EDITORIAL

Epidemiological surveillance: information is for action

R. Waldman

<http://dx.doi.org/10.5588/pha.20.0048>

Well-functioning epidemiologic surveillance systems are such a fundamental characteristic of strong public health systems that they are frequently taken for granted. That is why it is so refreshing to read Makelele et al.'s evaluation of a surveillance system implemented by Médecins Sans Frontières in the Democratic Republic of Congo in this issue of *Public Health Action*.¹ Their evaluation loosely adheres to the classical evaluation framework promulgated by the US Centers for Disease Control and Prevention, which considers the development and implementation of surveillance systems the bedrock of public health programs.²

My own introduction to the importance, and the power, of surveillance came during the latter days of the WHO's Smallpox Eradication Campaign. The ultimate success of that program depended heavily on the detection of each and every outbreak (by the end, an outbreak was defined as a single case). However, as Makelele et al. stress, it is not only the detection of outbreaks, but also the steps taken in response to them that characterize an effective surveillance system. Intervention in response to alerts, sometimes referred to as the 'efferent arc' of the surveillance loop, cannot ever be passive and cannot ever be ignored. Instead, it requires a clear and concerted effort to verify the occurrence of an outbreak, to intervene in a way that both minimizes the health impact on the affected population and, perhaps most importantly, to interrupt transmission as quickly and as completely as possible.

The 'Pool d'Urgence Congo' (PUC) project was implemented by Médecins Sans Frontières (Paris, France) to supplement the health surveillance system of the Government of the Democratic Republic of Congo and focused solely on diseases of outbreak potential, and the results for cholera and measles alerts are presented here by Makelele et al. Of the more than 450 outbreaks that were detected, about one third were found as a result of active surveillance instituted by the PUC. However, response remained barely adequate—25% of

warranted investigations were not conducted, 17% of required indicated interventions were not undertaken, and delayed responses to outbreak investigations were frequent (>50% for measles).

That the reason given for this underperformance is 'insufficient operational capacity' only attests, once again, to the under-appreciated importance of epidemiologic surveillance and more specifically, to the need to provide adequate resources to its 'action' response arm. Nothing could sum up the situation better than William's Foege's words from 1976, as cited by Groseclose and Buckeridge: 'The reason for collecting, analyzing and disseminating information on a disease is to control that disease. Collection and analysis should not be allowed to consume resources if action does not follow. Appropriate action, therefore, becomes the ultimate goal and the final assessment of the earlier steps of a surveillance system'.³

Smallpox is gone. But epidemiologic surveillance, and especially of the interventions it guides, remains of the utmost contemporary importance. What good is testing for COVID-19 if action—isolation of cases and quarantine of traced contacts—does not follow? In all public health systems, the mantra should not be 'test, test, test', or 'detect, detect, detect', but rather 'test and act', or 'detect and intervene'. We are indebted to Makelele et al. for writing about their experiences in implementing all aspects of surveillance in a low-resource country. We can only hope to learn from them and to improve.

References

- 1 Makelele JPK, Ade S, Takarinda KC, Manzi M, Gil Cuesta J, Acma A, Yépez MM, Mashako M. Outcomes of cholera and measles outbreak alerts in the Democratic Republic of Congo. *Public Health Action* 2020; 10(3): 124–130.
- 2 Centers for Disease Control and Prevention. MMWR Recommendations and Reports. Framework for evaluating public health surveillance systems for early detection of outbreaks. 2004; 53(RR05): 1–11.
- 3 Groseclose SL, Buckeridge DL. Public health surveillance systems: recent advances in their use and evaluation. *Annu Rev Public Health* 2017; 38: 57–79.

AFFILIATION

George Washington University School of Public Health and Health Services, Washington DC, USA

CORRESPONDENCE

Ron Waldman, George Washington University School of Public Health and Health Services, Washington DC 20006-1008, USA
email: ronwaldman@email.gwu.edu

Conflicts of interest: none declared.

Received 12 August 2020
Accepted 13 August 2020

PHA 2020; 10(3): 86
© 2020 The Union