142 Motivate and Measure Progress on Food Safety through a Global Food Safety Indicator

The Solution: To motivate and measure progress in making impact through food safety, it is proposed to have global food safety indicator, including health outcome indicators on foodborne diarrhoeal diseases.

Source(s) of the Solution: The idea was suggested by the WHO and further discussed within the food safety working group.

Problem addressed within food systems: About 600 million people (one in ten) are annually affected by foodborne diseases. Children under five years of age are at particularly high risk, comprising 30% of total foodborne disease deaths annually.[1] The magnitude of the public health burden due to foodborne diseases is comparable to that of malaria, HIV, or tuberculosis—and this is believed to be just the tip of the iceberg. Foodborne disease is also responsible for a wide range of economic costs, as it interacts with other development goals such as improving equity and access to nutritious foods or livelihoods for women and lower-income people. It is estimated that in LMICs USD 95 billion a year is associated with productivity loss alone.[2] Global issues like climate change, emerging diseases, and changes in food production and supply systems are pushing the food safety community to address new challenges. For tracking progress on the SDGs, 247 indicators are currently monitored[3] across a broad range of areas, but no food safety indicator is recognised. While food safety actions are linked to many of these indicators, particularly under SDG 2, 3, and 8, this data segmentation and limitations in measuring and reporting impede progress, camouflaging areas that need more attention and jeopardising progress towards other SDGs.

At a recent international conference of over 500 participants from 110 governments, various food safety problems were discussed, and solutions proposed. As the community moves ahead to implement such measures, it also needs a system to benchmark their activities, capacities, and performance because 'what cannot be measured cannot be managed'. For priorities to be managed, it is helpful to have explicit goals (targets) and indicators that can measure progress towards attaining these goals. Given the extremely high (and likely growing) burden of foodborne diseases, especially in LMICs, food safety should be a priority for public health. Global indicators can contribute to the SDGs and are also useful for countries in benchmarking, identifying strengths and weaknesses, and motivating and measuring improvements.

How this solution will address that problem: One reason why there has been no global consensus on food safety indicators, despite various attempts, is complexity. There are over 250 biological hazards (such as bacteria, viruses, parasites, and chemical contaminants) that are recognised to be transmitted by food, and many more hazards may be relevant locally. While these diseases are largely preventable, this requires action all along the food chain by various public, private, and informal stakeholders and across multiple sectors, including food, animal, health, and environment. It will be essential for any potential global food safety indicators to overcome this complexity by having more than one indicator, which can assess capacity at output, outcome, and impact level. Indicators should be seen as a catalyst to motivate countries and other contributors to make positive and objectively measurable changes.

While most actions to increase food safety are in the food or agriculture sector, the ultimate impact is to ensure consumers' health. Health outcome indicator(s) are therefore an ultimate summary

[1] https://apps.who.int/iris/handle/10665/199350
[2] http://hdl.handle.net/10986/30568
[3] https://unstats.un.org/sdgs/indicators/indicators-list/

measure of all food safety actions in the food system. While such ultimate health indicator should represent a significant impact on population health, some aspects specific to food safety need to be taken into account including, but not limited to, the following:

- *Global relevancy of hazards*: not all hazards are relevant worldwide. There are several foodborne disease hazards that together contribute a large burden but have localised distributions. For example, *Taenia solium* and fish-borne trematodes are large problems where they occur but are geographically restricted. While they could be key to include in national or regional indices, other hazards more common across the world are more appropriate for global indicators.
- *Sensitivity to differences between countries:* indicator(s) should be sensitive enough to distinguish different levels of food safety status across different countries.
- *Sensitivity to changes made in food safety (i.e., not in WASH, climate change, the economy, or healthcare):* finding a true attribution of a certain health outcome to unsafe food remains a challenge. It is known that diarrhoeal disease cases, for example, tend to decrease when the general development level of a country increases. It is therefore important to take into account the relative attribution of certain health outcomes to foodborne transmission.
- *Feasibility and affordability:* many countries have limited resources: indicators could be modular starting with simple, cheap metrics and building up to the more epidemiologically complex.
- *Objective measurability:* The experience of several global initiatives is that self-reporting can sometimes be unreliable. It may be best to build in some form of objective, external support, and validation from the onset.

Given the growing evidence of an enormous burden of foodborne diseases in LMICs, yet the extreme scarcity and unreliability of information about the extent of the burden, its consequences, and how it can be best managed, it seems safe to conclude that metrics and measures for better understanding foodborne diseases are important. Reflecting upon what we currently know from the first (and still only) report on the global burden of foodborne diseases (published in 2015)[1], of 600 million total foodborne incidences, 550 million of them were diarrhoeal, comprising about half of the total public health burden, and 40% were seen in children under five years of age. Foodborne diarrhoeal diseases also accounted for 58% of the foodborne disability-adjusted list years (DALYs), followed by invasive infectious disease agents (24%), helminths (18%), and chemicals and toxins (3%). This is a significant proportion. While underestimated, particularly for chemical hazards, this is still believed to be the most credible and appropriate data from which to start measuring food safety progress globally.

Considering the required criteria discussed above for such global indicators, reflecting the key findings from the most credible source of information on foodborne diseases, the most logical choice would be to consider foodborne diarrhoeal diseases as a summary measure of health, associated with any investment, commitment, and actions in food safety. Given the complexity of the task to identify the most appropriate indicators and the need to integrate data from many different sources, such indicators can only be implemented through international collaboration. Participating in new reporting on a complex health problem is an arduous process, and it will be essential to build a multi-stakeholder coalition through communication, out-reach, and leveraging popular support for food safety to ensure buy-in from the participating countries.

Solution's alignment to the 'game changing and systemic solution' criteria:

Impact potential at scale: The global food safety indicator will be developed at the global level, utilising multiple data sources collected by and/or reported to WHO.

Actionability: The global food safety indicators will be developed through a global taskforce convened by WHO. The WHO Foodborne Disease Burden Epidemiology Reference Group (FERG) will advise WHO on the methodology to develop and monitor indicators, in addition to their main function to regularly monitor the burden of foodborne diseases.

Sustainability: WHO is developing a global food safety strategy (mandated by WHA73.5) for expected adoption by the World Health Assembly in 2022, and the indicators could be hosted as part of the monitoring and evaluation framework of the strategy.

Existing evidence: Global or widely used indices such as the Human Development Index, Transparency International Index, and Programme for International Student Assessment have been very effective in helping supra-national strategy and planning and in motivating change at the national level. There are some national or regional efforts that exist to establish measurement systems for food safety, such as the African Food Safety index (AFSI), launched in 2018. AFSI is comprised of a food safety system index, food safety health index, and food safety trade index, and 50 out of 55 countries submitted data.[4]

Current/likely political support: WHO has been working to develop global food safety indicators in the content of monitoring and evaluating a new global food safety strategy, which is requested under the recent resolution (WHA73.5). WHO FERG is also officially being established with an additional mandate to support this area of work.[5] FAO is also active in this area, as indicated by their publication of "Measuring Food Safety: Indicators to Achieve SDGs. Food Safety Technical Toolkit for Asia and the Pacific No. 9"[6] in 2021.

Contexts where this is well/not well suited: Suited to all countries/contexts.

[4] https://cgspace.cgiar.org/handle/10568/108691
[5] https://www.who.int/docs/default-source/food-safety/call-for-experts/tor-for-reference-ferg-31aug2020.pdf?sfvrsn=b0a3d1f_4
[6] http://www.fao.org/3/cb4111en/cb4111en.pdf