

WHO response on Pacific diabetes prevalence

by Leanne Riley and Douglas Bettcher
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Devpolicy Blog recently published an article titled “[Pacific diabetes prevalence: lower than reported](#)”.

Diabetes continues to be a major health and societal burden to Pacific island countries and areas. To assist with monitoring global non-communicable disease (NCD) trends and their risk factors, the World Health Organization (WHO) introduced a method — the STEPwise approach to surveillance (STEPS).

STEPS is a simple, standardised method for collecting and analysing NCD-related data in WHO member countries. The standardised approach allows tailoring of the content of the survey to suit country context and needs, while allowing comparison across countries for key NCD risk factors. The surveys are implemented at 5 to 10 year intervals, and in the Pacific islands more than 25 surveys have been conducted since the approach was developed in 2001. This has enabled the development of comprehensive information about the status of NCDs in the region, including key risk factors such as tobacco use, obesity rates and prevalence of raised blood pressure.

When the surveys first started, measurement of the ‘prevalence of diabetes’ was undertaken by collecting venous blood samples in the field, which were then analysed in local or international laboratories. With the advent of cheap, convenient and reliable hand-held meters (known as point of care testing, or POCT), WHO included the option for countries to use POCT in their surveys.

To avoid confusion between the laboratory results, where blood samples are spun prior to analysis resulting in ‘plasma glucose’ values, and the POCT results, which showed ‘whole blood glucose’, POCT manufacturers began to recalibrate their devices and strips so that they would show plasma equivalent values. During the implementation of five STEPS surveys in the Pacific islands (Fiji in 2011, Niue in 2011, Samoa in 2013, Tonga in 2011, and Vanuatu from 2011-12), and three other STEPS surveys elsewhere in the world, WHO and the country conducting the survey were not aware that the POCT device being used had been recalibrated by the manufacturer to show plasma equivalent values. The information provided with the devices did not make this clear. This meant that the results published in the STEPS country report for ‘prevalence of diabetes’ and ‘raised blood glucose’ for these five affected countries was incorrect.

When WHO became aware of this possible error late in 2015, it immediately began investigating which countries' results for diabetes/raised blood glucose might have been affected by this change in meter display. As a result of this review, the affected countries were notified early in 2016 of the revised analysis for 'diabetes prevalence and raised blood glucose' and for 'impaired fasting glycaemia'. WHO has also had discussions with the manufacturers to provide clearer advice in device inserts.

WHO estimates included in the WHO Global Health Observatory were subsequently updated, and the [Global Report on Diabetes](#) [pdf] released in 2016 also utilised the corrected values. It is important to note that the revised values for the five affected countries still show that rates of diabetes/raised blood glucose far exceed the global average.

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