ONEHealthSG

Singapore's One Health Our Highlights

Milestones in Singapore's One Health journey

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Introduction

Singapore made early moves to collaborate and work together as One Health formally since 2012, building on the already whole-of-government approach toward safeguarding human, animal, and environmental health.

The One Health Coordinating Committee (OHCC) provides strategic direction and sets priorities for inter-agency coordination and collaboration.

The One Health Working Group works under the direction of the OHCC to implement and review programmes and action plans. Project teams may be formed for identified projects. Over the years, this framework has yielded positive outcomes, including:

- Coordinated training for capability building.
- Coordinated efforts to combat antimicrobial resistance.
- Development of joint protocols for zoonotic and foodborne disease outbreaks.

Today, the public agencies involved in One Health are:

- Communicable Diseases Agency (CDA)
- the Animal Veterinary Service (AVS), a cluster of the National Parks Board (NParks)
- the National Environment Agency (NEA)
- PUB, Singapore's National Water Agency
- the Singapore Food Agency (SFA)

To enhance the existing national multisectoral One Health coordination mechanism, the One Health Office was established in 2024, under the auspices of CDA. The office bolsters intersectoral governance, policy, and advocacy development. Its primary function is to support planning and coordination of One Health activities, while fostering stronger cooperation both within and across various entities.

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ONEHealthSG

ONEHealthSG aims to build health resilience against shared threats across the human-animal-environment interface through a comprehensive approach based on the '4Cs' core principles: communication, coordination, collaboration, and capacity building (Figure 1).

Since 2012, Singapore's whole-of-government approach to address One Health issues has fostered interdisciplinary partnerships, ensured seamless coordination, promoted transparent communication, and developed cross-use capacities to address complex health challenges in Singapore.

We will continue to do so, by building practical connections and inclusive conversations, as exemplified in the Spotlight features to follow.

Figure 1:
Diagram depicting the '4Cs' principles to build health resilience against One Health threats across the human-animal-environment interface (adapted from the OHHLEP [1], Credit: CDA and SFA)

[1] Mettenleiter, T.C., Markotter, W., Charron, D.F. et al. The One Health High-Level Expert Panel (OHHLEP). (2023). The One Health High-Level Expert Panel (OHHLEP). One Health Outlook, 5(1).

01

Spotlight 01: Collaboration

One Health Biosurveillance and Zoonotic Disease Prioritisation

Biosurveillance

A One Health approach to biosurveillance aims to achieve early warning and detection of a possible disease incursion, contribute to overall situational awareness (whereby joint risk assessment is an integral component), and enable informed decision-making for pro-active management.

Singapore, the One Health agencies i.e. the Ministry of Health (MOH), National Environment Agency (NEA), National Parks Board (NParks), Singapore's National Water Agency (PUB), and Singapore Food Agency (SFA), have jointly developed the One Health Biosurveillance Framework (Figure 2) to safeguard against emerging and re-emerging disease threats. The national framework comprises four strategic thrusts of scanning and early detection management of hosts and vectors, inter-agency information integration, and science and technology.

Under the One Health Biosurveillance Framework, One Health agencies work together towards enhancing the current biosurveillance and epidemic preparedness landscape.

Areas of collaboration by One Health agencies (MOH, NEA, NParks, PUB, and SFA) include:

- Joint risk assessments e.g. Highly pathogenic avian influenza (HPAI), H5N1, and mpox (formerly known as monkeypox).
- Joint follow-up actions for leptospirosis and COVID-19 including workflow for management of mpox cases in people and their pets.
- Joint contingency preparedness i.e. Joint NParks/ SFA HPAI table-top and ground deployment exercises, with participation of all OH agencies.
- Joint intelligence and horizon scanning for zoonotic diseases, with reports shared across OH agencies.

With a One Health approach to biosurveillance and epidemic preparedness, the framework will guide ecologically informed interventions for the natural and urban environment, to mitigate the public health impact from risk hotspots in conjunction with climatic and social risk factors.

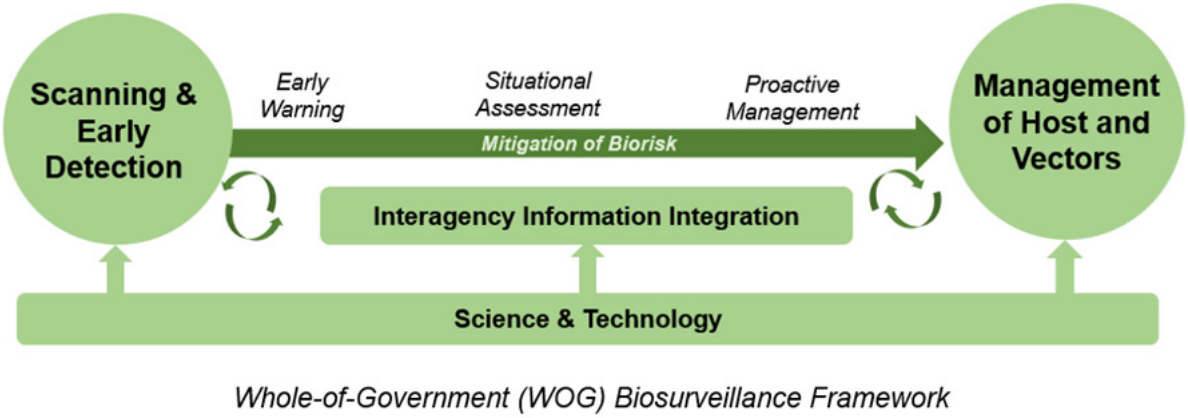


Figure 2:
One Health Biosurveillance Framework (Credit: NParks).

Zoonotic Disease Prioritisation

The One Health Zoonotic Disease Prioritisation (OHZDP) workshop for Singapore held in 19-21 April 2022 aimed to prioritise zoonotic diseases of greatest concern using a One Health approach with equal inputs from representatives of human, animal (livestock and wildlife), and environmental health sectors and other relevant partners.

The specific workshop goals were to use a One Health approach to:

1. Prioritise zoonotic diseases of greatest concern for Singapore.
2. Develop next steps and action plans to address the priority zoonotic diseases in collaboration with One Health agencies.

During the workshop, participants developed a list of zoonotic diseases for prioritisation for Singapore, defined the criteria for prioritisation, and determined questions and weights relevant to each criterion. A total of five zoonotic diseases were identified as a priority using the mixed methods One Health Zoonotic Disease Prioritisation Process, developed by the U.S. Centers for Disease Control and Prevention (CDC).

The priority zoonotic diseases for a multisectoral One Health collaboration in Singapore are:

- Avian Influenza
- Coronavirus Disease 2019 (COVID-19)
- Salmonellosis (non-typhoidal)
- Yellow Fever
- Leptospirosis

Singapore also identified ten other zoonotic diseases for close monitoring. These diseases are Nipah Virus Disease, Rabies, Japanese Encephalitis, Dengue, Zika, Hantavirus Disease, Campylobacteriosis, Hepatitis E, Severe Acute Respiratory Syndrome (SARS), and Middle Eastern Respiratory Syndrome (MERS).

The next steps and action plans were identified to jointly address these zoonotic diseases using a One Health approach including human, animal, and environmental health ministries/agencies, and other relevant sectors.

Photo of participants at the One Health Zoonotic Disease Prioritisation (OHZDP) workshop in 2022 (Photo credit: NParks).

References:

- Omotolani Badara. (2023). The Quadripartite launches a guide to support countries implement One Health approach - WOAH - World Organisation for Animal Health.
- Ministry of Health. (2022). Situational and Risk Assessment Report for One Health Hazards.
- Biosurveillance Research Programme. (2025). Nparks.gov.sg.

02

Spotlight 02: Collaboration

Singapore's Innovative Wastewater Surveillance Programme - A One Health Success Story

In a remarkable display of whole-of-nation coordination, Singapore emerged as an early pioneer in wastewater surveillance for COVID-19 detection. Since February 2020, the National Environment Agency's Environmental Health Institute (NEA EHI) launched wastewater surveillance for COVID-19. This innovative programme exemplifies how environmental monitoring, public health surveillance, and water management can work in perfect synergy to protect community health.

The initiative brought together key agencies in a coordinated effort: NEA EHI lead the scientific development, sampling network expansion and laboratory testing, Singapore's National Water Agency (PUB) provided access to wastewater samples through its extensive water reclamation network, and the Ministry of Health (MOH) used the data to guide public health actions. This multi-agency collaboration proved particularly valuable during critical phases of the pandemic, enabling early detection of COVID-19 cases in workers' dormitories and residential areas.

From modest beginnings of eight sampling sites, the network has expanded to over 500 locations nationwide, including residential areas, student hostels, and welfare homes. This remarkable growth was made possible through strong inter-agency partnerships.

The programme's success has been further enhanced by collaborations with various public and academic institutions, as well as industry partners. Innovative solutions like the Autosampler Live Monitoring System (ALMS) and the NEA-Wastewater Aliquoting Valence Engine (NEA-WAVE), combined with cutting-edge research and testing capabilities from local universities and commercial laboratories, enable the analysis of up to 5,000 samples weekly at peak operations.

Left: photo of field work | Right: photo of lab work (Photo credits: NEA).

The system's versatility extends well beyond COVID-19. Since mid-2023, the infrastructure has been successfully adapted to monitor other health threats, including Zika and Mpox. This demonstrates how Singapore's One Health approach can be effectively pivoted to address various public health challenges. Our expertise and established capabilities have earned Singapore a place in global health surveillance networks, including WHO's CoViNet and the Global Wastewater Consortium, positioning us as a valued contributor to international public health resilience while maintaining a robust early warning system for emerging health threats in our community.

References:

- National Environment Agency. (2020). NEA Leads Scientific Team In Wastewater Surveillance Trials For Assessment Of COVID-19 Transmission.
- National Environment Agency. (2022). Linkedin.com.
- High Standards of Public Health. (2021). Nea.gov.sg.
- National Environment Agency. (2024) Media factsheet - Wastewater-based surveillance for COVID-19 and Zika
- PUB, Singapore's National Water Agency. (2024). Media fact sheet - PUB's role in wastewater surveillance during COVID-19 pandemic.

03

Spotlight 03: Coordination

One Health response to Group B Streptococcus outbreak

In 2015, Singapore faced a Group B Streptococcus (GBS) outbreak linked to the consumption of raw freshwater fish, specifically “Asian bighead carp” and “snakehead” species. The management of the outbreak demonstrated the effectiveness of Singapore’s One Health approach, enabled by key legislations that empowered coordinated action across different sectors and agencies:

- Infectious Diseases Act: Empowered the Ministry of Health to request case listings from all hospitals, facilitating comprehensive surveillance and investigation.
- Environmental Public Health Act and Sale of Food Act: Enabled NEA and then-AVA (now SFA) to conduct field investigations at various locations, including sources and distribution chains of raw fish.
- Sale of Food Act: Allowed authorities to require licensed food shops and stallholders to temporarily stop sales of selected fish species served raw.
- Wholesome Meat and Fish Act: Supported the investigation and regulation of fish supply chains.

These legislations facilitated a multi-agency response, and the coordinated approach enabled:

- Swift identification of the GBS ST283 strain as the cause.
- Immediate precautionary measures in food establishments.
- Effective risk communication to the public.
- Implementation of long-term food safety regulations.

GBS is one of the parameters for food safety monitoring programme (Photo credit: SFA).

References:

- Singapore Food Agency. (2023). GBS and the Consumption of Raw Freshwater Fish.
- TODAY. (2015). Bacteria outbreak: Stalls told to stop selling Chinese-style raw-fish dishes.
- Chau, M.L., Chen, S.L., et al. (2017). Group B Streptococcus Infections Caused by Improper Sourcing and Handling of Fish for Raw Consumption, Singapore, 2015–2016. Emerging Infectious Diseases, 23(12).

04 Spotlight 04: Coordination

One Health agencies collaborate in disease investigation and coordinate our response for a range of health threats to humans and animals, including infectious diseases and environmental hazards. Two examples are illustrated here:

1 Investigation into Canine Leptospirosis Cases

In January 2024, the National Parks Board (NParks) was alerted to four cases of canine leptospirosis in a neighbourhood, occurring within about 2 weeks. Leptospirosis is a bacterial disease that occurs worldwide and affects both animals and humans. Rats are the primary reservoir host for the bacteria, capable of spreading *Leptospira* through their urine. While leptospirosis is endemic in Singapore, the occurrence of several cases in close proximity and within a short timespan suggested a disease outbreak was occurring. As such, the OH agencies decided to investigate further to establish the cause of the outbreak and to prevent further cases.

A joint investigation by NParks, the National Environment Agency (NEA) and Singapore Food Agency (SFA) was initiated to investigate the outbreak:

- NParks interviewed the affected owners and veterinarians and established that the dogs had likely picked up the infection outdoors during their walks. NParks also issued a general advisory to all licensed veterinarians to remind on reporting suspected and confirmed cases of canine leptospirosis and published a public advisory on the AVS website to educate the public on preventive measures such as dog vaccination.
- A joint inspection by NParks and NEA detected several rat burrows in the area that included HDB blocks, a market and food centre, and commercial buildings. Rat control measures were promptly implemented at the identified burrow locations. The trapped rats were also PCR tested by NEA which revealed that some of the rats were carrying *Leptospira* bacteria, confirming their potential role in spreading the disease.
- NEA and SFA carried out additional inspections of shop units along Upper Thomson Road and advised on proper refuse management and measures to reduce rats' access to food and harbourage, with enforcement actions taken where necessary.

The outbreak of leptospirosis in the affected neighbourhood was resolved by early February 2024, with no new reported cases in animals. The outbreak was likely due to environmental factors and the presence of *Leptospira* bacteria in the area. The increased rat activity and prevailing wet weather from November 2023 – January 2024 created conditions that facilitated the survival and spread of *Leptospira* in the environment. The joint investigation underscores the importance of a multi-pronged approach including environmental management, vaccination, risk communication, and collaborative public health strategies to prevent and manage leptospirosis outbreaks in both animals and humans.

A - Rat burrow detected along a planter area, B – Rat trap placed near empty pet food cans, and C – Pieces of bread were also observed (Photo credits: NEA).

2 Investigation of Potential Poisoning of Dogs

In October 2023, two dogs from different households that separately visited an open field died shortly after their respective visits. Given that the dogs visited the fields within 24 hours from one another, concerns were raised about possible poisoning at the open field. The field was subsequently cordoned off for a joint One Health investigation involving NEA, SFA, and NParks:

- NParks interviewed the pet owners and veterinarians and determined that the case histories and clinical signs were more consistent with toxicological causes than infectious diseases. NParks also engaged pet owners in the area to look for more potential poisoning cases.
- NEA conducted extensive soil sampling throughout the field, as well as obtained control samples from other nearby parks. The samples were screened for the presence of 40 pesticide active ingredients (AIs), that are classified as highly hazardous according to international criteria, have potential neurotoxic properties, or were known to be used by vector control operators in the surrounding areas. Though DEET, pyriproxyfen, and etofenprox were detected, they were at trace levels that posed negligible risk to the dogs. The pesticide AIs were also detected in the control sites suggesting they are commonly present in the vicinity.
- NEA and SFA conducted comprehensive non-target screening for both organic and inorganic chemicals that could have been ingested by the affected dogs. These chemicals included anticoagulant rodenticides as well as a range of heavy metals, such as lead, mercury, arsenic, cadmium, and manganese, which can be neurotoxic at high doses or with prolonged exposure. No notable chemical hazards were detected from the testing.

The joint investigation found no evidence of widespread chemical contamination of public health concern. NParks has not received any further reports of similar cases in the vicinity or other parts of Singapore. With the conclusion of the joint investigation, the open field was reopened in November 2023.

Above: Collection of soil samples using an auger (Photo credit: NEA).

Left: NEA colleagues conducting field sampling (Photo credit: NEA).

05

Spotlight 05: Communications

World One Health Congress & ASEAN unites for One Health

In November 2022, Singapore took centre stage in the global One Health community by hosting the 7th World One Health Congress (WOHC). This event, organised by the SingHealth Duke-NUS Global Health Institute, under the auspices of SingHealth Duke-NUS Academic Medical Centre, brought together experts from around the world to discuss critical topics such as antimicrobial resistance, clinical practice innovations, and pandemic preparedness. The congress, themed "Integrating Science, Policy, and Clinical Practice: A One Health Imperative Post-COVID-19," showcased Singapore's capability in One Health science and research, and provided a platform for global knowledge exchange.

Experts from around the world and diverse backgrounds covered topics ranging from Antimicrobial Resistance (AMR), Impact on and Innovations in Clinical Practice (IICP), One Health Science (OHS), Pandemic Preparedness and Health Systems Resilience (PPHSR), to Policy, Environment and Biosecurity (PEB).

Photo at the 7th World One Health Congress hosted in Singapore (Photo credit: SingHealth Duke-NUS Academic Medical Centre).

On the regional front, Singapore has helped to shape ASEAN's One Health agenda. Recognising the vulnerability of Southeast Asian nations to epidemics and pandemics, Singapore has actively contributed to the development of the ASEAN One Health Network and the ASEAN One Health Joint Plan of Action, launched in June 2024. These initiatives aim to strengthen multisectoral collaboration and coordination across the region, breaking down traditional barriers between human, animal, plant, and environmental health sectors.

The ASEAN One Health Network and One Health Plan of Action strengthen regional multisectoral collaboration. These initiatives bring together key representatives from various ASEAN bodies, including health, agriculture, forestry, and environment sectors. The collaboration also involves the ASEAN Secretariat, the Indonesian Ministry of Foreign Affairs, and international agencies, ensuring a comprehensive approach to One Health challenges in Southeast Asia.

Photo at the First ASEAN One Health Network (AOHN) meeting (Photo credit: CDA).

References and photo credits:

- SingHealth. (2024). Facebook.com.
- Reach, G. (2016). 7th World One Health Congress. Onehealthcommission.org.
- Association of Southeast Asian Nations (ASEAN).(2025). Asean.org.
- Thai-German Cooperation. (2024). Thai-German-Cooperation.info.

06

Spotlight 06: Communications

Joint One Health Risk Assessment for emerging infectious diseases

Singapore adopts a One Health approach to emerging and re-emerging health threats, involving close collaboration between National Parks Board (NParks), Communicable Diseases Agency (CDA), Singapore Food Agency (SFA), National Environment Agency (NEA), and Singapore's National Water Agency (PUB).

Biosurveillance and biosecurity must span human, animal, and environmental health domains to effectively address emerging infectious diseases. When well-planned and implemented, these measures provide critical early warning of disease incursion, situational awareness during an outbreak, and guidance for disease control measures. Recognising the importance of multi-sectoral collaboration, Singapore's One Health agencies conduct joint risk assessments to support informed decision-making and develop proactive, evidence-based management plans for emerging infectious diseases.

The Situational and Risk Assessment Report for One Health Hazards is a multi-sectoral report by Singapore's One Health agencies to provide updates on monitored public health events, including joint risk assessments, and summaries of emerging One Health events.

(Photo credits: One Health Agencies)

Joint risk assessment for HPAI (Issue 2, published Sep 2023)

High pathogenicity avian influenza (HPAI) is a viral disease primarily infecting wild and domestic birds worldwide. However, since 2021, outbreaks have become more frequent and severe. The virus established itself in many new regions; and it has spilled over into mammals with increasing frequency and severity. While the HPAI subtype spreading globally is still mainly adapted to birds, outbreak investigations and scientific analyses all point to the looming possibility of the virus adapting to mammals or even humans—a major threat to human and animal health.

Recognising the potentially devastating consequences of a HPAI outbreak in Singapore, NParks and CDA jointly updated Singapore's HPAI joint risk assessment in 2023, with close collaboration with SFA, NEA, and PUB. This assessment detailed the available scientific understanding of the disease, reported key developments in the global outbreak situation, and evaluated local measures in place to mitigate the incursion of HPAI into Singapore.

In Singapore, no animal or human cases of A(H5N1) infection have been detected. The overall assessment of risk to Singapore currently remains low, and biosurveillance and biosecurity measures will continue to be maintained. CDA, NParks, SFA, and other One Health agencies will continue to closely monitor the global HPAI A(H5N1) situation and the development of the virus.

Joint risk assessment for Mpox (Issue 1, published Nov 2022)

Mpox, formerly known as monkeypox, is a viral disease that occurs naturally in wild mammals in Central and West Africa. While it was originally a rare zoonotic disease, it began to spread human-to-human and subsequently caused two major multi-country outbreaks the World Health Organization has called Public Health Events of International Concern (PHEIC): 2022–23, and 2024 – present.

Although the monkeypox virus (MPXV) lineages causing the multi-country disease outbreak, known as clade Ib and IIb, primarily transmit from human to human, the global scientific and public health community has been concerned about the possible implications for animal health. While there are no definitively confirmed cases of clade Ib/IIb MPXV in animals, since these viruses originated as animal diseases, we cannot rule out the possibility of a wild or domestic animal becoming infected – which would complicate efforts to monitor and control the spread of mpox.

In view of this, Singapore again adopted a One Health approach to risk assessment and management. This effort was jointly led by NParks and CDA, with specialised assessments by SFA for foodborne risk, and NEA and PUB for environmental risks. With all One Health agencies providing domain expertise and closely collaborating, we were able to comprehensively take stock of our disease surveillance, mitigation, and contingency plans. Inter-agency discussions helped to integrate disease investigation and case management workflows, further streamlining our ability to respond to unusual mpox disease events.

To date Singapore has no clade Ib human cases. A low number of clade IIb human cases sporadically occur, which are monitored closely by CDA and in line with current assessments of the global disease situation. The overall risk for mpox is currently assessed as low, and existing biosurveillance and biosecurity measures will continue to be maintained.

References and photo credits:

- Situational and Risk Assessment Report for One Health Hazards. (2025). Communicable Diseases Agency.

07

Spotlight 07: Capacity building

Singapore Field Epidemiology Training Programme (S-FETP)

The Singapore Field Epidemiology Training Programme (S-FETP), a collaboration between the Saw Swee Hock School of Public Health and NCID, offers multi-sectoral training in field investigation practices. It adopts a comprehensive approach to health security, encompassing human health, environmental factors, animal health, food safety, and social resilience.

S-FETP serves as a national asset, building capacity across society to defend against emerging threats. The programme combines field epidemiology methods, community engagement, and holistic education. Lessons from COVID-19 have reinforced the importance of disease prevention and community preparedness.

Experienced One Health trainers and epidemic intelligence faculty conduct classes, overseen by the S-FETP Practice Board. Trainees investigate diverse issues, creating community health profiles to identify at-risk groups for targeted interventions. This platform aims to develop a sustainable field epidemiology workforce equipped to tackle future public health challenges.

Left: S-FETP training session | Right: Personal Protective Equipment (PPE) training exercise (Photo credits: One Health Agencies).

References and photo credits:

- Jin, E. (2021). Strengthening Our Field Epidemiology Capacity to Combat Emerging Diseases and Pandemic Threats. Saw Swee Hock School of Public Health.

08

Spotlight 08: Capacity building

Inter-agency Vector Biosurveillance to Enhance Understanding of Vectors and Vector-Borne Diseases

Surveillance of emerging vector-borne diseases in animal hosts and their vectors is critical for characterising public health risks and informing mitigation strategies. However, vector surveillance remains limited due to a shortage of entomologists skilled in complex morphological identification and insufficient resources for detecting vector-borne pathogens.

In Singapore, *Leishmania infantum* in dogs was historically considered exotic, with only sporadic clinical cases imported from endemic regions. Similarly, human leishmaniasis in Singapore had only been reported in individuals who had travelled to endemic areas. However, no studies had previously investigated the presence of sandflies, the vectors for leishmaniasis, in Singapore.

In 2020, Singapore detected its first cases of leishmaniasis in two free-roaming dogs in the eastern region. Follow-up surveillance of 36 dogs from the same area and broader veterinary monitoring revealed no additional cases, suggesting an isolated incident rather than widespread transmission.

To better assess the public health risk of potential spillover to human populations, the National Parks Agency (NParks) and the National Environment Agency (NEA) established a collaborative vector biosurveillance programme. This partnership enabled sharing of expertise and resources, with NEA conducting complex morphological identification and NParks performing pathogen testing of sandflies.

NParks and NEA jointly initiated targeted surveys for phlebotomine vectors in areas where the canine index cases were found and in animal quarantine facilities. Despite this targeted approach, no sandflies were initially collected. This highlighted the need to expand entomological surveillance to better understand the diversity and distribution of phlebotomine vectors across various green and grey spaces.

Subsequent vector biosurveillance led to Singapore's first documented presence of sandflies, underscoring the importance of continued monitoring, particularly as the region's status as a major travel hub increases the risk of leishmaniasis introduction. The recent findings of canine leishmaniasis in local dogs further amplify the threat of disease transmission. Continuous monitoring and understanding of sandfly diversity and ecology remain essential for developing effective public health strategies and early warning systems to manage this risk.

Deployment of novel vector monitoring tool (Photo credit: NEA).

09

Spotlight 09: Capacity building

Exercise Gallus X: Protection Through Preparedness

High Pathogenicity Avian Influenza (HPAI) is a highly contagious viral infection that mainly affects birds. Sporadic infections of mammals and humans have been reported through direct or indirect exposure to infected birds. The ongoing worldwide outbreak of HPAI strain H5N1 has led to significant deaths in both wild and domestic poultry worldwide, while showing concerning spread to mammalian species. This global situation underscores the need for planning and preparedness to respond rapidly to potential incursions into Singapore.

Exercise Gallus X

Since 2002, Singapore has prepared for outbreaks of HPAI at the border, local poultry farms, poultry slaughterhouses, and/or bird holding premises. HPAI contingency exercises, code named "Exercise Gallus", have been carried out to validate HPAI emergency plans and SOPs in the event of an introduction. From table top exercises to ground deployment exercises involving mobilisation of manpower, outfitting with personnel protective equipment (PPE), and depopulation of poultry at the various premises, these plans cover various aspects:

a) The reporting system for suspect cases, quarantine of suspected premises and outbreak investigation.

b) Activation and recall of personnel in a suspected outbreak.

c) Staging and deployment of personnel.

d) Testing the logistics support for the operations.

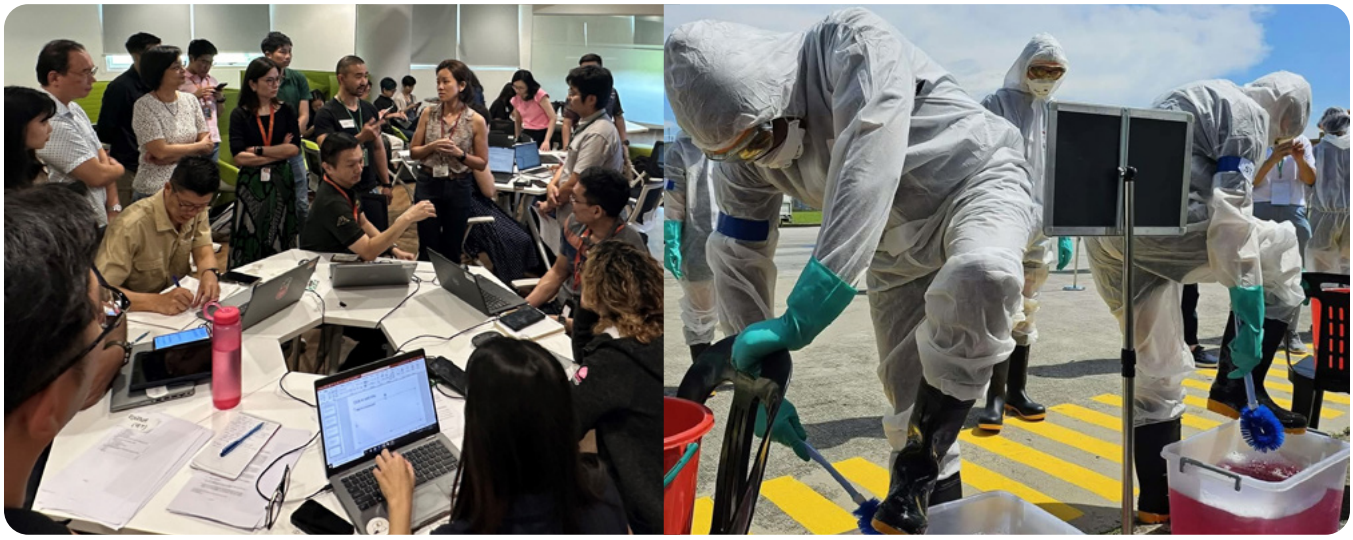
e) The depopulation of the affected poultry at the poultry farms and poultry slaughterhouses (in a confirmed outbreak) by the Singapore Food Agency (SFA).

f) Transport and disposal of poultry and/or bird carcasses.

g) The roles of other One Health government agencies such as the Ministry of Health (MOH), National Environment Agency (NEA), Singapore's National Water Agency (PUB), Singapore Food Agency (SFA).

Exercise Gallus X, conducted on 8 November 2024, marked the 10th HPAI contingency exercise. At a local poultry farm, NParks and Singapore Food Agency (SFA) successfully conducted the exercise to test their integrated capabilities of the response teams from both agencies, the setup of staging site for deployment operations, and readiness of logistics capabilities.

These contingency exercises have been crucial in shaping Singapore's HPAI response capabilities. They build capacity among officers through hands-on experience in managing large-scale operations, while identifying areas for improvement. Importantly, the exercises highlight the need for enhanced coordination among One Health agencies to strengthen our overall preparedness and response framework.



Left: HPAI table-top exercise | Right: Exercise Gallus X (Nov 2024)(Photo credits: NParks and SFA).

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