EDITORIAL

Connecting patient care to global health trends by health app analytics

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The spectrum of mobile health applications, or 'apps', follows the supply chain of health services from storage of and access to knowledge, training and reference tools, diagnostic and treatment supply chain management, clinical care and direct patient services. Their potential for improving health services for the world's poor now seems obvious, as mobile phones rest in the hands of the majority of people in the developing world. In this issue of *Public Health Action*, Wright et al. report on the international use of a recent mobile health (mHealth) app developed by Médecins Sans Frontières (MSF) to support their own and other care providers with clinical care guidelines in remote and resource-limited settings.¹ The MSF Guidance app improved field accessibility of their guidelines over paper versions, which often suffered from limited supply and lack of accessibility in the field. The MSF guidelines are now freely available to anyone with an Android or iOS phone and (even intermittent) data connections. The app has the additional benefit of tracking the health subject matter accessed, and therefore has the potential to be used to track geographical outbreaks of certain conditions.

Usage analytics of the app, in this case offered freely by Google Analytics, have empowered the back end of the application to consolidate valuable information on geographical health interests of the app users, stamped in time. This is key. By using some basic selection criteria, such as time spent on each app page as an indication of what information is likely being consumed by the user (an algorithm that could eventually be further refined for big data analysis), geographic interest in disease conditions can be identified. This was illustrated by the Ebola page access peak in 2014, when guidelines were released to support the West Africa outbreak, and a spike in respiratory infection views in South Sudan in November. As the authors mention, many spikes may reflect users' general

educational needs, or interest in current global health issues; however, they may also indicate increased presentation of clinical syndromes that may precede definitive causal detection of outbreaks or other health trends. If evaluated in real-time, the approach could be an electronic flag to emerging health issues.

The authors note that one limitation is not being able to identify which users were MSF clinical staff; however, this may be interpreted as a strength. MSF currently operates in over 70 countries worldwide, yet the app was downloaded in 150 countries, indicating spillover in use and the potential to contribute to surveillance on an even larger scale. By publishing these findings, they are starting to build a publicly available database of clinician health information seeking. The MSF Guidance app, while used widely across the globe, is relatively new, and represents only a portion of the world's frontline clinical app users.² Others should be encouraged to publish their analytics. At a minimum, information sharing can provide static cross-sections of clinicians' needs and interests, akin to meta-analyses. Beyond that, globally interconnected real-time monitoring of front-line clinicians who are using health apps, regardless of their affiliation, could be a powerful way to monitor global trends from the front lines. Typical for MSF, the top three countries using their particular app were in areas of significant poverty and insecurity, ensuring the information technology revolution is reaching out to those who may need it most.

References

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Conflict of interest statement: Dr Lester is the co-founder and executive director of the WelTel International mHealth Society, a not-for-profit organisation providing mHealth services for patient care.