CORRESPONDENCE

mHealth to enhance TB referrals: challenge in scaling up

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<http://dx.doi.org/10.5588/pha.17.0108>

I read the article by Chadha and colleagues in a recent issue of *Public Health Action* with great interest.¹ The authors demonstrated the effectiveness of an mHealth intervention among rural health care providers (RHCPs) by increasing the yield of presumptive TB case referrals. India is a high TB burden country, and tribal and remote areas are resource-constrained and face shortages of qualified medical personnel due to a lack of willingness to serve in these regions.² Empowering RHCPs via mHealth to improve the diagnosis and referral of presumptive TB cases is an important public health intervention for meeting the Stop TB goals. Although traditional interventions can also be used for health communication through information, education and communication campaigns, mHealth permits repeated reinforcement and reminders at very low cost. Nevertheless, I have the following concerns with regard to the scaling up of the intervention and the associated limitations.

First, there is potential in this study for significant Hawthorne bias, whereby individuals modify an aspect of their behaviour in response to their awareness of being observed. The authors reported that the RHCPs were mostly unqualified health workers. However, the awareness of and apprehension about being supervised could have favourably influenced TB referral practices among the RHCPs. There is an implicit assumption in the study that, before the intervention, the RHCPs were unable to identify and refer presumptive TB cases due to a lack of awareness or competence; however, such beliefs may be flawed in the absence of any baseline situational analysis. Nearly half of the DOTS providers in a North Indian district were unqualified health workers, which suggests that they are likely to be aware of the referral strategy. Furthermore, the RHCPs may have been aware of the presumptive TB referral mechanism earlier but preferred to continue treating such patients themselves due to the resulting economic gain. The

perceived high opportunity cost of early referral of presumptive TB patients and shifting them onto the public health care system could inhibit RHCP motivation in an unsupervised, real-world setting. Ultimately, long-term prospective studies that monitor treatment and referral strategy by (mHealth) trained RHCPs can show whether the gains made through mHealth interventions are sustainable over time.

Second, the authors indicated that there was a selection bias, as only RHCPs comfortable with using smartphone applications and mobile internet facilities were enrolled in the study. However, the overwhelming majority of Indians do not possess smartphones and might also not be familiar with utilising smartphone application technology, especially in rural India.⁴ Furthermore, patients may be unable to read SMS messages, especially women, due to high illiteracy. Voice calls may be more appropriate for such vulnerable populations.

Finally, concerns relating to privacy and societal conservatism can deprive female patients of mHealth benefits. Frontline health workers such as Accredited Social Health Activist (ASHA) workers, should be involved to sensitise women patients and increase the acceptability of mHealth.

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Received 22 November 2017
Accepted 30 November 2017

PHA 2018; 8(1): 29
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