Access to medicines versus access to treatment: the case of type 1 diabetes

David Beran,[a] Ariane McCabe[b] & John S Yudkin[a]

Introduction

In recent years considerable attention has been paid to the issue of access to medicines. The topic burst into the global public spotlight in 2000 when 39 pharmaceutical companies took the South African government to court over its introduction of allegedly unlawful legislation, which gave the minister of health the right to import generic versions of patented drugs and allowed generics to be manufactured locally through compulsory licenses. After this trial, the terms parallel importation, compulsory licensing, intellectual property, generic drugs and TRIPS (the World Trade Organization's agreement on trade-related aspects of intellectual property rights) became part of the vocabulary of many nongovernmental organizations and policy-makers seeking to improve access to medicines in the world's poorest countries.

Since then public-health policy debates have largely focused on patents on medicines as the main barrier to patients' access to treatment. Advocates of this view blame patents for the high prices of essential medicines, putting them out of reach of many people who need them. Much of this controversy has specifically addressed medicines for communicable diseases such as HIV/AIDS, malaria and tuberculosis. Less attention has been paid to the availability of drugs for noncommunicable diseases, although this group of illnesses including cardiovascular disease, cancer, chronic lung diseases and diabetes represents the leading causes of death worldwide.[1,2] This paper will argue that access to medicines is not simply a consequence of patents and that it is only one part of the dilemma of care for noncommunicable diseases faced by patients in resource-poor settings.

Access to medicines for chronic conditions

Few studies have examined the issue of access to essential medicines for chronic diseases. However, a recent publication by Mendis et al.[3] explores the availability and affordability of medicines for chronic conditions in Bangladesh, Brazil, Malawi, Nepal, Pakistan and Sri Lanka.[3] The study concludes that there is a need to improve the availability of medicine for chronic diseases, particularly in the public sector, and that medicines used in treatment regimens should be made more affordable. However, this paper only examines the issue of price as a barrier to access to medicines and does not consider either the additional costs of care or the other constraints to care faced by patients with chronic disease.

The focus on access to medicines is limited. Instead, policy-makers should take a broader view that encompasses barriers to access to treatment. Work has been conducted by two of the authors in Mali, Mozambique and Zambia with the Rapid Assessment Protocol for Insulin Access (RAPIA), a multi-level assessment of the health system.[4,5] This has shown that while the treatment of patients with diabetes is poor, this cannot be attributed entirely to barriers resulting from the price of medicines. A more complex picture exists of what these barriers comprise.

In none of the three countries surveyed was there one single price for insulin. Instead, prices depend on location of purchase, the complexity of the supply chain and the method by which the medicine was purchased. There is, for example, the price at which the government or central medical stores (CMS) purchase insulin and which may include duties or taxes. In some countries, government health facilities purchase insulin from the CMS at a higher price than the CMS purchased it from pharmaceutical companies or international distributors. This is due to the additional costs incurred as a result of the maintenance of storage facilities and transport costs that are passed on to the health units. Insulin may then be sold to patients with or without government subsidy. In Mali, for example, patients pay a higher cost for insulin than the CMS and health facilities because costs sustained along the distribution chain are paid for by the patient. However, Mozambique and Zambia have mechanisms in place so that patients receive free or subsidized insulin from government health facilities, although the frequent experience of stock shortages in these units[3,5] means that some people will need to procure their insulin in private pharmacies at prices 25–125% higher than from public facilities.

In the absence of patents, except for the newer analogue insulins, generic insulin is available only in certain countries. India, for example, has a few manufacturers but, unlike antiretrovirals, this insulin seems to be mainly for local use. In most resource-poor countries the main source of insulin is from the two major insulin producers, Novo Nordisk and Eli Lilly. While equity pricing arrangements exist for the purchase of insulin by ministries of health, these do not apply to the private sector and, furthermore, are in place only in selected countries.

Other factors impacting diabetes treatment

While access to insulin is important, syringes and monitoring are also needed for people with type 1 diabetes. In the

[a] International Insulin Foundation, London, England.
[b] Judge Business School, University of Cambridge, Cambridge, England.
Correspondence to Ariane McCabe (e-mail: aam31@cam.ac.uk).
doi:10.2471/BLT.07.048710
(*Submitted: 10 November 2007 – Revised version received: 22 March 2008 – Accepted: 16 April 2008*)

surveyed countries, these were rarely available in the public sector and had to be purchased privately where value-added taxes on syringes increased the cost. The price varied from US$ 0.04 in Mozambique to US$ 1.50 in Zambia.[5] In addition, access to diagnostic tools for initial diagnosis and follow-up are essential to monitor and adjust treatment. Again, in the three countries examined, there was a lack of such tools. For example, only 21% of health facilities surveyed in Mozambique had a blood glucose metre.[5]

An essential part of care for chronic conditions is access to health-care workers with appropriate training. In each of the countries surveyed, there are only two specialized doctors in the field of diabetes and another five to 10 health-care workers who had received some form of training in diabetes management. Outside the urban centres, proper diabetes care is hard to find. Patients have to travel, in some cases more than 1000 km, to receive their care, thus incurring additional costs. For example, in Zambia, patients' average transport costs per visit were US$ 2.03, which represents 7% of an individual's monthly income. In some circumstances additional doctors' consultation fees (in the public and private health systems) increased the total cost of care.[5]

In Bamako, the capital of Mali, it was estimated that the average monthly spending on diabetes care for a patient was US$ 21.24, corresponding to nearly 70% of mean income.[5] This includes each month: one blood glucose measurement, eight syringes, one vial of insulin at an average cost of US$ 10.88 in the public sector, one monthly consultation and travel costs.

Other issues the authors identified as limiting access to diabetes care included: the lack of clear national policies for diabetes and non-communicable diseases; the important role of traditional healers (the most prevalent source of health services in rural areas); the lack of components of a functioning health system, including health workers and record systems, for chronic disease management; and the limited national health budgets of resource-poor countries.[5]

Is access to medicines sufficient for chronic conditions?

Proper care for both chronic communicable diseases such as HIV/AIDS and non-communicable diseases like diabetes requires more than access to a supply of medicine. Instead of focusing solely on access to medicines, attention should be paid to access to treatment. This concept refers to how health systems can ensure access to other factors that also affect patient care and outcomes. These elements may include the availability of diagnostic tools and the presence of trained health-care workers who are able to interpret laboratory test results, formulate treatment and refer patients for specialized attention. This process must take place in a health system with the appropriate infrastructure required to guarantee continued supply of medicines and continuing care for chronic conditions. In addition to these requirements, a positive policy environment and the involvement of the family and community are also necessary.[6,7]

While substantial attention has been paid to communicable diseases, the burden of morbidity and mortality of chronic non-communicable diseases is challenging health systems throughout the world and must also be addressed.[2] Access to medicines alone cannot improve levels of health in developing countries so it is important to expand the concept of access to medicines to that of access to treatment for the benefit of patients and the success of health systems in general. ■

Funding: World Diabetes Foundation, Diabetes UK, Diabetes Foundation and WHO.

Competing interests: None declared.

References

1. Murray CJ, Lopez AD. Regional patterns of disability-free life expectancy and disability-adjusted life expectancy: global Burden of Disease Study. *Lancet* 1997;349:1347-52. PMID:9149696 doi:10.1016/S0140-6736(96)07494-6
2. *Preventing chronic diseases: a vital investment.* Geneva: WHO; 2005.
3. Mendis S, Fukino K, Cameron A, Laing R, Filipe A, Khatib O, et al. The availability and affordability of selected essential medicines for chronic diseases in six low- and middle-income countries. *Bull World Health Organ* 2007;85:279-88. PMID:17546309 doi:10.2471/BLT.06.033647
4. Beran D, Yudkin JS, de Courten M. Assessing health systems for type 1 diabetes in sub-Saharan Africa: developing a 'Rapid Assessment Protocol for Insulin Access'. *BMC Health Serv Res* 2006;6:17. PMID:16504123 doi:10.1186/1472-6963-6-17
5. Beran D, Yudkin JS, de Courten M. Access to care for patients with insulin-requiring diabetes in developing countries: case studies of Mozambique and Zambia. *Diabetes Care* 2005;28:2136-40. PMID:16123479 doi:10.2337/diacare.28.9.2136
6. *Diabetes Foundation report on insulin-requiring diabetes in sub-Saharan Africa.* London: International Insulin Foundation; 2005.
7. Beran D, Yudkin JS. Diabetes care in sub-Saharan Africa. *Lancet* 2006;368:1689-95. PMID:17098088 doi:10.1016/S0140-6736(06)69704-3