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Equipping India's community health worker supervisors with a mobile phone based supervisory application

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Background: India has a network of over 825,000 women who serve as Accredited Social Health Activists (ASHA) in rural communities. Until recently this cadre of community health workers lacked a supportive supervision structure and system. A 2011 evaluation of the program identified incomplete training, limited management and monitoring structures as major barriers to optimizing ASHA's effectiveness in delivering services at community level. CRS India in 2012 piloted a mHealth application for project supported supervisors in Kaushambi district in India that provided real time information to guide supportive supervision of ASHAs.

Methods & Materials: From September 2012 until September 2014, the supervisory application was implemented in one block of the district and data on supportive supervision and lessons learnt were shared with the government. In December 2013 Government of Uttar Pradesh decided to roll out a new cadre of community health workers, ASHA Sangini's to provide supportive supervision to ASHAs. CRS worked closely with the government to develop a mobile phone based application designed as a tool to improve ASHAs performance.

Results: Between September 2012 and September 2014, 16 quality parameters on engagement of ASHAs with clients have shown consistent improvement. The percentage of low coverage ASHAs has reduced from 55% to 15%, and average number of home visits during the antenatal period has almost doubled from 1.18 to 1.95. The application helps collecting functionality data on 10 key performance indicators which is used to provide structured feedback for improvement. Currently the application is helping 139 ASHA Sanginies to keep track of the performance of 2670 ASHAs.

Conclusion: Technology can be used to strengthen supportive supervision by providing real-time data on ASHA performance that Sanginis use to provide individualized feedback and guidance for improvement. It seems to have potential for further scale up and replication.

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An economic evaluation of a livestock anthrax vaccination program in high-risk regions of the country of Georgia

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Background: In 1995, legislation was passed requiring the prevention of epizootic diseases in Georgia through mandatory livestock anthrax vaccinations and other mechanisms. In 2007, responsibility for prophylactic livestock vaccinations shifted from the government to livestock owners. Between 2010 and 2012 there was a substantial reduction in anthrax vaccinations, a three-fold increase in livestock cases and a four-fold increase in human cases. The government resumed responsibility in 2013. We analyzed the economic feasibility of a government-funded livestock anthrax vaccination program in the predominately affected regions of Kvemo Kartli and Kakheti.

Methods & Materials: We used an Excel model to analyze program costs (livestock vaccination administration) and benefits (averted livestock and human cases) from a government perspective. Cost per human case averted was the primary outcome. Based on a prior study, we assumed a 1:1 ratio for animal to human cases, and calculated a minimum correction factor of 3.8 to account for livestock case underreporting. We performed sensitivity analyses to determine how changes to model inputs affected results. Sensitivity analyses were guided by subject matter expert opinion.

Results: We estimated first-year vaccination costs, at 100% coverage, in high-risk regions was 194,451 Georgian Lari (GEL)/\$86,743 US. This translated to 0.46 GEL/\$0.21 US per animal vaccinated (assuming 2 vaccines/animal in year 1). Vaccine, salary and transportation accounted for 80% of program costs. Accounting for underreporting, 46 livestock cases and 46 human cases would be averted. The cost per human case averted was 4,227 GEL/\$1,902 US. Simultaneously decreasing vaccine cost by 40% (from 0.08 GEL/\$0.05 US to 0.05 GEL/\$0.03 US), and increasing anthrax prevalence by 150% (from 0.011% to 0.027%) changed the cost per human case to 1,431 GEL/\$644 US.

Conclusion: These data can aid the government of Georgia in decision-making regarding continued funding of livestock anthrax vaccination programs.

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