

Surveillance and disease control policy: the good, the bad, the ugly

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Detection of disease remains the cornerstone of disease control; without appropriate systems of surveillance informing international or national policies on prevalence benchmarks, commentary on successful intervention, however this may be defined, can only be qualitative. Whilst exotic and notifiable disease epidemics are a focus for stringent attention, particularly during eradication campaigns, efforts directed towards endemic disease are often less well defined.

In seeking to provide best advice on realistic and achievable goals in disease reduction, the Scottish Government has established a programme examining the availability and quality of data, accuracy and precision of prevalence estimation based on these data and the minimum detectable size of any intervention. The project is focussed on a select number of diseases identified as priority by governmental and industry advisory groups. Through systematic review of available literature, request for access to government funded passive surveillance data and comparison of calculated effect size expectations with formal and informally established targets, the results of the programme indicate that, in the majority of cases, significant disparity can be identified between the scientific reality and policy confidence in the robustness of the procedures.

The nature of the data, in particular their largely cross-sectional emphasis, the relationship to surveillance data acquired actively, inclusion of test performance characteristics and the structure of the animal population surveyed were factors that were not transparent to the end-user, if considered at all. Not surprisingly, quantitative techniques for establishing prevalence, confidence intervals and minimum detectable effect size were largely disease specific in their requirements.

For policy to be delivered, any attempts at disease prevalence reduction must be informed by the data currently available and the techniques in use and should be based upon favourable outcomes of economic analyses.