Japan’s Response to Ebola Outbreak in West Africa

A case of strengthening national implementation & lessons for cooperation and assistance

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Introduction

- Ebola Virus Disease (EVD) outbreak in West Africa started in 2014 was the largest outbreak in history.
  - “Public Health Emergency of International Concern”
  - “Constitutes a threat to international peace and security”
  - UN Security Council Resolution 2177 (2014)
- Although travelling between Japan and West Africa is very limited, Government of Japan reinforced the response capacity, taking a whole-of-government approach.
- Reinforcement of domestic capacity and international cooperation for EVD were reviewed to derive lessons for BWC context.

From August 2014: Reinforcement of border measures

- Raising awareness at Quarantine
  - Ensuring voluntary reporting of a travel history to endemic countries to quarantine stations
  - Posters
  - Inflight announcements
- Management for travelers from endemic countries
  - Contact history (+), Symptom (+): >>> Hospital isolation
  - Contact history (+), Symptom (-): >>> Health monitoring

From October 2014: Further reinforcement of measures

- Transmission in non-endemic countries
  - Spain
  - U.S.
- Large increase of patients in endemic countries

**Additional Measures**

- Hospital visit of a patient without declaration of the travel history to endemic countries (IASR 2014;35:274-275)
- Management for travelers from endemic countries
  - Contact history (+), Symptom (+): >>> Hospital isolation
  - Contact history (+), Symptom (-): >>> Health monitoring

Preparedness for Viral Hemorrhagic Fevers in Japan

- Legal Preparedness
  - Action Infectious Disease Control
    - Category 1 Infectious Disease
    - Hospitalization in Specified or Class 1 Infectious Disease Hospital
    - Restrictions of activities, etc.
  - Quarantine Act
    - Quarantine
    - Isolation, Quarantine, etc.
- Medical Preparedness
  - 455 Infectious Disease hospitals for treatment
  - 611 capacity at BSL-3 Laboratory in National Institute of Infectious Diseases

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Whole-of-government response for EVD

Established on October 28, 2014

Ministerial Meeting on the response to EVD

President: Prime Minister

Inter-ministerial Coordination Meeting on EVD measures (Senior Official level)

Chairman: Deputy Chief Cabinet Secretary for Crisis Management

Public health legacies in Japan after EVD outbreak in West Africa

- Capacity building
  - Expanded medical capacity
  - Training: Antiviral Center (PPE, etc.)
  - Zoonotic designated Class 1 infectious Disease Hospital
- Convergence of limited expertise
  - Expert Committee for Members of Category 1 divisions at MEXT
- Operation of BSL4 lab in NIID
  - Multinational assignment with local municipality in operating a BSL4 facility in NIID
- Multinational NIID in a presence of the prefecture on August 7, 2015

- Interdepartmental collaboration
  - Whole-of-government response
  - Collaboration of public health institute with Police/Fire Defense
  - Documented protocol for transporting patients/fix samples
  - Exercises in all 141 municipalities that owns public health centers

Japan’s response to EVD outbreak in West Africa

- Total funding: USD 184 million
- Financial contribution (GOJ)
- In-kind contribution (GOJ & JICA)
  - Medical equipment
  - Vehicles including ambulances
  - Thermography cameras
  - Favipiravir (subject to a request)
- Personnel contribution (GOJ & JICA)
  - WHO GOARN
  - UNMEER etc.

Suspected cases screened for EVD in Japan

Year | Date | Age | Sex | Residence | Country | Symptom | Result | Diagnosis |
--- | --- | --- | --- | --- | --- | --- | --- | --- |
2014 | Oct 27 | 40's | M | — | Liberia | Fever | Negative | — |
2014 | Nov 7 | 40's | M | Japan | Liberia | Fever | Negative | Typhus |
2014 | Nov 7 | 20's | F | Guinea | Guinea | Fever | Negative | Malaria |
2015 | Jan 29 | 50's | M | Japan | Sierra Leone | Fever | Negative | Acute encephalitis |
2015 | Jan 18 | 70's | F | Sierra Leone | Sierra Leone | Fever | Negative | Influenza |
2015 | Mar 15 | 40's | M | Japan | Liberia | Fever, body aches, Cough | Negative | Malaria |
2015 | May 16 | 40's | M | Japan | Guinea | Head, back pain, Fever | Negative | Malaria |
2015 | July 1 | 40's | M | Japan | Guinea | Fever | Negative | — |
2015 | July 15 | 50's | M | Guinea | Guinea | Fever | Negative | — |

Lessons for cooperation and assistance

CONTRIBUTION OF JAPAN FOR EVD OUTBREAK

Development and in-kind contribution of medical countermeasures (1)

- Development of Ebola test kit
  - RT-LAMP assay system with a portable LAMP device (Genie III) and specific primers developed in Nagasaki U
- High specificity and sensitivity shown by testing clinical samples in Donka Hospital in Guinea
- In-kind contribution
  - Provided to Guinea on request in April 2015 for use in the intensive campaign

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Development and in-kind contribution of medical countermeasures (2)

- Development of anti-virals for EVD
  - Provided for an emergency use in developed countries and a clinical trial (IKI study) in Guinea by Toyama Chemical (in-kind)
  - Pre-clinical studies
    - Pharmacokinetics*
    - Safety studies in juvenile monkeys*
  - Development of intravenous injection form*

Support and assistance for non-endemic countries from Japan (1)

- Sharing protocols and reagents
  - Taiwan, Thailand, Viet Nam, Philippines from NID Japan
- Training and lectures
  - In 3 institutes in Viet Nam
  - Accepted trainees from Thailand, Viet Nam, Philippines, Indonesia, Laos, Malaysia, Zambia, Ghana in NID Japan

Support and assistance for non-endemic countries from Japan (2)

- Laboratories
  - Negishi Memorial Institute of Medical Research in Ghana
  - Kenya Medical Research Institute (KEMRI)
  - School of Veterinary Medicine in University of Zambia
- Points of Entry
  - Cot/Choa, Ghana, Ethiopia, Kenya
- Health Facilities
  - Seoul, Ghana, Benin, Nigeria, Burundi, Kenya
- Public awareness
  - Ghana, Nigeria, Zambia, Senegel, Benin, Burundi, Easo
- Knowledge sharing
  - Knowledge and experience sharing among francophone countries (workshops in Cote D'Ivoire in collaboration with OEC and in Morocco)

Japan’s response to the Ebola outbreak in West Africa

- Challenges in cooperation and assistance
  - Personnel contribution was limited to ~20 experts
  - Lack of human resources
  - No deployable national team for an outbreak assistance
  - Safety and security
    - Medvac capacity

Human resource development for global infectious disease control in Japan

- Development Program for Experts of Infectious Disease Crisis Management by MHLW
  - 2 year program
    - OIT as a medical officer in MHLW, a trainee in ECTP in NID and an infectious disease physician in a hospital
    - OIT in international agencies, etc.
  - 5 MDs/year
  - Registered as “Infectious Disease Crisis Management Experts” to be dispatched in global emergency

Summary (1)

A case of strengthening national implementation

- EVD outbreak from 2014 provided a crucial opportunity to reveal challenges and to improve preparedness in Japan for rare but high impact emerging diseases that are prone to be neglected.
  - Progress in interdepartmental collaboration was remarkable through whole-of-government approach.
  - Efforts to sustain “legacies” may help contain future emerging diseases including acts of bioterrorism and pandemic influenza.
Summary (2)
Lessons for cooperation and assistance

- Continuous international support is required for developing IHR core capacity.
- Cooperation and assistance for surrounding non-endemic countries should not be neglected.
- Safety and security for dispatching experts to affected countries is a challenge even in a natural outbreak.
- More efforts on capacity development concerning safety and security of personnel is required for the assistance under Article VII.

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