

Introduction to emerging infectious diseases

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Disease Control and Prevention Center
National Center for Global Health and Medicine
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Today`s content

1. Previous events of EIDs in Japan (Dr. Morioka)
2. Current Japanese system against infectious diseases (Dr. Kutsuna)
3. Powered Air-Purifying Respirator (Dr. Ohta)

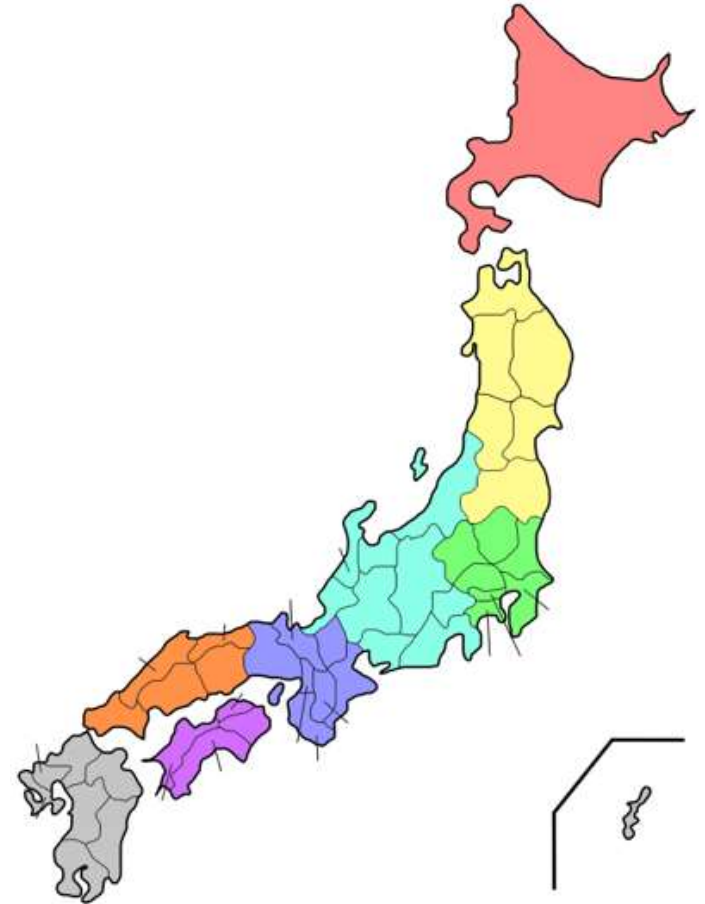
Japan

Population: 127 million

8 Regions, 47 Prefectures



Japan National Tourism Organization



Japanese National Center

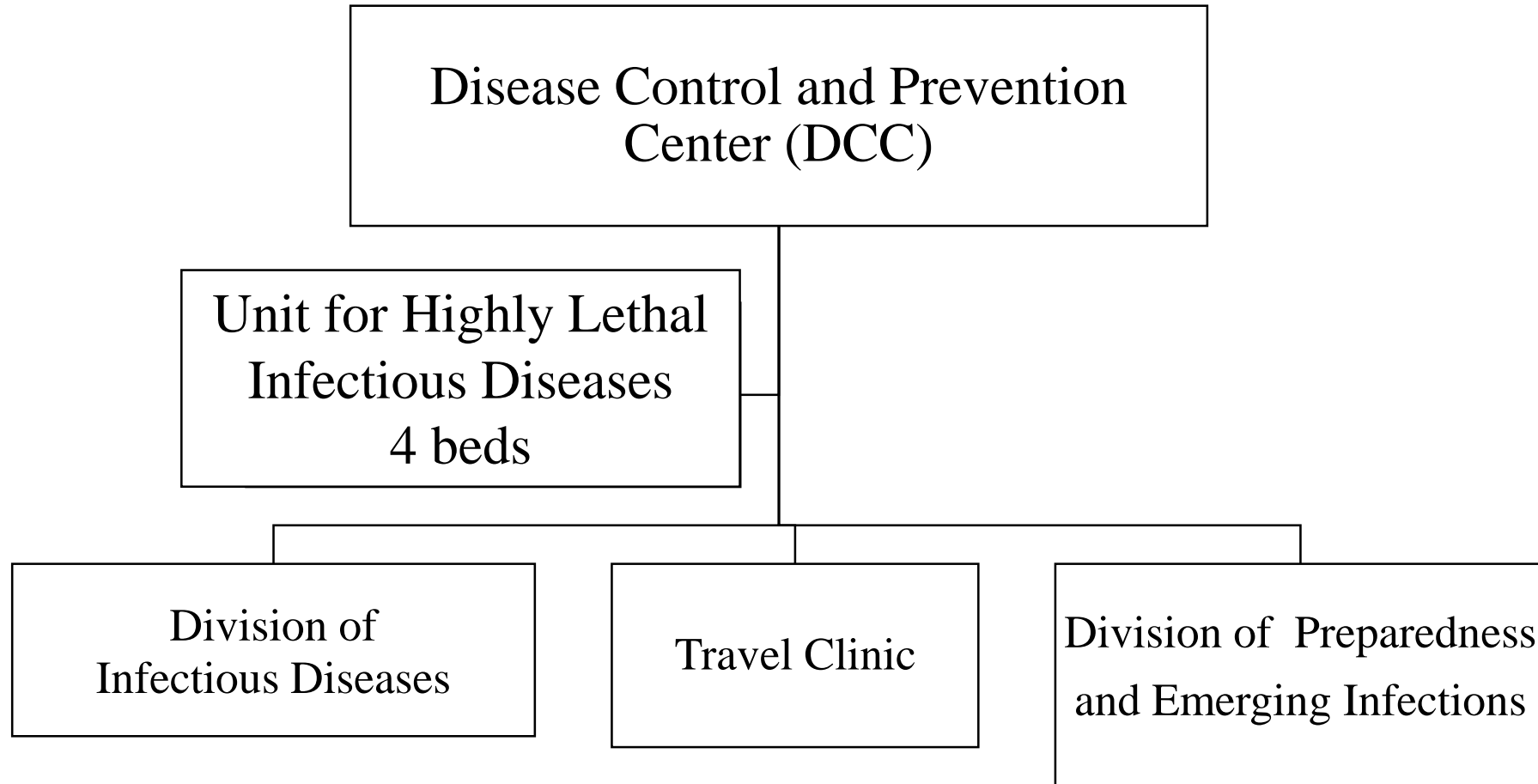
- ✓ Japan has 6 national centers.
- ✓ Specialized for
 - ✓ Infectious disease
 - ✓ Pediatric disease
 - ✓ Elderly disease
 - ✓ Heart disease
 - ✓ Psychological disease
 - ✓ Cancer



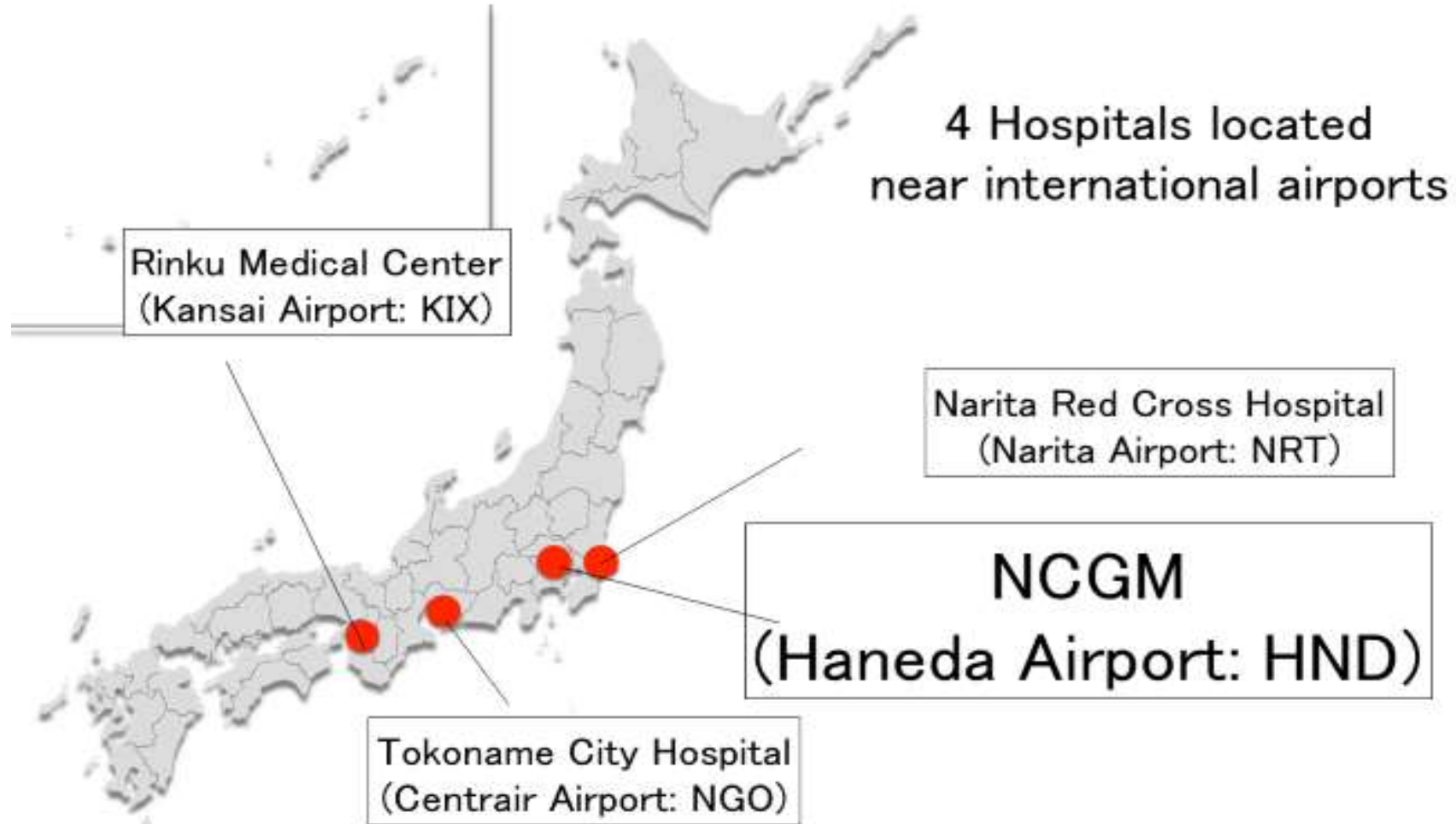
Our Mission

Management of the Risks of Infectious Diseases from a Global Viewpoint

Organization Chart of DCC



Highly Infectious and Lethal Diseases Unit, 10 beds



NCGM has 4 beds.

Each Other hospital has 2 beds.



High Level Isolation Unit in NCGM

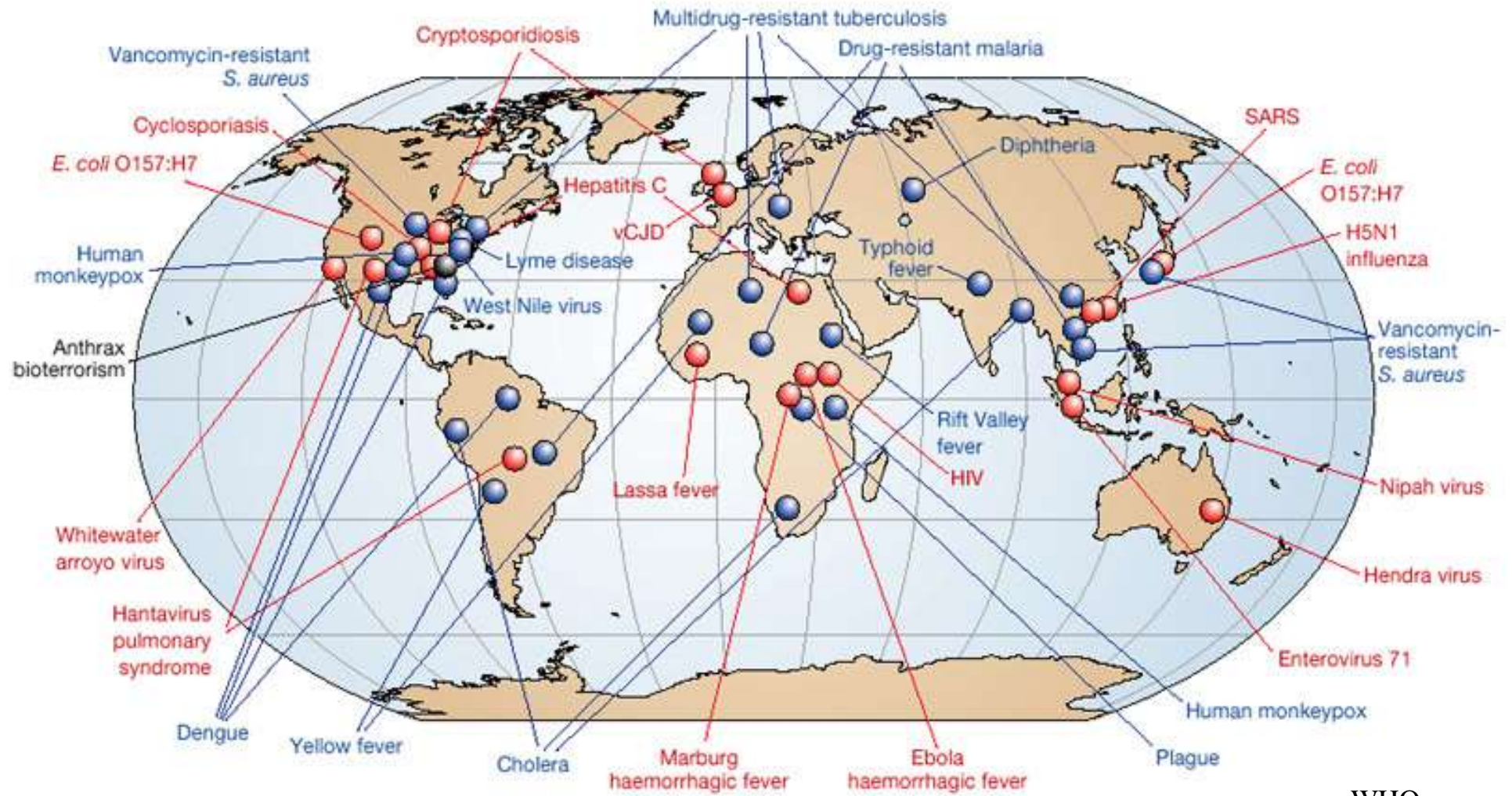
Building constructed in 2003, and immediately accepted suspected SARS cases.

Located close to the National Institute of Infectious Diseases (laboratory services easily available).

Training Session



Emerging/re-emerging Infectious Diseases



Emerging Infectious Disease Events in the Past 30 Years in Japan

Events	Place	Year
Lassa fever, imported from Sierra Leone	Tokyo	1987
Anthrax bioterrorism incident	Tokyo	1993
Outbreak of EHEC O157	Western Japan	1996
SARS, imported from Taiwan	Western Japan	2003
Avian influenza H5N1, no human case	Western Japan	2004
Pandemic influenza H1N1	Across Japan	2009
Dengue, autochthonous	Tokyo	2014
Suspected Ebola	Across Japan	2014-15

Cumulative number of confirmed human cases for avian influenza A(H5N1) reported to WHO, 2003-2015

Country	2003-2009*		2010		2011		2012		2013		2014		2015		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	8	5	0	0	0	0	0	0	0	0	0	0	0	0	8	5
Bangladesh	1	0	0	0	2	0	3	0	1	1	0	0	0	0	7	1
Cambodia	9	7	1	1	8	8	3	3	26	14	9	4	0	0	56	37
Canada	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1
China	38	25	2	1	1	1	2	1	2	2	2	0	5	1	52	31
Djibouti	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Egypt	90	27	29	13	39	15	11	5	4	3	37	14	132	37	342	114
Indonesia	162	134	9	7	12	10	9	9	3	3	2	2	2	2	199	167
Iraq	3	2	0	0	0	0	0	0	0	0	0	0	0	0	3	2
Lao People's Democratic Republic	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Myanmar	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Nigeria	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Pakistan	3	1	0	0	0	0	0	0	0	0	0	0	0	0	3	1
Thailand	25	17	0	0	0	0	0	0	0	0	0	0	0	0	25	17
Turkey	12	4	0	0	0	0	0	0	0	0	0	0	0	0	12	4
Viet Nam	112	57	7	2	0	0	4	2	2	1	2	2	0	0	127	64
Total	468	282	48	24	62	34	32	20	39	25	52	22	139	40	840	447

* 2003-2009 total figures. Breakdowns by year available on next table

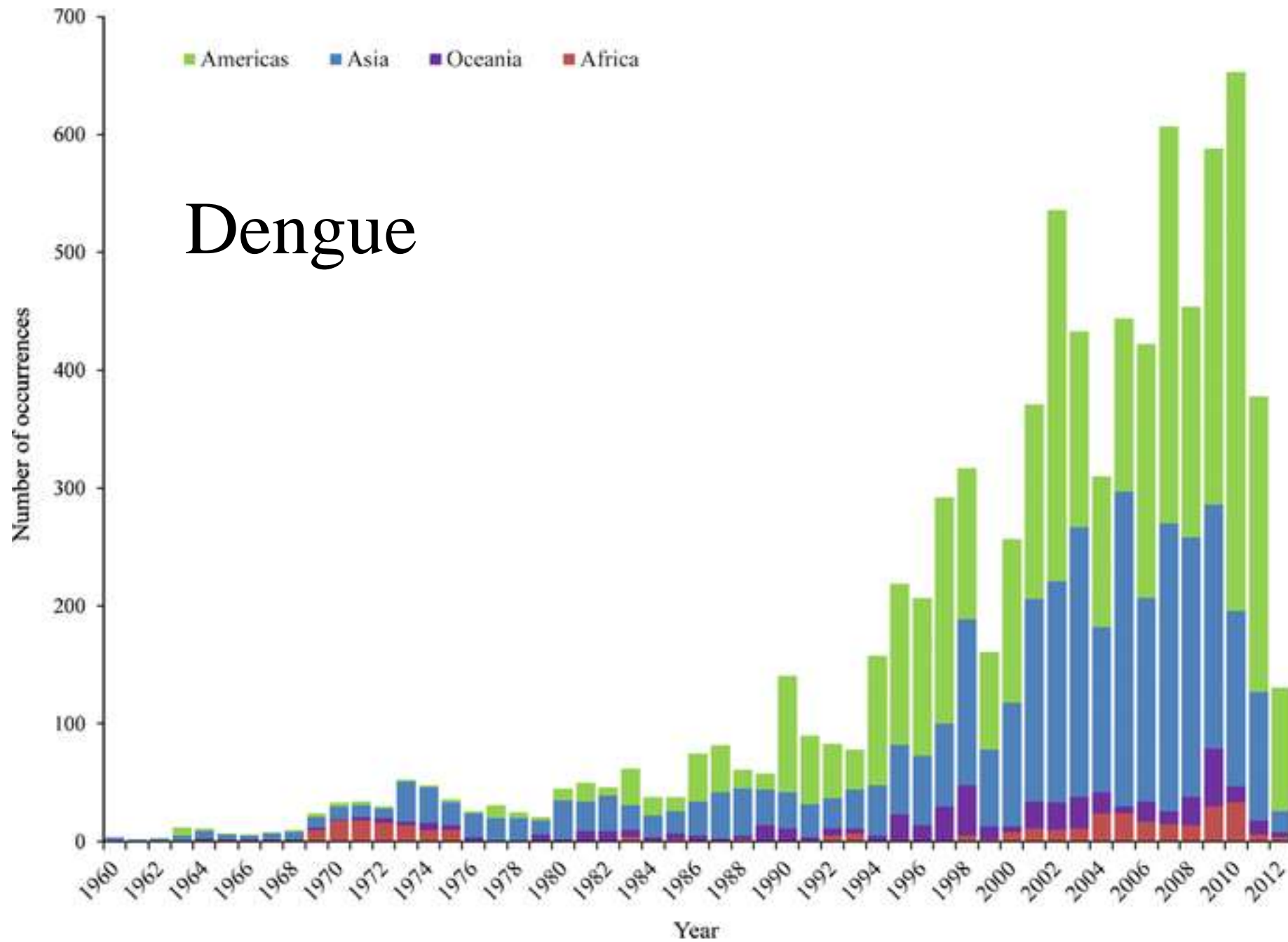
Total number of cases includes number of deaths
WHO reports only laboratory cases
All dates refer to onset of illness

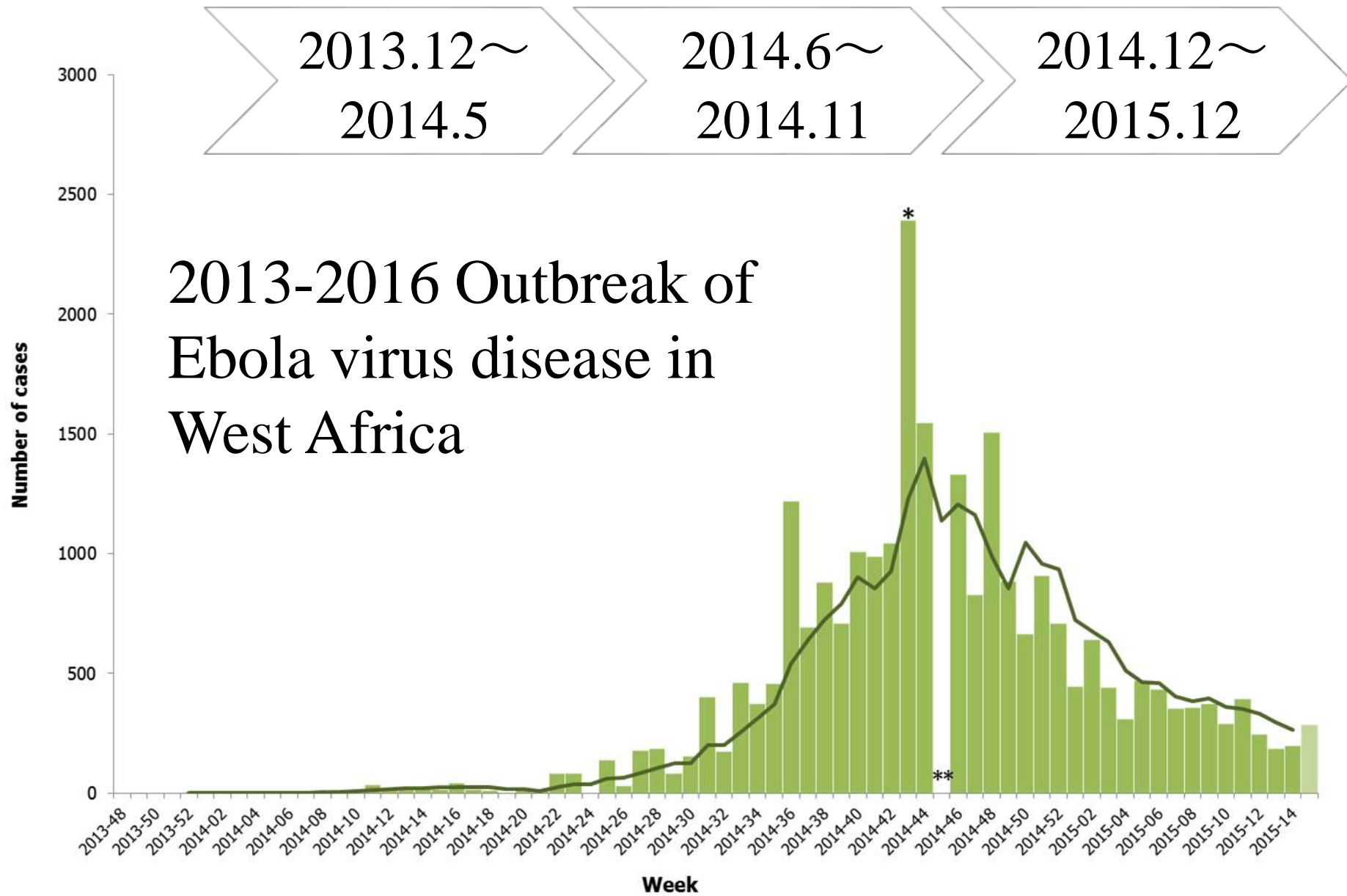
Source: WHO/GIP, data in HQ as of 1 May 2015

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Dengue





ECDC. Rapid risk assessment. April 15, 2015

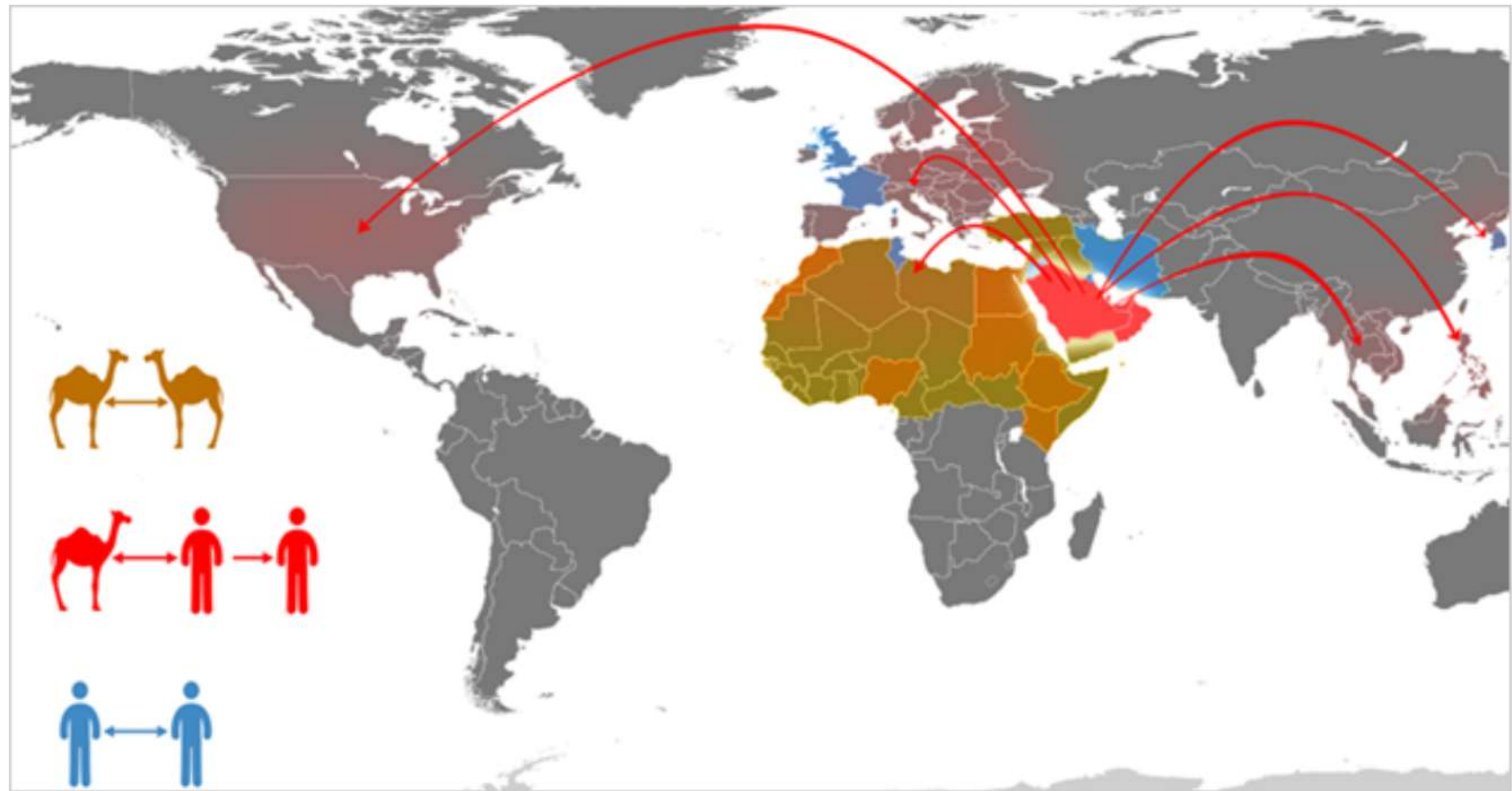
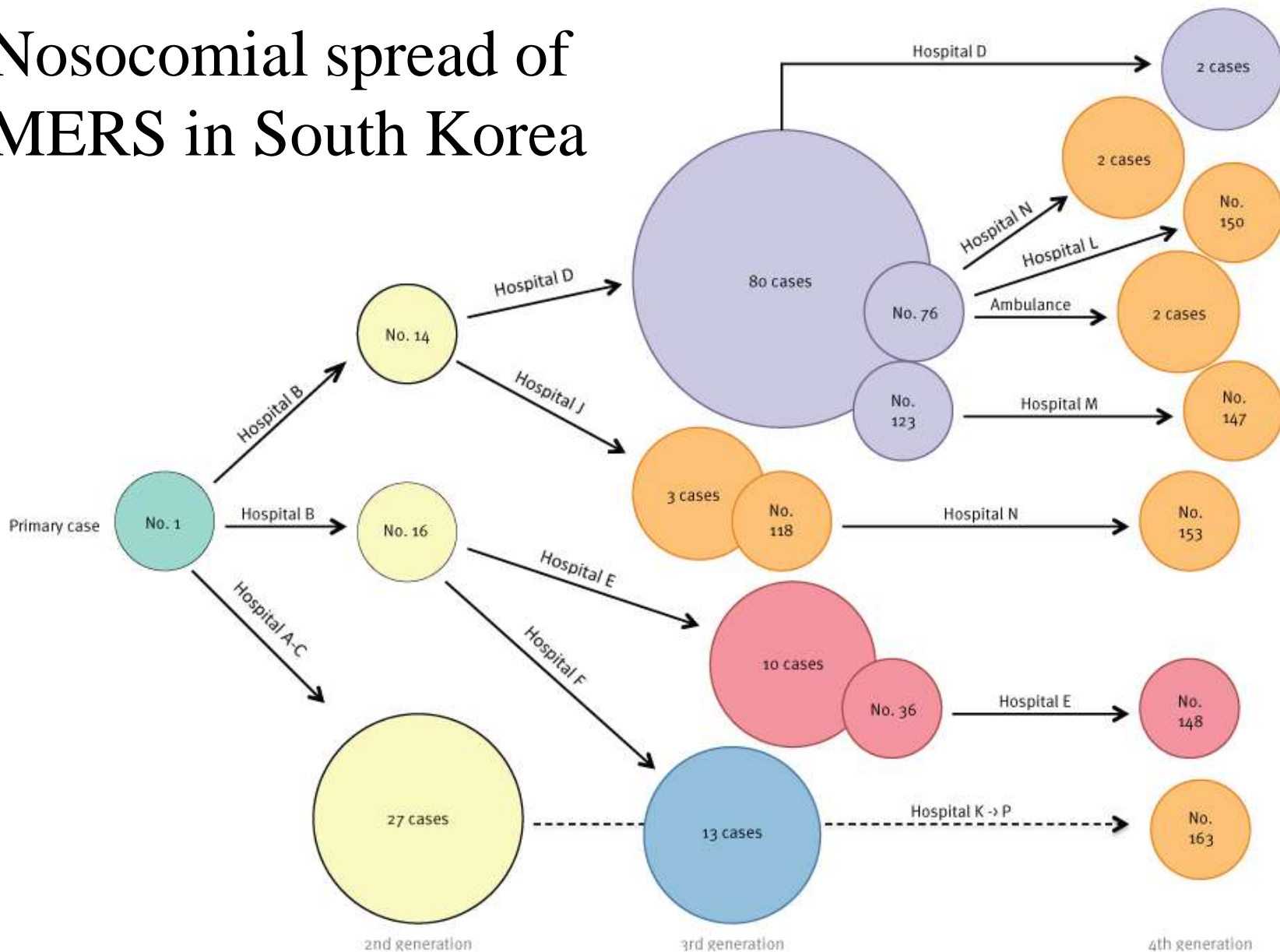


FIGURE 2

Simplified transmission diagram illustrating the superspreading events associated with Cases 1, 14, 16 and fourth-generation infections of MERS-CoV, South Korea, 11 May–19 June 2015 (n = 166)

Nosocomial spread of MERS in South Korea



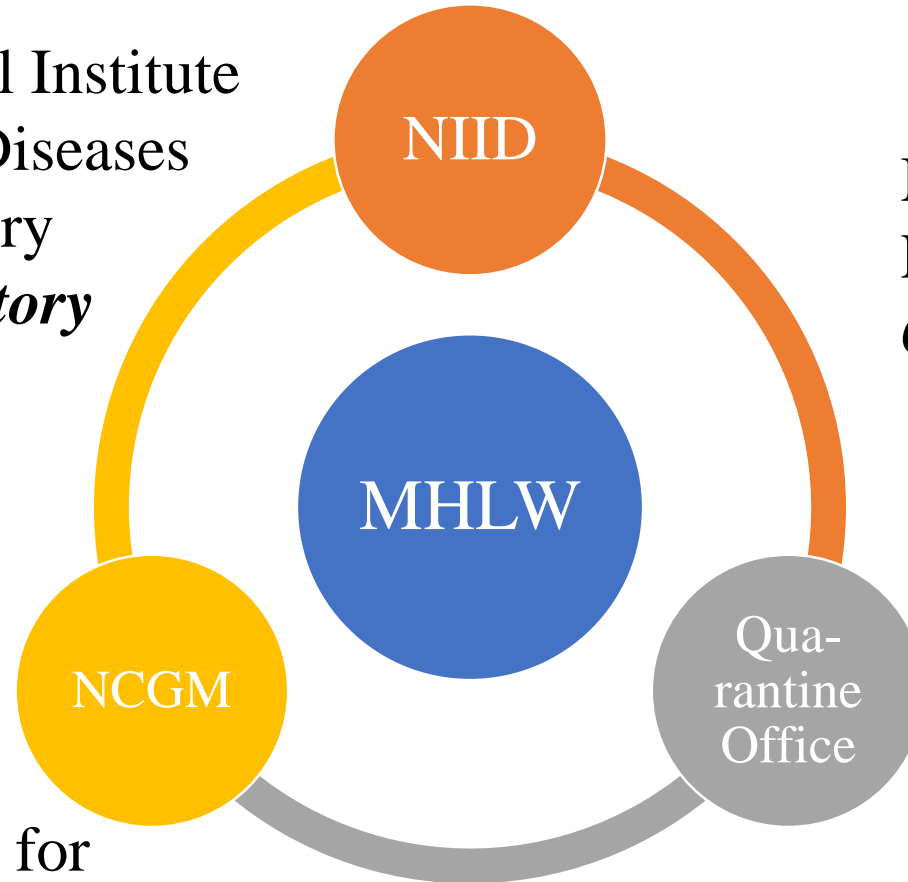
Current Classification of Highly Infectious Diseases in Japan

Novel Lethal, pathogens not identified	Diseases with unknown pathogens, ex. SARS before SARS-coronavirus identified
Category 1 Lethal, BSL4 pathogens	Viral hemorrhagic fevers, ex. Ebola Smallpox Plague
Category 2 Lethal, epidemic- prone	SARS and MERS Avian influenza H5N1 and H7N9 Tuberculosis Polio and Diphtheria

National Agencies for Infectious Disease Control

NIID: National Institute
of Infectious Diseases
BSL4 laboratory
Epi & Laboratory

MHLW: Ministry of Health,
Labour and Welfare
Coordination



NCGM: National Center for
Global Health and Medicine
Case management & IPC

Open discussions