

Moving Beyond Geographically Defined Communities to Ensure Equitable Access to Vaccines

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Eradication of smallpox in 1977 gave mankind hope to win the fight against infectious diseases. Remarkable progress has been made in reducing child mortality from vaccine-preventable diseases since then. Every year, an estimated 2 million to 3 million deaths are averted from four vaccine-preventable infectious diseases: diphtheria, tetanus, pertussis, and measles.¹ These achievements, however, are not evenly distributed across all regions of the world or in all communities within a country. Vaccination coverage varies across regions and communities with respect to geographic location, ethnicity, age, sex, education, and other factors. To ensure equitable access to vaccines by all people, regardless of their socioeconomic background or geographic location, 194 countries endorsed The Global Vaccine Action Plan (GVAP) in 2012 at the World Health Assembly.² To achieve GVAP's third strategic objective: "the benefits of immunization are equitably extended to all people," countries have obligations to ensure equitable access to vaccination programs to all their citizens, particularly to those who live in marginalized and inaccessible communities.²

Several studies suggested the need for targeted and tailored interventions and strategies at the community level within a country to ensure all children are getting equitable access to life saving vaccines. A recent study in Bangladesh showed vaccination coverage among 12-23 month old children in Haor areas is 57%, which is much less than the national coverage of 71% at the time of the study.³ Lower vaccination coverage, higher drop-outs, and invalid doses among children living in these low-lying geographically hard-to-reach areas compared to the national average indicate current strategies and programs run by the government are unable to provide equitable access to vaccines.³ In a study in rural Ethiopia, travel time to health posts is found to be a barrier and associated with lower immunization coverage.⁴ This study again sheds light on the issue of modifying the current vaccination delivery strategies to reach geographically isolated and marginalized communities. A study conducted in rural southern Tanzania suggests long distances from a health facility may be a risk factor for low vaccination coverage among children living in rural areas.⁵ High socioeconomic status of the family, however, may be associated with timely vaccination, which is defined as receiving a vaccine within one month of recommended time.⁵ Low vaccination coverage among poorly accessible rural communities indicates much work is yet to be done to achieve GVAP's strategic objectives.

In order to achieve equitable access to vaccines by all people, GVAP recommends recasting the World Health Organization and The United Nations Children's Fund's "Reaching Every District" approach to "Reaching Every Community" with a goal to reach every eligible individual from different geographic locations and socioeconomic backgrounds, including those who reside outside the usual government outreach and therefore considered hard-to-reach.² Success of this recommendation would rely on how effectively national immunization programs are able to identify underserved communities and implement tailored strategies to provide equitable access to vaccines. Most often, vaccine service delivery mechanisms rely on government administrative units, which are frequently geographically-defined. In rural Bangladesh, like many other countries, Expanded Programme on Immunization (EPI) services are offered through EPI outreach sites that are placed in the smallest government administrative units with a catchment of about 1,000 populations.⁶ When it comes to identifying communities at highest risk of inequitable access to vaccines, programs need to move beyond the geographically- defined communities approach and expand the definition based on various other common characteristics such as cultural values, lifestyle choices, and nomadic nature. Disparities may exist among individuals with different cultural values and lifestyles, which may make them more vulnerable than the rest of their community members in the same village, town or city. Studies have shown vaccination coverage among children living in the slums of big cities may vary drastically from the average coverage for that city. A study conducted in two slums in Dhaka, Bangladesh found only 43% of the children were fully vaccinated, as opposed to 82.4% for the Dhaka division.⁷ Such a gap in the vaccination coverage among children living in the same urban area, and often in the same administrative zone, indicates more microscopic views are needed to identify underserved populations in addition to considering the larger geographic locations.

When research is conducted, highly vulnerable communities from similar socioeconomic background are often grouped together and similar strategies are applied for interventions.⁸ Even though these communities share many common characteristics in terms of poverty and poor access to education and health programs, they may be very distinct in their way of living and have their own cultural and social practices. One example of such a group of people are the river gypsies of Bangladesh.

According to a report generated by a local non-governmental organization, vaccination coverage among children of this particular group of people may be as low as 2%.⁹ Challenges and barriers identified as reasons for low vaccine coverage in other marginalized communities may very well be applicable to river gypsy communities, yet they may face a unique set of challenges due to their nomadic life or recent integration into the broader society. Strategies that have worked for other rural communities may or may not work for those who are largely socially excluded, lack access to education and live among their own in clusters near river banks.¹⁰ Children of migrant workers in the Tak province of Thailand are another example of a highly marginalized and vulnerable population facing barriers in accessing routine vaccination programs which are unique to their context, such as continued migration and fear of getting arrested.¹¹

Previous initiatives and approaches, such as the “Reaching Every District” approach have been successful in increasing vaccination coverage through outreach programs, district-level planning and provision of immunization programs and resources at district and sub-district levels.² Building upon their success, GVAP recommends to recognize barriers that communities outside of government outreach face in accessing routine vaccination programs, and to provide equitable access to vaccines by implementing tailored strategies depending on their local contexts.² Use of modern information technology has been recommended to generate immunization registries, to track an eligible person’s immunization status, and to send tailored messages as reminders.² Use of mobile phones was proven to be a useful tool to increase vaccination coverage among rural, hard-to-reach populations and urban slum dwellers of Bangladesh by sending reminders through short text messages or images and by tracking the immunization status of the study population.¹² Involvement of community members throughout the program development and implementation phase to understand the local contexts, community members’ needs, and to build trusted relationships, has proven to be another successful strategy to reach marginalized communities. A targeted intervention to reach nomadic tribes of Chad in response to a polio outbreak showed tailored strategies such as using a mobile vaccination team along with trained local nomadic community members to identify settlements and offering vaccines to all children, women, and animals, improved the vaccination coverage among this highly mobile and hard-to-reach population.¹³

Targets are set for both national and district level vaccination coverage to achieve the Decade of Vaccines (2011-2020) vision of “a world in which all individuals and communities enjoy lives free from vaccine-preventable diseases”.² By the end of this decade, vaccination coverage for all vaccines is targeted to be at least 90% at the national level and at least 80% at the district level.² Reaching out to marginalized populations, whose inequitable access to vaccines often is not reflected properly by the national and district level coverage, is crucial to achieve the objectives set forth by GVAP. Greater effort and attention needs to be dedicated to identifying these highly vulnerable individuals and their families, with the help of local advocacy groups and community health workers, and tailored interventions need to be developed in order to fulfill the vision of Decade of Vaccines.

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