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Improving Animal Health Surveillance for Biothreat Pathogens through Farmer-Based Training

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Abstract:
Introduction:
According to the standards set by the World Organisation for Animal Health (WOAH), the core mission of the Veterinary Services (VS) in all countries of the world is control of animal diseases of the public good, which include transboundary animal diseases, biothreat pathogens, and emerging diseases.1 The VS is composed of three essential components, and all components must be fully functional and work together to effectively undertake surveillance which allows for sound policy decisions to control. The three functions include: good policy formulations; affordable, sustainable, and accurate laboratory diagnostics; and field awareness to allow for sampling and laboratory submissions of suspect diseases. Of the three functions, the latter is usually the least developed, as field animal health workers and farmers are often unaware or insufficiently trained in recognition of key diseases and the importance of reporting in order to effect control. See Figure 1.
Methods:
The novel program described here entailed the training of farmers and field veterinarians in all governorates of Iraq. In a series of 59 workshops, over 2,000 farmers and veterinarians received training on recognition and reporting of serious diseases, and the importance of being part of the surveillance system, using an established manual translated to the local languages.2 All information was delivered in the local language, with the government veterinarians of each governorate delivering the messages and interacting robustly with the farmers. To assess efficacy of the training, reports submitted from every governorate were averaged over a previous, pre-pandemic reporting period spanning three years, and then compared to the numbers of reports of suspect diseases submitted in the same period in the year following the workshop trainings.
Results:
Although post-training reporting data is still being collected, preliminary analysis reveals a 78% increase in reporting in the period subsequent to the trainings.
Conclusions:
These results demonstrate that educating farmers and including them in the surveillance system enhances overall reporting and can effectively promote subsequent control of pathogens of concern. Through the program, which emphasized getting samples to the laboratory to allow for diagnosis, veterinarians expressed that they had insufficient expertise to be able to collect good samples and package appropriately. As a result, the program expanded to conduct necropsy workshops with government and private veterinarians, with wide distribution of manuals, in the local language, on necropsy procedures, sample collection, and packaging.3

Caption:
Figure 1. Diagram showing the three critical arms of the Veterinary Services in each country, as prescribed by the World Organisation for Animal Health. The red box depicts the areas most in need of strengthening in the majority of resource-limited countries.