



Vaccination lags behind in middle-income countries

Poor children in relatively rich nations are being let down by immunization programmes, says Seth Berkley.

Indonesia, Iraq and South Africa now rank among the ten countries with the highest number of under-immunized children worldwide, even though these countries are richer than many of their neighbours. What is going on?

Not so long ago, improving the health of the world's poorest people meant focusing on the world's poorest countries. That's changing. Soon, the majority of the most vulnerable populations will be in middle-income countries (MICs), where gross national income per capita is between US\$995 and \$12,055 per year. Increasing migration, urbanization, conflict and climate change are causing inequities to yawn ever wider, despite United Nations Sustainable Development Goals to leave no one behind.

As the World Health Assembly meets in Geneva, Switzerland, next week, the development community must tackle an emerging conundrum: how do we increase access to vaccines, primary health care and other essential health interventions in countries that can — at least according to their gross national incomes — afford them?

My organization, Gavi, the Vaccine Alliance, was founded in 2000 to boost immunization in the poorest countries. It is credited with helping to vaccinate more than 700 million children against a range of diseases, from measles and diphtheria to pneumonia and cervical cancer. Despite success in the poorest countries, an analysis we carried out this year found that, since 2010, routine immunization levels have either stagnated or dropped in 54 of 85 MICs too prosperous to qualify for Gavi support.

We project that by 2030, almost 70% of the world's under-immunized children will be living in countries ineligible for Gavi's vaccination programmes, such as Nigeria, India and the Philippines.

Gavi's programmes subsidize new and expensive childhood vaccinations. Governments take on more of the cost as countries' economies grow. This means that children in some of the countries with the weakest economies are actually better protected against infectious disease than are those in some wealthier countries. South Africa, for example, has a gross national income per capita of around seven times that of Rwanda. Yet only 66% of its children receive the routine three doses of the DTP3 vaccine against diphtheria, tetanus and pertussis — compared with 98% in Rwanda.

Unsupported MICs are also neglecting important new vaccines that have huge impacts on death and disease rates. For example, 52% are yet to introduce the pneumococcal conjugate vaccine, and in 61%, plans to introduce rotavirus vaccine are still pending. Together, these vaccines can help to protect against two of the biggest killers of under-fives: pneumonia and diarrhoea.

That does not mean that MICs are investing less in health care.

Those that have never received Gavi support currently spend an average of \$90 per live birth on routine immunization, versus \$25 in Gavi-supported low-income countries. Yet immunization programmes in these MICs struggle to reach vulnerable populations. That's often for a combination of reasons: domestic resources are allocated inefficiently; efforts to reach marginalized communities are not a political priority; and health systems are unable to cope with additional stressors.

Those interacting factors help to explain why the main burden of unimmunized people is shifting from mostly low-income countries to MICs. By 2025, nearly 80% of people in the lowest income brackets — those living on less than \$8 a day — will be in MICs. This is almost double the proportion in 2000. As the economies of very populous low-income countries grow, many, including India (with 1.3 billion people) and Vietnam (with 96 million people), are being re-classified to middle-income status. As a result, a greater portion of the world's population lives in MICs. However, because economic growth is not distributed equitably, many people in these countries remain poor.

Another factor is fragility. The past ten years have seen conflicts more than double. This has contributed to unprecedented global migration. Of the 68.5 million people currently displaced from their homes and less likely to receive vaccinations, more than half are in MICs. At the same time, urbanization is increasing fastest in these countries. More than one-third of urban populations in MICs live in slums, where infections can spread quickly.

All this demands a rethink of global health policy. MICs need support to strengthen their

health systems and to improve how they procure vaccines and regulate them. They need access to information technologies to monitor who is getting vaccines, to target at-risk communities and to evaluate strategies. And mechanisms are needed that set prices according to what countries can reasonably pay. Prosperous countries should pay more for vaccines. But according to World Health Organization data, the pneumococcal vaccine, for example, costs, on average, eight times more in never-supported MICs than in countries receiving Gavi support, even though the MICs' gross national incomes and ability to pay might not be commensurately larger.

Since 1990, childhood mortality has more than halved worldwide — mainly because fewer under-fives now die from infectious disease. Polio is on the brink of eradication, with just 33 cases last year. It is time for the global health community to adapt: we must not leave behind vulnerable populations in middle-income countries. ■

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CHILDREN IN SOME COUNTRIES WITH THE WEAKEST ECONOMIES ARE BETTER PROTECTED THAN THOSE IN SOME WEALTHIER COUNTRIES.