verification Exercise*. Nairobi. 2004.
12. Ministry of Health. *Kenya Health Policy Framework*. Nairobi. 1994.
13. *Global pharmacy workforce and migration report*. International Pharmaceutical Federation (FIP). 2006.
Available at www.fip.org/hr.
14. Ministry of Planning and National Development. *Central Bureau of Statistics. Geographic Dimensions of Well-Being in Kenya: Where are the poor? From districts to locations, Vol. I*. Nairobi. 2003.
15. Ministry of Planning and National Development. *Central Bureau of Statistics. Economic survey*. Nairobi. 2004.
16. Ministry of Health. *National Health Sector Strategic Plan 1999-2004 (NHSSP I)*. Nairobi.
17. Ministry of Medical Services. *Reversing the trends: The second National Health Sector Strategic Plan of Kenya 2008-2012*. Nairobi. 2008.
18. Ministry of Health. *Kenya National Drug Policy*. Nairobi. 1994.
19. Ministry of Health. *Kenya National Drug Policy Implementation Programme. Plan of Operation*. June 1998-June 2000.
20. Mbwiri, PI. *Enhancing Professionalism in Pharmacy Practice through the Enquiries and Disciplinary Arm of PPB*. *The Pharmaceutical Journal of Kenya*. 2006. 16:63.
21. O'Hanlon B, Gitonga N, Barnes J. *Draft Summary Report of Kenya Private Health Sector Assessment*.
22. Ngugi DK. *Message from the National Chairman*, *The Pharmaceutical Journal of Kenya* 2008, 18: 99-100.
23. Kiarie W. *Green cross rules and regulations. Report of the 18th Annual Pharmaceutical Society of Kenya Symposium*. 29 May to 1 June 1998. Aberdare Country Club. *Pharmaceutical regulatory systems in Kenya*. Ed. R. Atebe. 1998. P15-16.
24. Ministry of Health. 2004. *Health information management systems*. Nairobi.
25. Ministry of Health. *Norms and standards for health service delivery*. June 2006.
Available at www.hsr.health.go.ke.
26. Baya K, Olwande C, Nzumbu L, Thuo M. *Expanding the role of the pharmacist in support of the ART program: A case from Coast Provincial General Hospital in Mombasa, Kenya*. *Int Conf AIDS* 2004. 11-16 July; 15: abstract no. B11544. 2004.