



Commentary

# Pharmacy workforce to prevent and manage non-communicable diseases in developing nations: The case of Nepal

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## Summary

Non-communicable diseases (NCDs, e.g. cardiovascular diseases, cancer, chronic respiratory diseases and diabetes mellitus) are the main causes of mortality and morbidity in developing countries, including Nepal. Nearly half of the deaths in Nepal are caused by NCDs. Nepal lacks adequate human resources to prevent and manage NCDs, but the skills and expertise of pharmacists in Nepal are underused. There is evidence from many countries that pharmacists can contribute substantially to the prevention and management NCD. We aim to describe the opportunities and challenges for pharmacists to prevent and manage NCDs in Nepal. Pharmacists can contribute by screening and monitoring NCDs; counseling on lifestyle; providing medication therapy management services; promoting public health; and providing other pharmaceutical services. Challenges to the implementation of some of these activities in the current context include inadequate training of pharmacists in NCD prevention and management, the cost of pharmaceutical services to patients and government, and the existing health care service delivery model. There is a need for health services research to determine how pharmacists can be best used to prevent and manage NCDs in Nepal.

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## Introduction

Non-communicable diseases (NCDs) are a major public health problem in Nepal. Two in five (42%) of all deaths in Nepal are caused by

four common NCDs: cardiovascular diseases; cancer; chronic respiratory diseases; and diabetes mellitus.<sup>1</sup> Nepal has recently developed an action plan (2014–2020) for the prevention and control

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of NCDs with a vision – ‘all people of Nepal enjoy the highest attainable status of health, well-being and quality of life at every age, free of preventable NCDs, avoidable disability and premature death.’ The action plan emphasizes the revitalization and reorientation of health care services for health promotion, disease prevention, early detection and integrated care, particularly at the primary care level.<sup>2</sup> There is a lack of human resources in health to combat this problem in Nepal.<sup>3</sup> Pharmacists, by contrast, are underutilized in providing health care services.<sup>4</sup> This plan provides an opportunity for pharmacists in Nepal to act as one of the major stakeholders to provide primary health care services for NCD patients.

The effective use of pharmacists’ knowledge and skill improves health care services delivery. Over time, the role of pharmacists has expanded beyond traditional activities such as compounding, dispensing and packaging medicines. In many countries (especially high-income countries), pharmacists nowadays are more actively involved in activities like ensuring safe and quality use of medicines, promoting public health, providing primary health care services and providing palliative care.<sup>5–7</sup> However in many low-income countries, the role of pharmacists has not been clearly defined and the pharmacy profession has not been well recognized. In Nepal, pharmacists’ role in health care provision is not well defined and pharmacy practice is in an emerging phase.<sup>4</sup> Therefore, this article aims to discuss some ways by which pharmacists can increase their contribution to the health care system, thus describing opportunities and challenges for pharmacists to prevent and manage NCDs in Nepal.

### NCDs in Nepal

NCDs, especially cardiovascular diseases (CVD), cancer, chronic respiratory diseases and diabetes, are the leading causes of global mortality and morbidity; these diseases kill almost 36 million people globally each year. Nepal, where communicable diseases like childhood diarrhea, pneumonia, and tuberculosis are still important health problems, now faces an additional problem of an escalating burden of NCDs. In 2008, 42% of total deaths were caused by NCDs and this proportion is expected on increase over time.<sup>8</sup> The majority of NCD related deaths can be attributed to CVD, which causes 21% of all deaths in Nepal. Other important causes of NCD deaths are cancer (7%), chronic respiratory disease (5%), diabetes

(2%) and other chronic diseases (7%). The rise in the number of older people is expected to increase the burden of NCDs in Nepal. The proportion of the population aged 65 years or more is expected to rise from 4.2% in 2000 to 5.8% in 2025. Over the period from 2000 to 2030, a 66% rise in the number of CVD deaths and a 71% increase in cancer deaths have been projected.

Age standardized death rates due to NCDs and Disability Adjusted Life Years (DALYs) rates associated with NCDs show the high burden of NCDs in Nepal. The age standardized death rate due to NCDs was approximately 800 per 100,000 population and age standardized DALY rate due to NCDs was approximately 13,500 per 100,000 population (Table 1).<sup>8</sup>

A high proportion of the Nepalese population is exposed to common risk factors for NCDs. Males and females are exposed about equally to NCD risk factors, apart from much higher use of smokeless tobacco and alcohol consumption among men (Table 2).

### Pharmacy workforce in Nepal

In Nepal, pharmacies can be owned by three different groups – ‘pharmacists,’ ‘assistant pharmacists’ and ‘professionals.’<sup>4</sup> The law defines a ‘pharmacist’ as any person with the training and qualification equivalent to Bachelor of Pharmacy, generally known as B.Pharm. (4 years course, done after completion of 12 years of formal schooling); and ‘assistant pharmacist’ means any person with the qualification equivalent to Diploma in Pharmacy, generally known as D.Pharm. (3 years course, which is done after the completion of 10 years of formal schooling).

‘Professionals’ are the non-pharmacist retailers with training in dispensing (45 h at beginning was extended to 3 months later), who have the legal right to open a pharmacy and dispense medicines in Nepal. Starting in 1981, professionals were

Table 1  
Death and DALY of the major NCDs in Nepal (2010)

NCD conditions	Death rate (age standardized, per 100,000 population)	DALY rate (age standardized, per 100,000 population)
CVD	310	2285
Cancers	120	1186
Respiratory diseases	94.5	1102
Diabetes	30.8	322
All NCDs	795.9	13,467

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