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Trying to improve syndromic surveillance: the history of exposure

To the Editor:

We read with interest the paper by Cooper and colleagues [1]. We concur with the conclusions of the paper. As public health professionals covering a city of 5·3 million persons and involved in infectious disease surveillance and outbreak investigation, we also face the challenge of syndromic surveillance [2]. Despite an emergency information system that records emergency admissions from all emergency departments in our region [3], and despite a law stating that it is a crime not to report an infectious disease to the health authorities, and despite the increase in our profile due to TV serials about field epidemiologists, even we frequently hear about important outbreaks from the radio or newspapers.

How can the media detect small clusters of disease? What sources do they use for their information? How is it possible that journalists without any experience of infectious disease, epidemiology or surveillance are so good at identifying outbreaks?

A partial answer to these questions is that the media listen more attentively and respond more quickly to local rumours, and although they have no knowledge of the disease, they do know a lot about people. In other words people identify an outbreak based on the anamnesis (history of the exposure) and not on the clinical factors (symptoms, signs and laboratory findings).

A brief analysis of the literature regarding syndromic surveillance [4–8] did not reveal many papers that propose including anamnestic criteria to increase sensitivity and specificity of the surveillance – even though identifying the history of an exposure is as fundamental to syndromic surveillance as it is to

foodborne disease surveillance. These criteria were vital in detecting the few cases of SARS in Italy [9], and their application is also vital when dealing with more common illnesses such as foodborne gastroenteritis.

The main problem in introducing anamnestic criteria to case definitions is that potential exposures of interest can change rapidly and sometimes unpredictably: travel exposure, the easiest to monitor, changes according to the epidemics and to the disease under surveillance; other types of exposure, such as anthrax spores in letters, cannot be predicted. It is exactly this second type of exposure that the media and the *vox populi* are so responsive to. The information systems on which our surveillance systems are based do not have such intuitive power. In our opinion, the future challenge in syndromic surveillance is to include the anamnesis of the exposure in the case definition, despite its unpredictable nature, which could increase both the sensitivity and specificity simultaneously; in other words, we need an intuitive system of surveillance.

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Declaration of Interest

None.

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