

Main findings of The Lancet Commission on Diabetes in sub-Saharan Africa

The challenge of Africa's triple disease burden is laid bare by the *Lancet Commission on Diabetes in sub-Saharan Africa*.¹ It demonstrates how mortality from non-communicable diseases (NCDs) such as cardiovascular disease and diabetes, has overtaken the infectious diseases such as HIV/AIDS, lower respiratory infections, diarrhoeal diseases, malaria and vaccine-preventable diseases in children that dominated the cause of death just 30 years ago.

For Africa, this fast rising NCD toll, coupled to the continuing problems of infectious disease, plus the increasing incidence of trauma from road traffic accidents and high density living, gives rise to what is increasingly seen as the unprecedented triple-burden facing the most stretched and under-resourced health services in the world.

It is all down to rapid demographic, sociocultural and economic change that has swept across the continent since 1990. It makes meeting the goals of the UN high-level meeting on NCDs (to reduce premature mortality from NCDs by 25% by 2025) and Sustainable Development Goals (SDGs: to reduce premature mortality from NCDs by a third by 2030) extremely difficult. It is going to require a coordinated approach within countries, which starts with a firm consideration of disease burden, needs and priorities.

Key messages

The Commissioners identified five key messages:

Key message 1: the true burden of diabetes, other cardiovascular risk factors, and macrovascular and microvascular complications in sub-Saharan Africa is unknown

Estimates from those countries in which high-quality data are available suggest that the increase in the prevalence of diabetes, other cardiovascular risk factors, and adverse outcomes is large and is expected to further increase. However, most countries do not have data or data collection systems that are sufficiently reliable to enable mounting of a commensurate health-system response. To plan such a response, the Commissioners argued, requires high-quality, population-representative data on both current burdens and associated demographic factors and that systems for longitudinal data collection be put in place. It is also imperative to ascertain which tests and cut-offs for hyperglycaemia are most appropriate for use in defining diabetes in populations in sub-Saharan Africa to prevent overtreatment or undertreatment.



They also made special mention of the need for greater knowledge about the burden of type 1 diabetes, given that the condition is fatal in the absence of relatively inexpensive treatment.

Key message 2: diabetes and its consequences are costly to patients and economies

The Commissioners estimated that in 2015, the overall cost of diabetes in sub-Saharan Africa was US\$19.45 billion or 1.2% of cumulative gross domestic product (GDP). Around \$10.81 billion (55.6%) of this cost arose from direct costs, which included expenditure on diabetes treatment (eg, medication, hospital stays, and treatment of complications), with out-of-pocket expenditure likely to exceed 50% of the overall health expenditure in many countries. They went on to estimate that the total cost will increase to between \$35.33 billion (1.1% of GDP) and \$59.32 billion (1.8% of GDP) by 2030. They argue that these stark figures more than justify the economic argument for putting in place systems to prevent, detect, and manage hyperglycaemia and its consequences.



Key message 3: health systems in countries in sub-Saharan Africa are unable to cope with the current burden of diabetes and its complications

By use of information from WHO Service Availability Readiness Assessment surveys and World Bank Service Delivery Indicator surveys and the local knowledge of Commissioners, they found inadequacies at all levels of the health system required to provide adequate management for diabetes and its associated risk factors and sequelae. They found inadequate availability of simple equipment for diagnosis and monitoring, a lack of sufficiently knowledgeable health-care providers, insufficient availability of treatments, a dearth of locally appropriate guidelines, and few disease registries. These inadequacies result in a substantial drop-off of patients along the diabetes care cascade, with many patients going undiagnosed and with those who are diagnosed not receiving the advice and drugs they need. They also noted scarce facilities to manage the microvascular and macrovascular complications of diabetes. Additionally, despite calls for adding the care of diabetes and other cardiovascular risk factors onto existing infectious disease programmes (such as those for HIV), they found little evidence that such combined programmes are successful at improving outcomes.

Key message 4: scarce health-care resources should be focused on the management of diabetes and other risk factors to prevent complications

The management of diabetes and its risk factors is reasonably simple and inexpensive. Treating complications, however, is costly, requiring providers with a high level of skill and specialised equipment. Prevention of complications is therefore crucial. To allow effective prevention of complications, de-centralisation of care – from experts who work in hospitals to community health workers and other non-clinical providers who work in the primary care system and deliver home-based screening and care – needs to be accelerated. Simple and effective information technology solutions should be used to enable more locally delivered care. An additional consideration is whether it is more beneficial to treat each risk factor associated with diabetes to predefined targets, or to consider risk factors collectively and aim to reduce overall risk. For both the prevention of macrovascular and microvascular risk factors, the Commissioners suggest it will be more effective and cost-effective to consider risk factors as a whole, and use benefit-based tailored treatment, rather than to treat each individual cardiovascular risk factor to a target.

Key message 5: more evidence is needed about the benefits and risks (to individuals and health systems) of screening before programmes are rolled out across sub-Saharan Africa

The benefits of screening, especially in people who are deemed to be at high risk, seem obvious: earlier detection and management of diabetes and its risk factors and prevention of costly complications. However, as of yet, there is little evidence – even from high-income countries, where studies have been done – that screening programmes are effective at reducing adverse outcomes. Additionally, the thresholds for diagnosing diabetes (ie, the level of glycaemia that is associated with the risk of adverse outcomes in the long term) and the best test to use are not defined for populations in sub-Saharan Africa. Hence, any screening programme that is started should only be done as part of a rigorous longitudinal outcomes study that also compares different tests for diagnosis of hyperglycaemia.

As Professor Geoff Gill stated in his editorial to this issue, this report provides some very specific and clear targets to work to. Some may doubt whether their approach to service provision is achievable, but we have got to try.

References

1. Lancet Diabetes and Endocrinology Commission. Diabetes in sub-Saharan Africa: from clinical care to health policy. *Lancet Diabetes & Endocrinology* 2017. Published online July 5 2017 [http://dx.doi.org/10.1016/S2213-8587\(17\)30181-X](http://dx.doi.org/10.1016/S2213-8587(17)30181-X)

Opposite page: NCDs have tracked the emergence of new structures.

