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Post-disruption catch-up of child immunisation and health-care services in Bangladesh

The COVID-19 pandemic has affected child immunisation service delivery and use across the globe.¹⁻⁴ Amid overwhelming reports of disrupted immunisation services during the early pandemic months, the Correspondence by Anna A Jarchow-MacDonald and colleagues⁵ drew our interest. The authors reported on stable child immunisation services in the Lothian area of Scotland during the lockdown period and described attributable adaptations and strategies.

After the first COVID-19 case was diagnosed in March, 2020, child health service delivery and use declined in rural remote communities in Bangladesh. We retrieved annual data for 2019 and 2020 from Bangladesh's district health information system (DHIS) for child immunisation and sick children's care-seeking in six subdistricts of Barishal, Bangladesh.

34 838 children younger than 5 years sought care in 2020, which was 11% fewer than the previous year (39 078). The greatest decline in care-seeking for sick children younger than 5 years was observed during April–July (70%; 4151 in 2020 vs 13 983 in 2019). After July, 2020, care-seeking for sick children began to increase (appendix) and 23% more children younger than 5 years sought care during August to December in 2020 than in the same period in 2019 (20 159 vs 16 348).

Child immunisation services were mostly disrupted in April and May, 2020, when 20% (280 of 1414) and 25% (346 of 1395) of planned outreach immunisation sessions were cancelled, respectively (appendix). On average, the greatest disruption was observed during these months

in three remote subdistricts: Hijla (57% [185 of 322]), Agailjhara (25% [69 of 275]), and Mehendiganj (20% [135 of 660]). Available data and reports from DHIS revealed the halt of further disruption and improved child immunisation coverage during post-disruption months (July–October, 2020; appendix). On average, about 99% of immunisation sessions were held during July–October, 2020 (appendix).

We adopted alternate approaches, similar to some of those reported by Jarchow-MacDonald and colleagues,⁵ to stop further disruption and to improve child health and immunisation service coverage within our project catchment area. We facilitated the district health management and local ministry of health authority to train service providers and use resources from other programmes to ensure infection prevention and control initiatives. We also facilitated district and local health management teams to organise mobile immunisation outreach services and crash immunisation campaigns in hard-to-reach remote areas, tracing and immunising children who had missed their vaccinations, and targeted home visits by community health workers.

Our experience suggests that need-based and context-specific alternate approaches might help to catch-up and improve child health and immunisation services that have been affected by the pandemic in remote rural communities of countries like Bangladesh.

We declare no competing interests.

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Published Online
March 30, 2021
[https://doi.org/10.1016/S1473-3099\(21\)00148-1](https://doi.org/10.1016/S1473-3099(21)00148-1)

SARS-CoV-2 incidence and vaccine escape

An Editorial¹ earlier this year described the potential for the evolution of SARS-CoV-2 variants that render vaccines less effective (vaccine escape), assisted by waning immunity following vaccination. This raises a crucial question: how can COVID-19 exit strategies be planned while limiting the vaccine escape risk?

A key component of any plausible strategy towards the permanent removal of non-pharmaceutical interventions (NPIs) is ensuring low case numbers in the short to medium term using NPIs and vaccination. Assuming a fixed vaccine escape mutation probability per infection (p), the risk of a vaccine escape variant arising in a specified time period is $1-(1-p)^N$, where N represents the number of cases in that period. Crucially, this expression indicates that the vaccine escape risk is sensitive to background incidence; the risk of an escape variant appearing within a fixed time is an increasing function of incidence (figure). Reducing cases is not only beneficial for decreasing the pressure on health-care systems, but also for lowering the vaccine escape risk.

Of course, there are fundamental differences between using NPIs and



Published Online
April 13, 2021
[https://doi.org/10.1016/S1473-3099\(21\)00202-4](https://doi.org/10.1016/S1473-3099(21)00202-4)

See Online for appendix