1 Joint display of common barriers reported by each country in the survey and KIIs categorized by socioecological levels

Socioecological Level	Reported barrier at each SE level	Percent of responses by country	Illustrative quotes
Environmental	Overall[a]	AF 69.0% (n = 550/797) NG 38.3% (n = 984/2570)	One thing is the territory controlled by Taliban that is 40–50% more or less. We have two problems there. Sometimes they ban polio program for example they banned the program in southern region, Kandahar,

Case study: Afghanistan
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polio program for example they banned the program in southern region, Kandahar, Helmand and Urozgan. There, a million children were deprived of vaccines. This was a big challenge. Even if they allow the program they don't allow house to house campaigns and instead they tell us to go site to site or mosque to mosque. In mosque to mosque, many children are missed especially the neonatal. People don't bring the neonates to the mosque. Second challenge is the campaign quality in these areas. Our monitor cannot go to Taliban controlled areas and cannot ensure reporting, so the campaign quality is compromised. - KII Afghanistan, National level

Given the negative influence of conflict and insecurity on polio program activities, one solution included coordination with different opposition groups to gain access to unsafe areas. In Afghanistan these were called 'Days of Tranquility' where all parties negotiate a cease-fire in order to allow children to access healthcare; these have contributed to higher vaccination coverage.

C ca

Political leaders in these conflict-affected areas have faced competing political priorities, balancing politically savvy messaging and other health priorities for the country. While government remains supportive of the polio program, high-profile endorsements could be counter-productive in insecure areas where anti-government forces may oppose government messaging. An extraction from the grey literature further describe this challenge:

"In the case of Afghanistan, according to Toole et al (2009), while President Karzai wanted to bring an end to the Afghan war via a political settlement with the Taliban, they would not negotiate while US and foreign troops were in the country." [15]. - Grey literature.

The grey literature indicates that balancing political messaging for polio, together with conflict and insecurity continue to pose significant challenges to eradication activities.

C a

Continuous engagement with communities in conflict areas has been an important strategy for the polio program. This is reflected by the fact that survey respondents involved in various program goals saw the social environment as the greatest external facilitator to pro-

areas for the encouragement, we give nutrition materials to those who bring their children for vaccination, after the vaccination the vaccinators give a

to reach areas or inaccessible communities and all that. - KII Nigeria, National Level

C ca

Political leaders in these conflict-affected areas have faced competing political priorities such as balancing politically savvy messaging and other health priorities for the country. The Nigerian government has historically been supportive of the polio program and provided high-profile endorsements. However these efforts have been met with complaints about the polio program conflicting and occasionally overlapping with other health programs implemented at the state and local government levels. One KII respondent from Nigeria reflected:

> There are times whereby there are clashes of activities, there may be a polio program, side by side with another equally important program, so in that case there are lots of clashes and you know it's always not easy. I mean in some other cases, there are so many activities while the state is planning its own, maybe the state ministry is calling you for one other activity, the national officials are planning their own. There was a scenario whereby we were having the last Outbreak Response and the officials at the national level were coming with the community health influencers promoter services program which has immunization as a component, so there is always this clash from below, within and above, so it's not always easy. – KII Nigeria, Subnational Level

C a

Continuous engagement with communities in conflict areas has been an important strategy for the polio program. In Nigeria, 45.1% of the survey respondents saw the social environment as the greatest external facilitator to program success. Community engagement approaches were widely lauded in the KIIs as solutions to reaching hard-to-reach populations. One interviewee in Nigeria described such approaches: