Nipah Virus (NiV)
Update for Tourism Sector

Ministry of Health, Wellness & Nutrition
February 25, 2026

Epidemiology of Nipah Virus (NiV)

Presented by: Dr Dana DaCosta Gomez

Current Situation

- 13 January 2026: t**wo healthcare workers in Kolkata**, West Bengal State, India, were confirmed to have contracted the Nipah virus.
- Unofficial reports indicate that both HCW attended to a patient with NiV-like symptoms at the hospital they work at.
- 29 January 2026: one confirmed case of NiV infection in northwestern Bangladesh.
- 21 January 2026 the patient a female, aged between 40-50 years, developed symptoms consistent with NiV infection, including fever, headache, muscle cramps, loss of appetite (anorexia), weakness, and vomiting, followed by hypersalivation, disorientation, and convulsion.
- 27 January 2026, she became unconscious and was referred by a local physician to a tertiary hospital.
- 28 January 2026, and the Nipah surveillance team collected throat swabs and blood samples. The patient died the same day.
- In both instances, all contacts have remained asymptomatic and have tested negative for the virus; **no additional cases** have been detected.

Current Situation

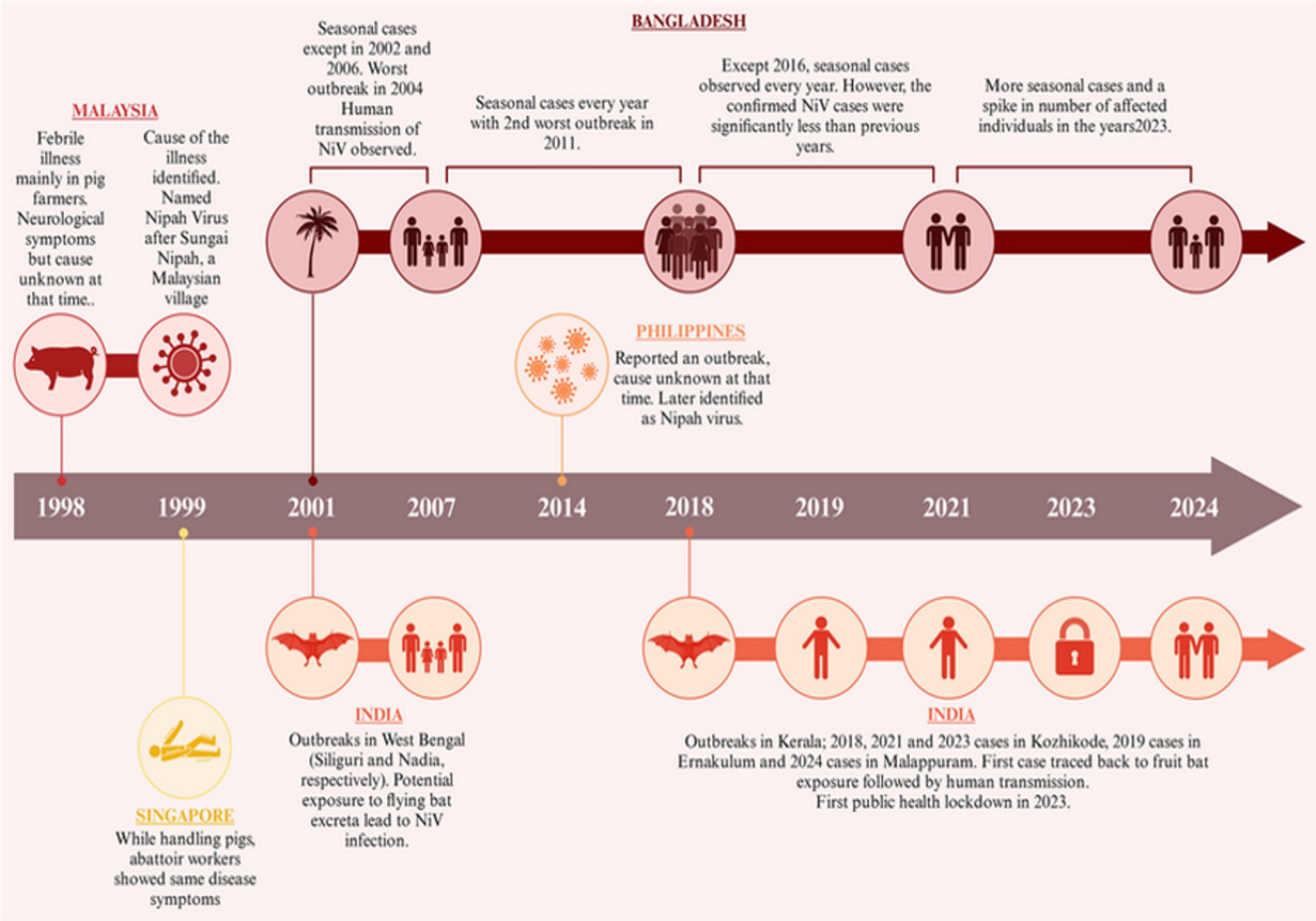
- NiV is a highly fatal illness, with a case fatality ratio (CFR) estimated between 40% to 75% in past outbreaks depending on local capabilities for epidemiological surveillance and clinical management
    - CFR ~ 40% for outbreaks in Malaysia and Singapore;
    - CFR >70% for outbreaks in Bangladesh

- Given its severe clinical picture, high case fatality rates (estimated at 40%-75%) and absence of licensed vaccines or specific treatment, Nipah virus is recognized as a priority pathogen requiring strong preparedness, surveillance, and response capacities.

- World Health Organization (WHO) has assessed the **risk of international spread to be low**.
    - In the absence of evidence indicating increased human-to-human transmission
    - India demonstrated capacity to effectively manage previous Nipah outbreaks

- Although **no confirmed cases of NiV have been reported outside of Asia to date,** the increasing travel and trade, mean that the **possibility of an imported case cannot be excluded.**

Timeline of Nipah virus (NiV) – 1998 -2024



- 1998: Nipah virus was first identified during an outbreak among pig farmers in Malaysia.
- 1999: outbreak reported in Singapore following the importation of sick pigs from Malaysia.

Since 1999, no new outbreaks have been reported from Malaysia or Singapore.

- 2001: Nipah virus infection outbreaks were detected in India and Bangladesh and linked to bat-to-human and human-to-human transmission.

In Bangladesh, outbreaks have been reported almost every year since.

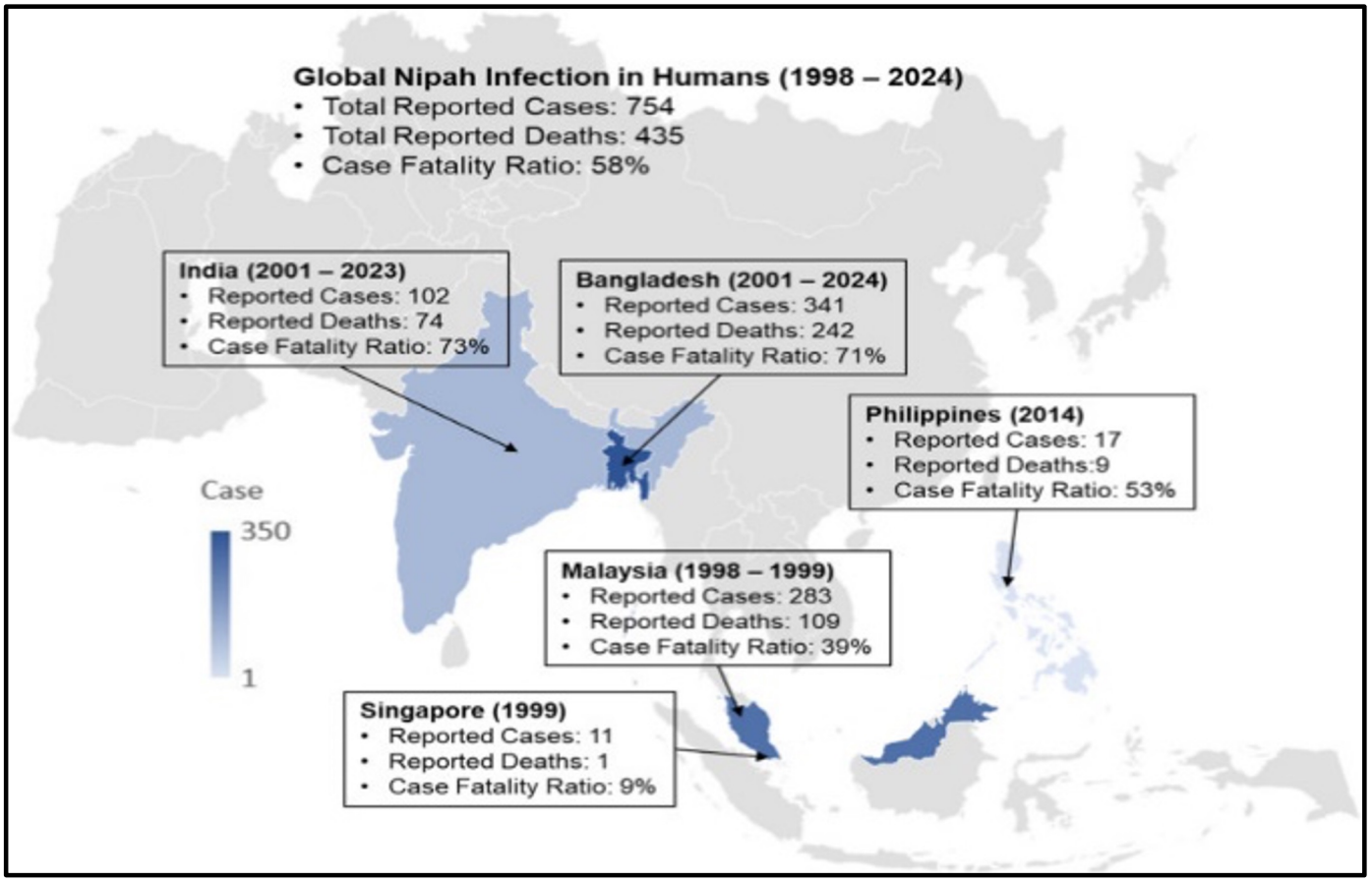
In India, outbreaks are periodically reported in several parts of the country, including the latest one in 2026.

- 2014: an outbreak was reported in the Philippines and was linked to infected horses

No new cases have been reported since then.

Timeline (cont'd)

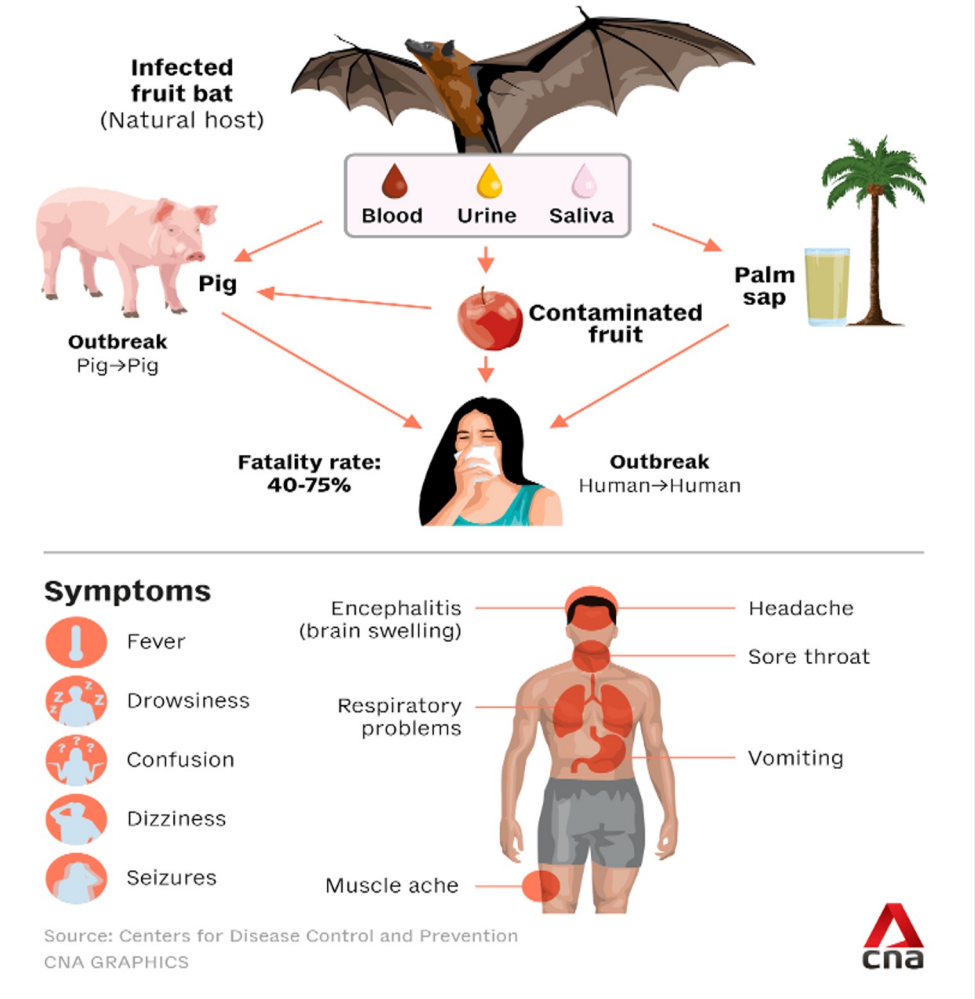
- The main mode of transmission varied between the affected countries.
- In all instances, the consumption of fruits contaminated with bat droppings is believed to have caused the initial infections in domestic animals.



Epidemiological Overview

- Nipah virus, a highly pathogenic zoonotic virus that was first recognized during an outbreak in Malaysia in 1998–1999, where it was associated with asymptomatic clinical picture to acute respiratory illness, severe encephalitis and high case fatality rates.
- It is primarily transmitted from animals to humans, but can also spread through contaminated food or less frequently via direct human-to-human contact.
- Caused by an RNA virus
- Fruit bats or flying foxes (Pteropus species) are considered the natural hosts of the virus
- Incubation period: 4-14 days (maximum 45 days on one occasion)
- Responsible for sporadic outbreaks rather than continuous transmission, and seasonal and temporal patterns have been observed particularly in **winter months (December to April)**
    - Corresponds with date palm sap harvesting
- Outbreaks are short-lived but intense, with limited secondary transmission chains

Transmission Cycle



- **Natural Reservoir:** Fruit bats carry the virus in their blood, urine, and saliva, acting as the natural/primary reservoir. NiV does not cause disease in the bats.

- **Animal-to-Human Transmission:** Humans can become infected by consuming contaminated food, such as fruit or raw date palm sap, that has come into contact with bat bodily fluids.

- **Secondary Animal Host:** Pigs can also contract the virus from contaminated fruit, leading to pig-to-pig outbreaks.

- **Human-to-Human Transmission:** The virus can spread directly between people or from infected animals (like pigs) to humans through close contact.

Transmission Cycle

Date Palm tree and Fruit

Farmers harvest the palm sap by making a V shaped incision in the trunk and attaching a bamboo tube to collect the sap in a clay pot

Transmission Cycle

Bats get date palm sap by simply finding the collection pots hung by harvesters and drinking directly from the sweet, dripping liquid, often licking the shaved tree trunk or the sap in the pot, which contaminates it with saliva, urine, and feces, posing a risk for diseases like Nipah virus.

They are attracted to the sugary sap and visit the trees at night to feed, sometimes leaving behind the virus

Surveillance and Outbreak Detection

•*Early identification and diagnosis is of prime importance in NiV infection to prevent spread through contacts.*
•*Understanding case definitions is paramount.*

Case definitions:

Suspected case:

Person with a travel history to an area/ locality affected by a Nipah virus disease outbreak **OR** contact with a person with a travel history who has:

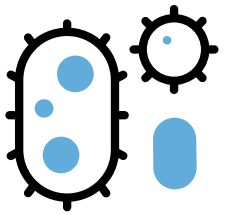
- Acute Fever with new onset of altered mental status or seizure **and/or**
- Acute Fever with severe headache **and/or**
- Acute Fever with cough or shortness of breath

Confirmed case:

Suspected case who has laboratory confirmation of Nipah virus infection either by:

- Nipah virus RNA identified by PCR from throat swab, urine, serum or cerebrospinal fluid (optional) **OR**
- Isolation of Nipah virus from throat swab, urine, serum or cerebrospinal fluid

Case Definitions (cont'd)



A Close contact:

A patient or a person who came in contact with a Nipah case (confirmed or probable cases) in at least one of the following ways:

- Was admitted simultaneously in a hospital ward/ shared room with a suspect/confirmed case of Nipah virus disease
- Has had direct close contact with the suspect/confirmed case of Nipah virus disease during the illness including during transportation.
- Has had direct close contact with the (deceased) suspect/confirmed case of Nipah virus disease at a funeral or during burial preparation rituals
- Has touched the blood or body fluids (saliva, urine, vomitus etc.) of a suspect/confirmed case of Nipah virus disease during their illness
- Has touched the clothes or linens of a suspect/confirmed case of Nipah virus disease

Contact Tracing

- Basic reproduction number (R_o) generally **< 1**
- Contacts need to be followed up for appearance of symptoms of NiV for the longest incubation period (21 days).
- They must be transported to appropriate care facility (using adequate IPC practices) if they develop symptoms.

Current Knowledge Gaps & Transmission Risks

- There is very limited data available worldwide about NiV disease.
- There has been no evidence of increased incidence rates or increased severity of the disease in specific population groups, such as pregnant women, infants or immunocompromised subjects.
- Isolation of NiV from urine and faeces collected from the cages of animals infected with NiV-M and NiV-B strains suggests that environmental contamination could pose a risk of infection.
- Currently no NiV vaccine is approved either for humans or animals.
- As symptoms during the prodromal phase are not specific, the early diagnosis of NiV infection can be challenging.
- Length of exposure and contact with body fluids were increasingly associated with risk of infection.

Clinical Profile

Presented by: Dr Delphina Vernor

Clinical Presentation

- Ranges from asymptomatic infection to fatal swelling/inflammation of brain tissue (encephalitis) & severe respiratory distress
- Symptoms typically appear **4 - 14 days** after exposure
    - Up to 45 days reported
- Case Fatality
    - Mortality rate is high
    - Est 40 - 75 % during outbreaks

Symptomatology

Early Flu-like Symptoms

Infection often begins with non-specific, sudden-onset symptoms that resemble the flu:

- Fever and headache (most common).
- Myalgia (muscle pain).
- Extreme fatigue.
- Sore throat and cough.
- Nausea and vomiting.

Progressive Respiratory Features

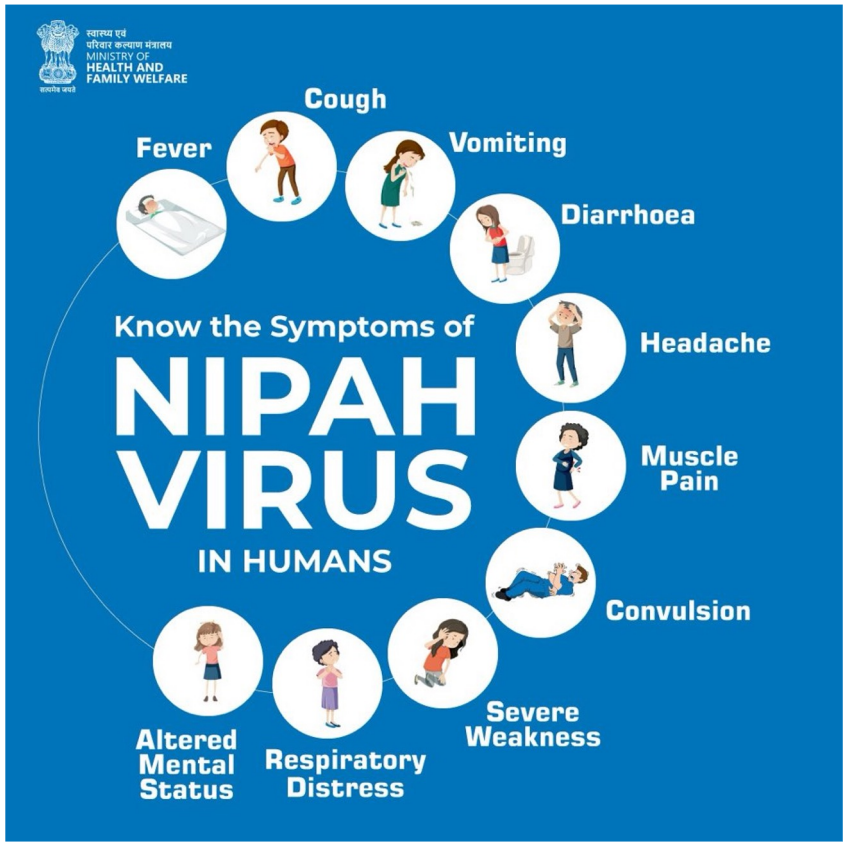
- Difficulty breathing or shortness of breath.
- Atypical pneumonia.
- Acute Respiratory Distress Syndrome (ARDS), which can be life-threatening.

Symptomatology (cont'd)

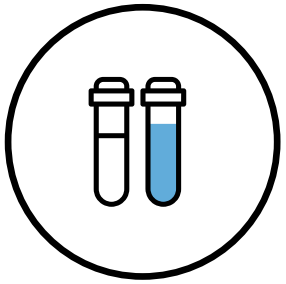
Severe Neurological Features

The hallmark of severe Nipah infection is **acute encephalitis,** which can be rapidly progressive:

- Dizziness and drowsiness
- Confusion and disorientation (altered mental status)
- Seizures
- Sudden, jerky muscle movements
- Coma
    - Can occur within 24 to 48 hours of symptom progression
- Survivors may develop **long-term neurologic sequelae** such as personality changes, seizures, and fatigue.



Diagnostic Testing



Acute Phase (Early Infection):

- **RT-PCR (Real-Time Polymerase Chain Reaction)**
  - The primary and most sensitive method to detect viral RNA.

Convalescent Phase (Later Stages/Recovery):

- **ELISA (Enzyme-Linked Immunosorbent Assay):**
  - Used to detect **IgM and IgG antibodies**.

Testing Capacity

- Currently, do not have testing capacity in country
- **Reference lab:**
  - Caribbean Public Health Agency (CARPHA)
- **Samples**
  - Viral swabs of respiratory samples (throat, nasal)
  - Blood
  - Urine
  - Cerebrospinal fluid (CSF)
- **Storage**
  - Samples should be kept at 2–8°C for short-term transport (within 48 hours).

Treatment & Management

- No specific therapeutics
- Treatment includes rest, hydration, nutritional support and symptomatic treatment
    - Paracetamol for pain & fever. Avoid NSAIDs ex ibuprofen, voltaren/diclofenac
- Management is centered on **intensive supportive care** to treat severe respiratory and neurological complications.
- Currently no approved vaccines.

How Nipah Virus Spreads (Transmission)

- Animal-to-human
- Contaminated food
- Person-to-person
  - Close contact with body fluids or respiratory secretions
  - Hotel & tourism workers should be aware of transmission risk and what to avoid

Preparedness & Prevention

Surveillance & Reporting

- Screen visitors with symptoms, especially those who have been in areas where the virus is endemic
- Travel history is crucial
  - Countries visited prior to Saint Lucia
  - UK and US in top 6 countries for visitors from India
- Encourage guests and staff to report fever or unusual symptoms early to facilitate early interventions

Hygiene & Infection Prevention

Reducing Human-to-Human Spread

- **Maintain Hygiene**
  - Wash hands frequently with soap and water
  - Surface cleaning & disinfection in high-touch areas
- **Barrier Protection**
  - Avoid close unprotected contact with the blood or bodily fluids (saliva, urine, respiratory droplets) of anyone suspected of being infected.
  - Use masks, gloves and other personal protective equipment (PPE) as appropriate

Hygiene & Infection Prevention

Management of a guest under investigation or confirmed

- Should be isolated in a single/private room
- No visitors are allowed into the room
- Staff attending to the guest should wear adequate PPE
- All waste generated during the care of NiV suspect and confirmed patients should be handled as biohazard waste, according to institutional policy.
- Linen and laundry from suspects and confirmed cases should be managed as infectious linen and laundry. Institutions may consider the use of disposable linen.
- Rooms occupied by suspect or confirmed cases of NiV should be terminally cleaned with bleach-based disinfectants after discharge. Enhancement of terminal cleaning with either UV-C disinfection system or hydrogen peroxide vaporisation is recommended.
    - Terminal cleaning is a thorough, specialized disinfection of patient room after discharge or transfer to eliminate pathogens

Staff Education & Training

- Educate staff on symptoms and appropriate response
  - Housekeeping
  - Front desk & concierge
  - Food & beverage
  - Management

- Ensure protocols are communicated
  - Who to notify
  - Isolation protocols

Risk Communication

- For tourists
  - Nipah virus risk remains low locally
  - Currently, no travel restrictions
  - Importance of sharing information
    - Declaring travel history
    - Reporting symptoms
    - Reporting contact with suspect or confirmed case
- For staff
  - Update as needed
  - Clear protocols for if a guest or colleague becomes ill
- Avoid fear-based language
  - Emphasize facts, preparedness

Coordination with MOH

- Establish clear lines of communication with the Ministry of Health
- Report all suspected cases to the Epidemiology Unit
  - Medical Surveillance Officer Dr Gomez: 285-7522
- Monitor updates from the Ministry of Health
  - Follow guidance and update protocols as needed

Operational Considerations

- Contingency planning
  - What if a suspected case occurs in your facility
- Isolation protocols
  - Need to identify isolation rooms on property
  - Availability & Use of PPE
  - Contact tracing
- Staff roles

National Response

Presented by: Dr Sharon Belmar-George

Surveillance

- Strengthen surveillance
  - Early diagnosis is challenging due to non specific symptoms.
  - However early detection is critical to improve chances of survival, prevent transmission and contain a potential outbreak.
- Ports of Entry & health institutions
- Collaboration and consultation with Ministry of Agriculture & Veterinary Departments
- Prevention & Risk Reduction

Education & Communication

- Policy Heads
- Healthcare Workers
- Ministry of Agriculture & Veterinary Division
- Tourism Sector
- Education Sector
- Public

Health Sector Preparation

- Healthcare Worker Sensitization
- Infection Prevention & Control Measures
- Quarantine & Isolation Capacity
- ICU Capacity
- Development of Testing Capacity in country
- Medication availability

Questions??

Thank You