Beyond availability and affordability: how access to medicines affects non-communicable disease outcomes

Access to medicines, including their availability and affordability, is a major public health challenge worldwide.[1] Countries have committed to improving access to medicines through universal health coverage, the Sustainable Development Goals (SDGs)[2] and, in the context of the growing non-communicable disease (NCD) burden, via the Global Action Plan for the Prevention and Control of NCDs.[3] Although high-quality monitoring data are necessary for measuring progress toward these global goals, information about availability and affordability of medicines is weak.[4]

In *The Lancet Public Health*, Marjan Attaei and colleagues[5] address this important gap with an analysis of the availability and affordability of blood pressure-lowering medicines in 20 countries participating in the Prospective Urban Rural Epidemiological (PURE) study—a large international cohort study of more than 150 000 individuals living in 626 communities. The findings showed that availability was particularly low in low-income countries, in which only 13% (nine of 68) of community retail pharmacies had four blood pressure-lowering medicines available; in high-income countries, 94% (108 of 115) of communities had four drug classes available. Affordability—defined via a household's estimated capacity to pay—of a single blood pressure-lowering medicine was high in all settings, but roughly 30% of households in low-income countries could not afford multiple blood pressure-lowering medicines, and this rose to more than 75% when statins were included. These results align with previously published findings from the PURE study[6] and with findings from other studies of availability and pricing of essential medicines.[7]

Attaei and colleagues' study provides a crucial new insight: it makes the connection between medicine availability at the community level, affordability at the household level, and individual use and health status. Study participants with known hypertension who lived in communities with greater availability of blood pressure-lowering medicines were significantly more likely to use at least one blood pressure-lowering medicine and to have their blood pressure controlled than were those in communities where medicines were not available. The weaker association between medicine

affordability and these outcomes of use and controlled blood pressure warrants further exploration.

These findings have important implications for public health and health policy. First, as countries work toward their access to medicines goals, it is imperative to develop robust metrics, definitions, and data collection tools that can be used to track progress. Although the PURE study is an impressive research endeavor, it cannot substitute for strong monitoring systems. Second, these findings highlight how access measures should connect to endpoints at the household and individual levels. Third, the investigators note the paradoxical case of India, where medicine affordability was low despite high availability. This case serves as a useful reminder that medicines might not follow simple market dynamics, and that prices (and not only absolute prices, but also capacity to pay) deserve attention and possibly intervention. Fourth, these results support existing evidence about the role of private pharmacies in care seeking, underscoring the private sector's potential importance for meeting goals, such as the SDGs.

There are some limitations to consider in interpretation of the present findings. Only one low-income country (according to current classification) contributed data, which restricts the reliability and generalisability of these findings for countries in this group. Additionally, these data were collected over 7 years and only at one retail pharmacy per community. Since availability and price might vary over time and place, a single measurement is not very robust. These limitations emphasise the need for lower cost, rapid methods of data collection to facilitate the collection, analysis, and routine dissemination of medicines monitoring data. Costly surveys need to be replaced with innovative new methods, such as telephone surveillance[8] or text messaging.[9] Lastly, although NCD medication costs are substantial, other direct (eg, transportation to care) or indirect costs (eg, loss of working hours) of treatment should also be assessed.

This analysis[5] was of medicines at retail pharmacies. The investigators cite well established literature that many patients purchase NCD medicines from the private sector, particularly in areas with poor availability

at public facilities, including in many low-income and middle-income countries[7] But if the availability of public sector medicines is associated with retail availability, an individual's diagnosis of hypertension, medicine use, or blood pressure outcomes, future studies should collect information from the public sector to address this potential omitted variable bias.

Attaei and colleagues' findings fill an important gap by establishing a link between availability, affordability, use of medicines, and health outcomes. Addressing NCDs effectively will require improvements in both availability and affordability of medicines, which continue to be key challenges, particularly in low-income countries. Increased investment is needed to ensure access, and to achieve global health and development goals.

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