

Is the impact of COVID-19 modulated by well-water arsenic in rural Bangladesh? Setting a baseline.

*Alexander van Geen¹, Prabhat Barnwal², Yiqian Wang², Nishat Jui³, Shabib Raihan³, Ashraful Haque³

1. Columbia University of New York, 2. Michigan State University, 3. Innovations for Poverty Action, Bangladesh

The first three known COVID-19 cases were reported in Bangladesh on March 7, 2020. Almost two months later, the official count exceeded 50,000 cases while the number of deaths attributed to COVID-19 was still below 1000. Even these numbers, widely held to be underestimates, show no sign that a plateau has been reached as of June 4, 2020. This contribution describes the launch of a series of phone-based surveys to gauge the impact of COVID-19 in rural Bangladesh. The new monitoring builds on a recently launched randomized-controlled trial across 135 villages of Bangladesh to compare the effectiveness of different ways of delivering well-water tests for arsenic in terms of triggering household responses that reduce exposure to arsenic. To set the stage for the trial, our field team visited during the middle two weeks of January 2020 a total of 16,000 households in person to conduct a census. Two cell phone numbers were recorded for each household at the time and these made it possible to start calling them during the two middle weeks of May. All households were asked if anyone had died in 2019 to establish the pre-COVID-19 mortality for this population of 75,000.

Household were also asked if anyone had died since the beginning of 2020. As of May, 2020, the number of deaths reported for 2019, corresponding to a crude mortality rate of 7.7 per 1000, was if anything higher than in 2020 after correcting for the portion of the year covered. There was no difference between 2019 and 2020 as of May 2020 either in the distribution among different causes of death, self-reported in broad categories, the distribution of ages at death, or the location of death. This could well have change dramatically by the time our second round of phone surveys is completed later this summer. When field activities resume, hopefully in September 2020, all 12,000 wells in the study village will be tested for arsenic and are anticipated to span a wide range of concentrations. By combining phone and field surveys, we will be uniquely positioned to ascertain if the documented impact of arsenic exposure on the immune system translated also into differential responses to COVID-19.

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