classifying specific antibiotics and classes into the three categories is relatively weak. Specific challenges remain; particularly, how to interpret unclassified antibiotics such as fixed-dose combinations that are not currently included, but which comprise a substantial percentage of antibiotic use in some countries.[5]

The median access percentage among 70 countries was 76·3% (IQR 62·6–84·2), confirming the key role of this antibiotic group in treating young children globally. However, in a quarter of countries, Watch antibiotics accounted for over a fifth of total consumption and the amoxicillin index was low (median 30·7%, IQR 14·3–47·3). Notably, China and India, the two most populous countries, were among those with the lowest access percentage, the highest watch percentage, and considerable use of unclassified antibiotics.

Given the complexity and resources required to determine paediatric age-specific and indication-specific antibiotic use, dosing, and duration determinants, and other outpatient prescribing quality indicators, without universal national electronic health records, in our opinion Hsia and colleagues have provided a comprehensible picture of the general trends of global community childhood antibiotic prescribing across different countries. Despite many limitations, including measuring sales volume reported in standard units rather than conventional population-based standardisation consumption, these three metrics together might serve as a simple index or measure of antibiotic selection pressure for resistance at the community level. Healthcare professionals should easily understand the concept. Furthermore, because amoxicillin is the first or second choice treatment for most infection syndromes in children younger than 5 years, targets could be set for all three metrics, but particularly for the amoxicillin index.

Although a novel standard of measurement such as the AWaRe metrics might facilitate benchmarking of outpatient antibiotic use, similar to the new standardised antimicrobial administration ratio for in-hospital use,[6] the AWaRe metrics are not a definitive measure of inappropriate use. Rather, they highlight areas for initiating further investigations and potentially identifying intervention strategies to expand the access index and amoxicillin index in children.

Outpatient antimicrobial stewardship is a novel area for improvement and optimal metrics of antimicrobial use in this setting are unknown. The first laudable attempt to develop simple metrics of global child community antibiotic use, based on the WHO AWaRe classification, is a necessity that was until now a challenge in most lower-income and middle-income countries.[7]

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Crowdsourcing as a public health intervention for sexually transmitted diseases

Studies are increasingly exploring the use of crowdsourcing, a practice by which information for a project is obtained by soliciting the services of a large number of people to address public health challenges and advance health service research. This approach can be particularly important when designing interventions for marginalised populations. Sexually transmitted infections (STIs) increase the risk of HIV acquisition and transmission, particularly among

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high-risk populations of men who have sex with men (MSM).[1] Periodic STI testing among MSM is, therefore, crucial to prevent ongoing transmission. However, financial constraints remain an important barrier to STI testing in certain populations. In *The Lancet Infectious Diseases*, Katherine Li and colleagues[2] provide innovative evidence of the use of a form of crowdsourcing to improve STI testing uptake in Guangzhou, China, where there are low rates of STI testing among the MSM population and the linkage between STI and HIV services is low. The authors demonstrated that the pay-it-forward programme, consisting of giving free STI testing to MSM and giving them the option to finance a test for future participants, can supplement and increase STI testing uptake.

Crowdsourcing is based on the principles of open and user innovation, the wisdom of crowds, and collective intelligence in problem solving.[3] Open and user innovation approaches allow organisations to better develop novel products or services by bringing in outsiders. Here, Li and colleagues used an open challenge contest through multisectoral partnership to develop the name and the style of the programme materials. The wisdom of crowds principle engages the community to solve a problem collectively instead of individually. Collective intelligence is the scale-up capacity of large groups and the network structure to help foster large-scale interaction.[3] In this study, community volunteers helped organise the programme and each participant wrote a message on a postcard for participants who would benefit from this donation in the future. These motivational messages further potentiated donations.

By applying these concepts in a pay-it-forward model, MSM received free chlamydia and gonorrhoea testing and voluntarily were asked if they were willing to voluntarily donate funding for STI testing for a future participant. In this setting, which included predominantly first-time test recipients for chlamydia and gonorrhoea, 54% of MSM in the pay-it-forward group (109 of 203 men) received chlamydia and gonorrhoea testing compared with 6% of MSM in the standard-of-care group (12 of 205 men). What is also remarkable is that 97 (89%) of 109 men who received a pay-it-forward free test also donated funds for STI testing of future participants, which overall accounted for 80% of the cost of testing. This study provides evidence that improved and more efficient ways of community mobilisation, engagement, and utilisation of MSM-friendly trusted clinics have the potential to hugely enhance STI testing interventions. It will be interesting to explore if applying a pay-it-forward intervention strategy to a new group of MSM not previously engaged and connected to community-based organisations would provide similar benefits of increased STI testing uptake. Furthermore, although a few new infections were uncovered, the use of urine swabs might have underestimated these infections and therefore future research should consider the collection of rectal swabs to improve STI diagnoses.

Although we expect to see more use of crowdsourcing as an intervention in public health, it is important to recognise that crowdsourcing is most effective as a supplement to traditional intervention, not a substitute, as evident in the work by Li and colleagues. As such, it should be rapidly explored in addition to our arsenal in the fight against HIV and STIs.

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Group B streptococcal disease: unmet needs in high-income countries

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The bacteria group B streptococcus, estimated to cause more than 319 000 infant infections, 90 000 infant deaths, and 57 000 stillbirths annually worldwide,[1] emerged as a leading pathogen of newborn babies in the 1960s. Disease in the first week of life (early onset) can be prevented through targeted administration of