MJA The Medical Journal of Australia Media Release

ONE HEALTH: NATIONAL CDC KEY TO INTEGRATED SYSTEM

EMBARGOED UNTIL 12:01am Monday 24 October 2022

THE establishment of a national Centre for Disease Control (CDC) would help Australia embrace the One Health concept, which recognises that protection of human health requires a collaborative approach that can more nimbly tackle problems at the interface of human, animal and environmental health.

Dr Sandra Steele from the University of Melbourne and colleagues Dr Siobhan Mor (University of Liverpool) and Associate Professor Jenny-Ann Toribio (University of Sydney) wrote in the *Medical Journal of Australia* today that the emergence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has clearly demonstrated our global vulnerability to emerging infectious diseases.

"Zoonoses — diseases that transmit from vertebrate animals to humans — are twice as likely to be implicated as emerging diseases than non-zoonoses," they wrote.

"Such diseases have been increasingly linked to wildlife, which are a source of infection for humans and domestic animals, with viral spillover driven by human-induced changes in land use, agricultural intensification, and wildlife exploitation, among other things.

"Sadly, warnings from experts about the dangers of unsustainable development and its impact on natural systems remained largely unheeded by politicians and policymakers."

Australia is the only country in the Organisation for Economic Co-operation and Development (OECD) that does not have a national CDC.

"Under current structures, the national coordination and leadership for prevention and control of communicable diseases, including zoonoses, are led by the Communicable Diseases Network Australia," wrote Steele and colleagues. "Formal representation of animal health professionals within this structure is limited to one veterinarian.

"The management of zoonotic diseases outbreaks depends on established working relationships and protocols between federal and state or territory human and animal health departments, the strength of which varies across jurisdictions."

The One Health concept is an approach that was recently endorsed by G20 Health Ministers and the Quadripartite – comprised of the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (WOAH, formerly OIE), the United Nations Environment Programme (UNEP) and the World Health Organization (WHO).

"The new definition adopted by the Quadripartite makes clear that, beyond issues such as zoonoses, antimicrobial resistance and food safety, One Health is foremost about contributing to more sustainable development of the planet," wrote Steele and colleagues.

They suggested six key aspects of the vision of the One Health concept:

1. "There is a clear need to establish a One Health governance mechanism to provide leadership and foster collaboration, coordination and communication between sectors and the community; this could be achieved by embedding a One Health coordination mechanism in a newly formed Australian CDC, facilitating cooperative and equitable engagement across sectors";

2. "Sharing of health intelligence information across sectors would enable timely risk assessment and early response to zoonoses and to other environmental hazards affecting humans, animals, and

ecosystem integrity. This would require compatible information technology systems that facilitate joint analysis and dissemination while maintaining data confidentiality";

3. "Even though the primary role of doctors is to manage disease in their human patients, veterinarians are trained in recognising and managing risks posed by zoonoses, as well as implementing treatment in animal patients where indicated; inclusion of One Health in clinical training and continuing professional education would build workforce capacity of frontline service providers, strengthening knowledge and skills in relevant areas and also facilitating mutual understanding of the complementary skill sets of each profession";

4. "Integrated management of zoonoses would provide more efficient and cost-effective delivery of health services; Formal incorporation of veterinarians into the health system as allied health professionals who have specialist training in zoonoses would improve both continuity of care and health outcomes through a more holistic approach to management of both human and animal patients; beyond zoonoses, referral could provide additional benefits in areas such as animal-assisted therapies and management of work, health and safety issues in animal industries";

5. "a One Health system would require shared regulatory responsibility for medications used in humans, animals and horticultural industries, as well as management of the impact of pharmaceutical pollution on ecosystem health; of particular concern, environmental exposure of microbes to antimicrobials facilitates selection for antimicrobial resistance; this needs to be managed alongside antimicrobial stewardship programs in human and animal health to ensure continued treatment success"; and

6. "in a One Health system, investigation and response to zoonoses could be jointly financed by human and animal health sectors, proportionate to the impact on each sector; costs of veterinary interventions are largely born by animal owners, creating barriers to laboratory investigation; under a One Health system, costs incurred when ruling out a zoonotic disease or performing culture and sensitivity tests to inform antibiotic prescription in an animal patient could be considered an eligible cost under an expanded Medicare scheme, due to the implications for human health".

"Although CDCs around the world, including in the United States, Europe and Africa, have embraced One Health, this has not yet been a topic of substantive discussion in Australia," Steele and colleagues concluded.

"We implore policymakers to seize this opportunity to create a truly integrated centre that can tackle future health threats through fostering multisectoral, One Health approaches in Australia."

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