



Figure: Pathway between ratification of human rights treaties and population health

Right to Health.<sup>3,4</sup> Human rights indicators for health—derived from treaty language, selected by state parties, and legitimised through monitoring bodies—can better assess whether states' domestic policy implementation is in accordance with human rights obligations.<sup>3</sup>

Given states' obligations to progressively realise the right to health, examinations of intermediate variables, especially process indicators, would prove a far more useful means of measuring a state's realisation of population health.

It is not that human rights treaties are meaningless to health promotion, but rather that qualitative research is necessary to understand the causal pathways linking international human rights law to rights-based policy development.<sup>2,5</sup>

We declare that we have no conflicts of interest.

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## Voglibose for prevention of type 2 diabetes mellitus

Ryuzo Kawamori and colleagues (May 9, p 1607)<sup>1</sup> report a 40% reduction in progression to type 2 diabetes in patients with impaired glucose tolerance treated with voglibose. However, on the basis of the data provided, the clinical relevance of the 40% risk decrease cannot be assessed. Presentation of the results as relative risk reductions, and the use of diagnostic categories instead of metabolic parameters such as glucose and glycosylated haemoglobin (HbA<sub>1c</sub>), can lead to overestimation of the effects on diabetes risk and on the prevention of late complications.

Surveys have shown that, if study results are communicated as a 60% reduction in diabetes risk, about 90% of diabetes experts would interpret the effects as important or very important.<sup>2,3</sup> By contrast, if the underlying changes in HbA<sub>1c</sub> concentrations are presented instead, less than 20% would rate the results as important. Transformation of continuous metabolic data into diagnostic categories interferes with the understanding of study effects.

Diabetes prevention studies typically include individuals with impaired glucose tolerance who are already on the brink of diabetes. Therefore, small differences of 0.3 mmol/L in fasting plasma glucose or of 0.1% in HbA<sub>1c</sub> could relate to pronounced differences in the proportions of

people with a diagnosis of diabetes, and risk reductions of more than 50%.<sup>2,3</sup> Small differences are magnified by transformation of continuous data into categorical data.

The omission of crucial metabolic parameters such as glucose and HbA<sub>1c</sub> has also happened in other diabetes prevention studies.<sup>4</sup>

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Ryuzo Kawamori and colleagues<sup>1</sup> should be commended for their detailed analysis of the effectiveness of voglibose in the prevention of type 2 diabetes in Japanese patients with impaired glucose tolerance. However, more details in this paper should be clarified.

Besides the baseline patient characteristics considered by Kawamori and colleagues, others should also have been controlled for. Fasting and postprandial insulin concentrations,<sup>2</sup> physical activity levels,<sup>3</sup> and socioeconomic status<sup>4</sup> can all have an effect on the development of type 2 diabetes.

During the course of drug treatment, eligible patients with impaired glucose tolerance were advised to follow a standard diet and take regular exercise, which are factors that might improve type 2 diabetes mellitus. Therefore the possibility that the effect of