Yes, they can! Comparing foodborne illness estimates, and the need for greater transparency

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To the Editor,

In their recent paper, Holland *et al*,[1] compared foodborne illness rates in the UK, Australia, Canada, and the USA, asking whether such comparisons across countries can legitimately inform trade decisions based on food safety risks. The authors highlighted methodological differences as a major barrier to making accurate comparisons. While we agree that comparing estimates between countries should be done with caution, in our view, the major reason that foodborne burden estimates should not be used for trade purposes is that they do not reflect the food safety risks associated with exported foods, which must meet the standards of the importing country. Foodborne illness estimates reflect food safety risks associated with foods consumed within that country, which is why foodborne burden estimates are used for prioritising and directing food safety efforts within a country.

Comparison between countries is feasible and can provide important insights. In analyses of the burden of foodborne disease in Australia, Canada, Ireland, and the USA that used similar methods and a common case definition, we were able to directly compare rates of acute gastroenteritis between countries, revealing consistencies in age and sex patterns and medical care seeking behaviours.[2] After accounting for differences in healthcare delivery, we concluded that overall rates of Campylobacter infections were truly higher in Australia than in the USA.[3] While cohort studies, such as the Infectious Intestinal Disease studies in the UK, have some methodological advantages, they are complex and costly. Thus, many countries rely on data from surveillance and other sources coupled with cross-sectional surveys that assess underdiagnosis due to laboratory testing, medical care seeking, and stool sample submission.[4] Cross-sectional studies also provide data that we and others have found consistent and valid to estimate diarrheal disease incidence. Indeed, most of the uncertainty arising from foodborne gastroenteritis estimates comes from the expert elicitations used to derive the proportion of illness attributable to foodborne transmission, where data are mostly lacking.[5]

That said, there is more that we as a community of investigators should do to improve interpretability, comparability, and reproducibility. Comparative analyses would be greatly enhanced if all burden of foodborne illness studies published raw data and models, along with clear, detailed methods, an assessment of statistical and non-statistical uncertainty and a clear rationale for how agents and data sources were selected.[4] These efforts would not only benefit individual countries wanting to compare estimates over time, but they would also contribute to larger, international efforts to estimate the burden of foodborne disease, namely, the global estimates produced by the WHO's Foodborne Disease Burden Epidemiology Reference Group (FERG), which are currently being updated. Whether for global estimation, better scientific understanding, or advancing methods comparing and synthetizing across foodborne burden of illness studies is something that we should be doing—just not for the purpose of informing trade decisions.

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