

SMS TEXT MESSAGES TO MONITOR THE COVERAGE DURING POLIO SUPPLEMENTARY IMMUNIZATION ACTIVITIES IN KARACHI, PAKISTAN

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ABSTRACT

BACKGROUND Karachi is the only major city in the world that has not been able to interrupt wild type polio transmission. Supplementary Immunization Activities (SIAs) are an important tool by which countries have sought to increase polio immunization coverage. However, more than 50 SIAs have so far failed to interrupt the transmission of poliovirus in Karachi. Cell phone use has seen a tremendous rise in Pakistan with more than 110 million subscribers. In this study, we are using the wide network of cell phone to monitor the coverage rates during SIAs in Karachi, Pakistan.

METHODS 3535 children less than 5 years old from all over Karachi and three high risk towns were included in the baseline data. The baseline survey included information on basic demographics, short message service (SMS) language preferences and household's GPS coordinates on a smart phone. After each SIA, a randomly selected 840 households are contacted via SMS inquiring if the vaccinator came to their house and whether their child received vaccine dose or not. In case there is no reply by SMS, same information is captured by phone call. The study will continue till 2013.

RESULTS A total of 3562 children consented for the baseline study. Out of 840 SMS sent after the first second and third SIA 62 (7%), 189 (23%) and 158 (19%) respectively replied to the SMS. 561 (67%), 374 (44%) and 394 (47%) respectively replied to phone call and 217 (27%), 277 (33%) and 288 (34%) respectively did not reply to SMS or phone call.

CONCLUSION The coverage data obtained through the SMS text and phone call replies matches with the data collected through ground team monitoring and other methods like LQAs. SMS based surveillance can be a way to determine population level coverage of polio immunization in a very short time period and this system can be upgraded to country level.