Classification of Infectious Disease Law in Japan

Type 1 (7)	Type 2 (7)	Type 3 (5)	Type 4 (44)
Viral Hemorrhagic Fever EVD Lassa Fever CCHF Marburg disease South American Hemorrhagic Fevers Plague Smallpox	Tuberculosis MERS SARS Avian flu (H5N1/H7N9) Polio Diphtheria	Cholera Typhoid fever Paratyphoid fever Dysentery EHEC infection	Dengue Zika Chikungunya Yellow Fever Hepatitis A Legionellosis SFTS Rabies etc…

Classification of Medical Center in Infectious Disease Law in Japan

New Infectious Diseases	Type I Infectious Diseases	Type II Infectious Diseases	Others

4 Medical institutions designated for specific infectious diseases

49 Medical institutions designated for type I infectious diseases

340 Medical institutions designated for type II infectious diseases

not designated

Viral Hemorrhagic Fever

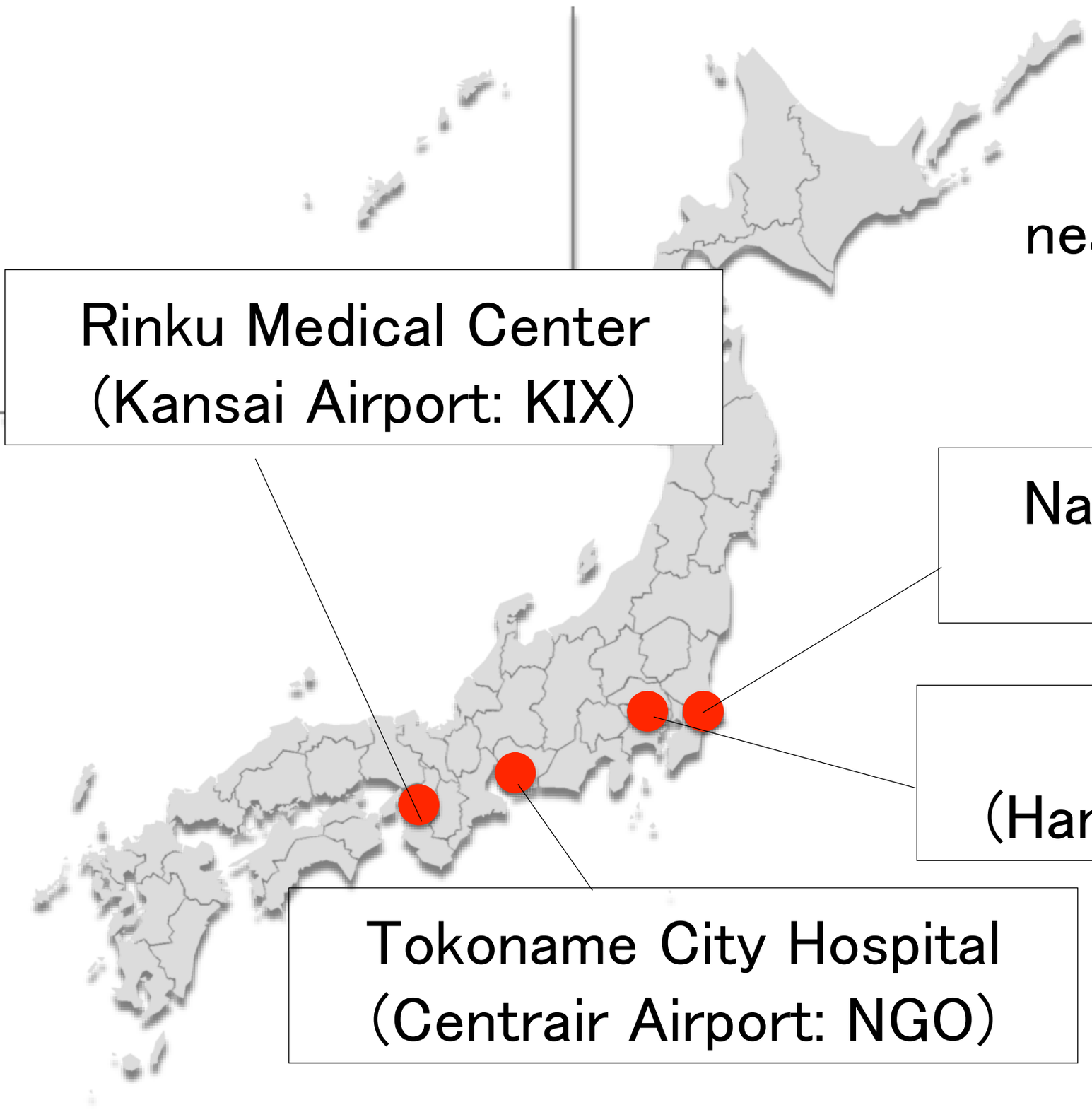
Viral Hemorrhagic Fever

- Classified as type 1 infectious diseases in law

- Ebola virus disease(EVD), Lassa Fever, Crimean-Congo haemorrhagic fever(CCHF), Marburg disease, South American Hemorrhagic Fevers

- Probable cases should be admitted to “Specified / Category 1 infectious diseases hospital”

Medical institutions designated for specific infectious diseases



4 Hospitals located
near international airports

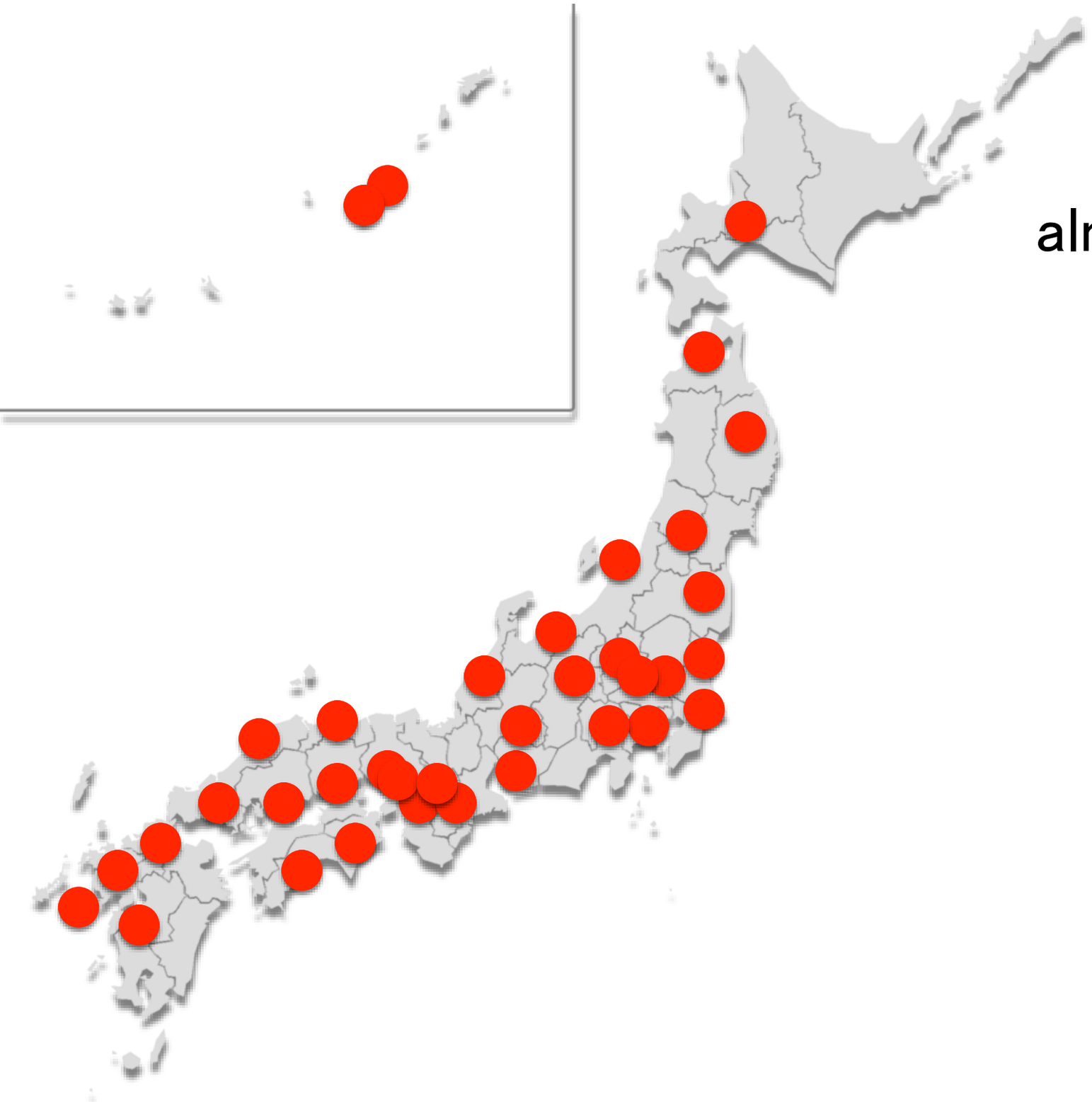
Rinku Medical Center
(Kansai Airport: KIX)

Narita Red Cross Hospital
(Narita Airport: NRT)

NCGM
(Haneda Airport: HND)

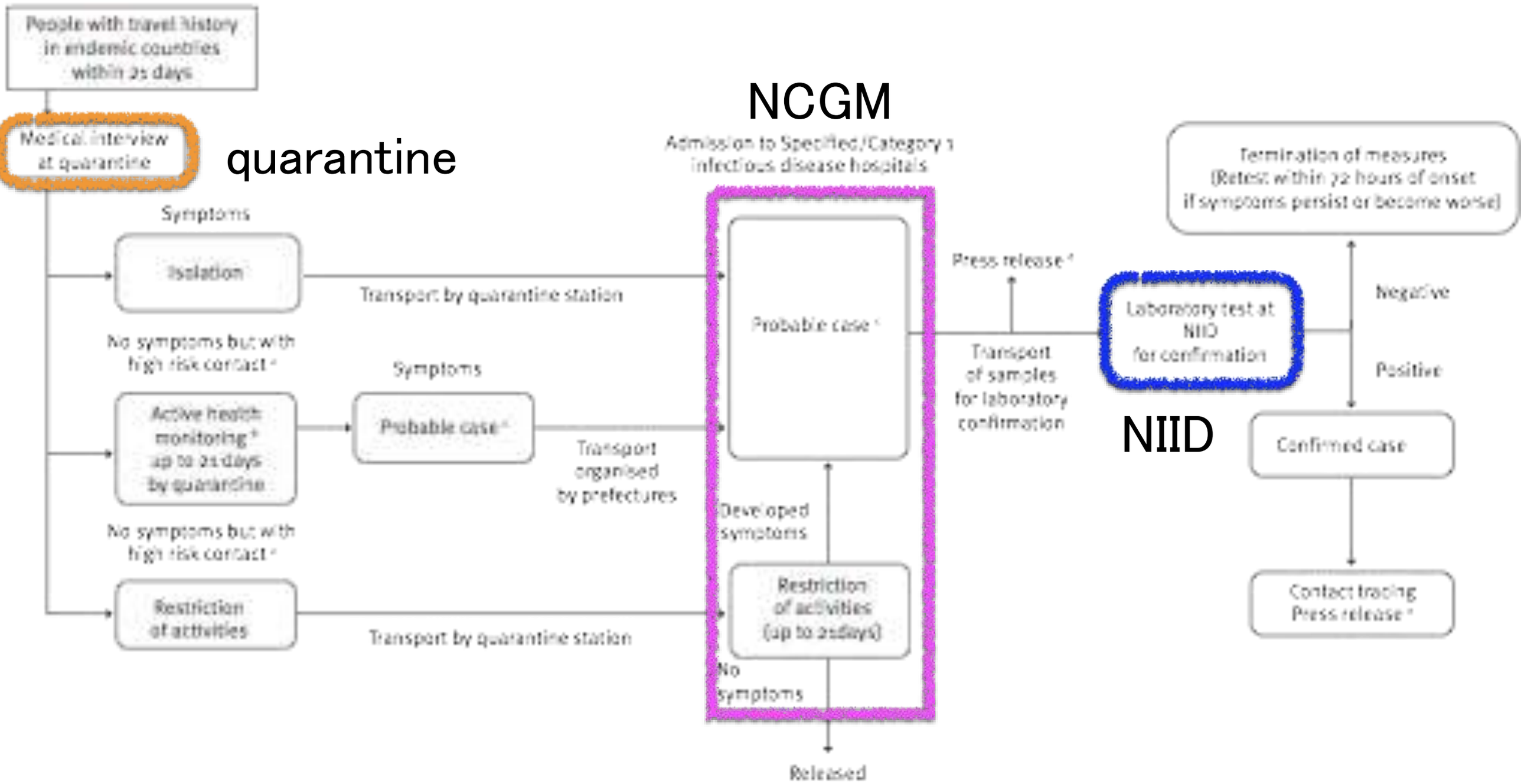
Tokoname City Hospital
(Centrair Airport: NGO)

Medical institutions designated for type I infectious diseases



49 Hospitals located
almost every prefectures

nagement protocol for people with a travel history to EVD endemic c



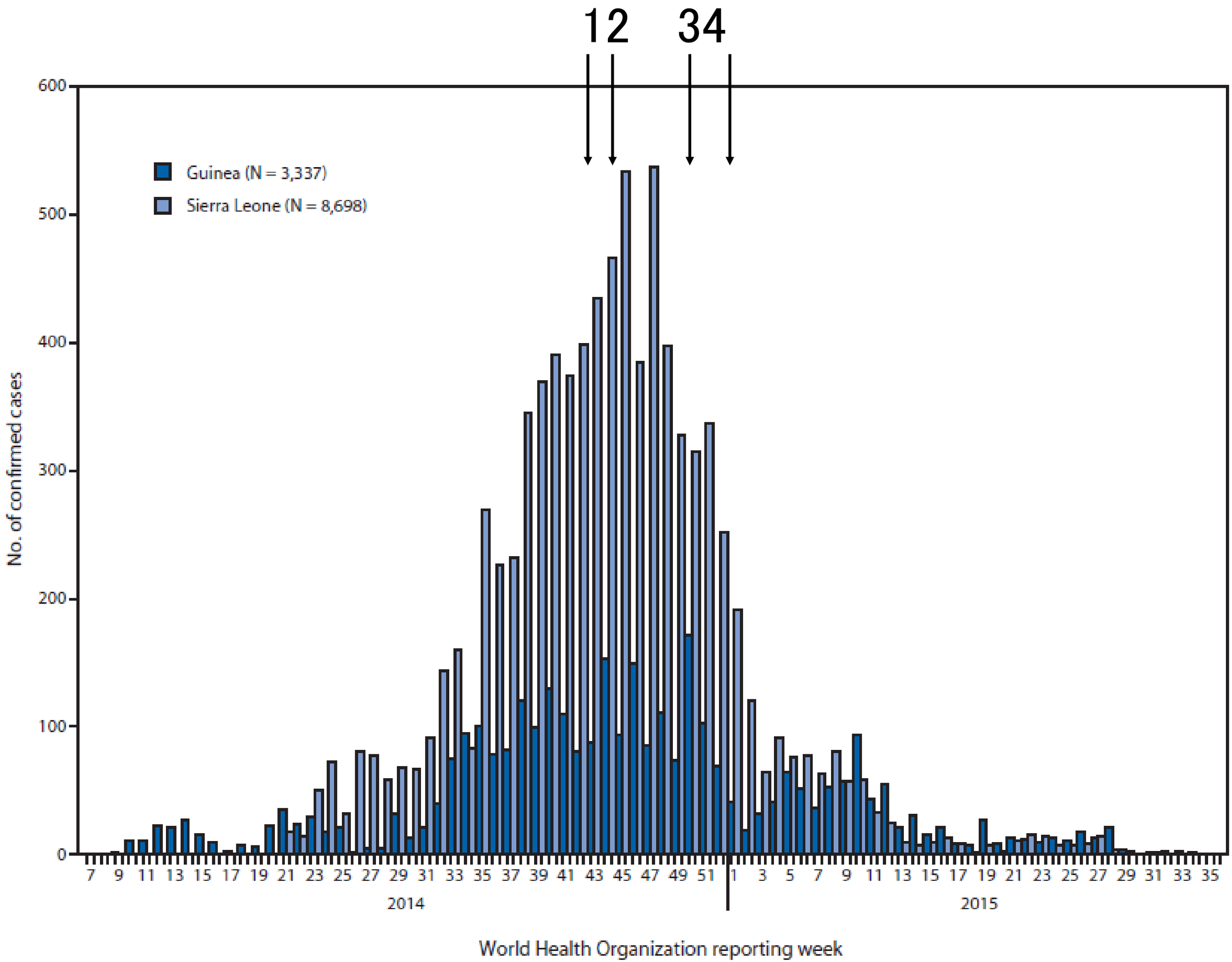
Euro Surveill. 2015;20(44).

Case definition of probable case during EVD outbreak

- 1) fever >38 ° C or clinical symptoms of EVD AND
- 2) history of contact with body fluids through EVD patients OR history of contact with bats and primates in endemic countries within 21 days.

4 suspected EVD cases

Cases	date	countries	ebola PCR	duration of isolation	final diagnosis
40s M	2014/10/27	unknown	−ve	3 days	unknown
60s M	2014/11/7	Liberia	−ve	2 days	Streptococcal pharyngitis
30s M	2014/12/29	Sierra Leone	−ve	2 days	sinusitis
70s F	2015/1/18	Sierra Leone	−ve	3 days	influenza A



MMWR Morb Mortal Wkly Rep. 2015 Sep 11;64(35):981-4.

Face shield

goggle

N95 mask

double gown

double grove

PPE in our institute

shoes cover

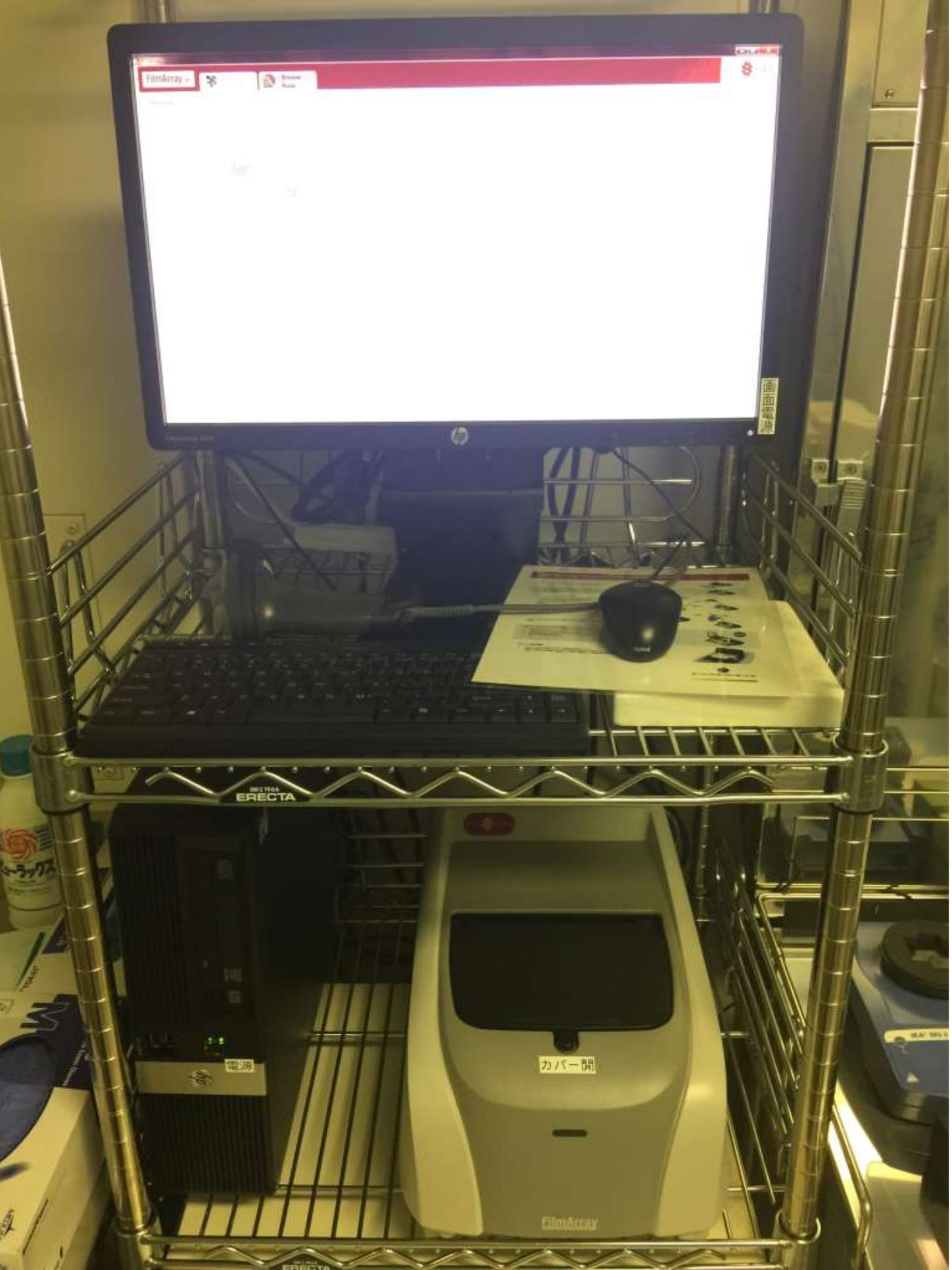
boot

FilmArray®
multiplex PCR system

- Simple: 2 minutes of hands-on time
- Easy: No precise measuring or pipetting required
- Fast: Turnaround time of about an hour

FilmArray BioThreat Panel

- *Bacillus anthracis, 3 Targets*
- *Brucella* melitensis, *2 Targets*
- *Burkholderia, 2 Targets*
- *Clostridium botulinum*
- *Coxiella burnetii, 2 Targets*
- *Ebola virus* (Zaire)
- *EEE virus*
- *F. tularensis, 2 Targets*
- *Marburg virus, 2 Targets*
- *Ricinus communis*
- *Rickettsia* prowazekii, *2 Targets*
- *Variola virus*
- *VEE virus, 2 Targets*
- *WEE virus*
- *Yersinia pestis, 2 Targets*
- *Orthopox virus, 2 Targets*



Laboratory in ID unit.

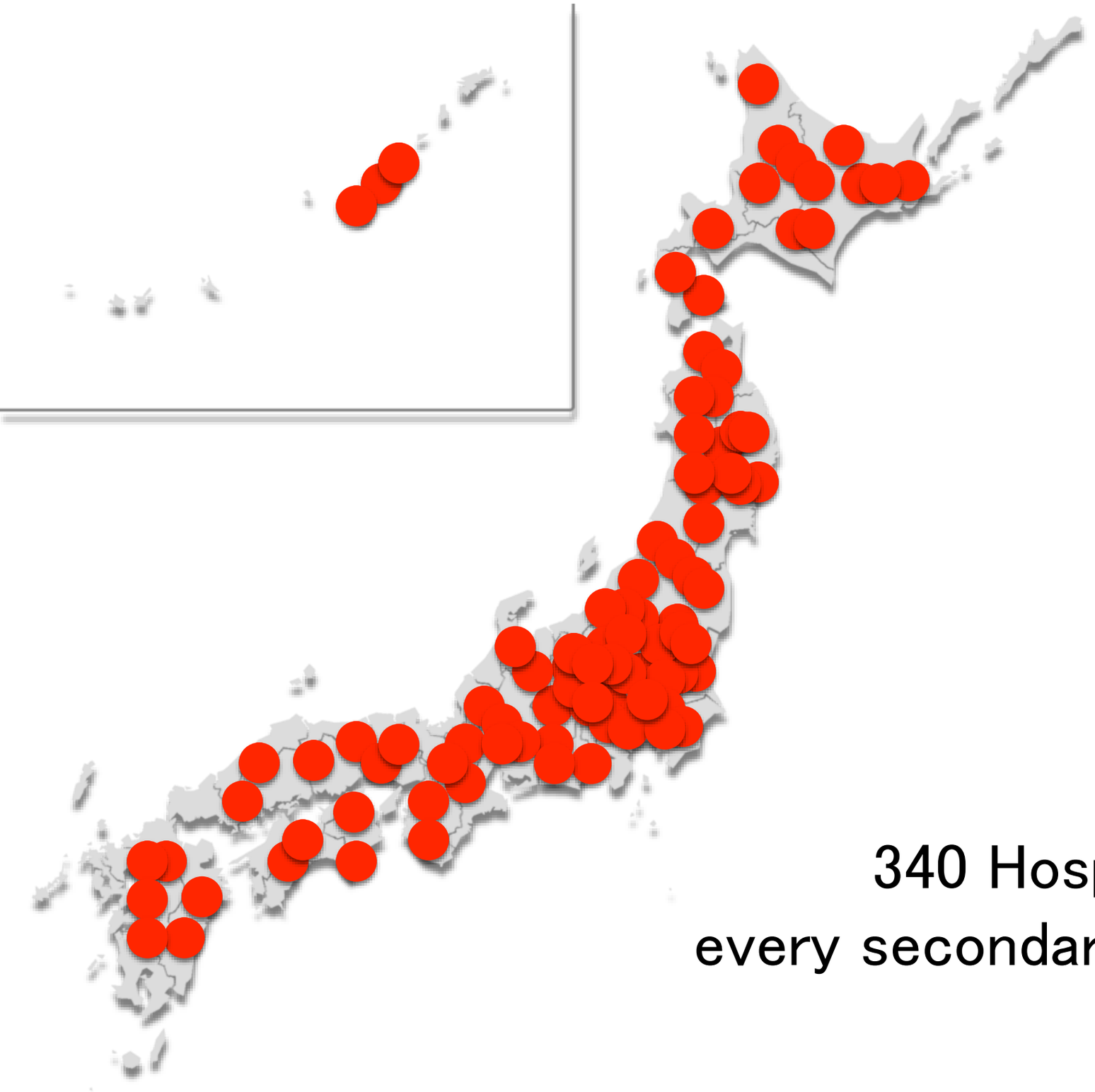
・CBC and chems
・Rapid Test
(Malaria, Dengue, etc..)
・PCR(EVD)
・LAMP（MERS, H5N1, etc…）

MERS, avian flu

MERS, avian flu

- Classified as type 2 infectious diseases
- Probable cases should be admitted to “Specified / Category 1 or 2 infectious diseases hospital”
- More than 300 hospitals are assigned to care the patients of type 2 infectious diseases including MERS and avian flu

Medical institutions designated for type II infectious diseases



340 Hospitals located
every secondary medical care area

The definition of suspected cases of MERS during outbreak in Korea

(I)Patients with fever, respiratory symptoms, and the findings of pneumonia with history of travel to the MERS endemic countries within 14 days

(II)Patients with fever, respiratory symptoms, and the history of medical visit, or exposure to the patient of MERS / camels, with history of travel to the MERS endemic countries within 14 days

(III)Patients with fever, or respiratory symptoms, and the history of exposure to the confirmed MERS patients within 14 days

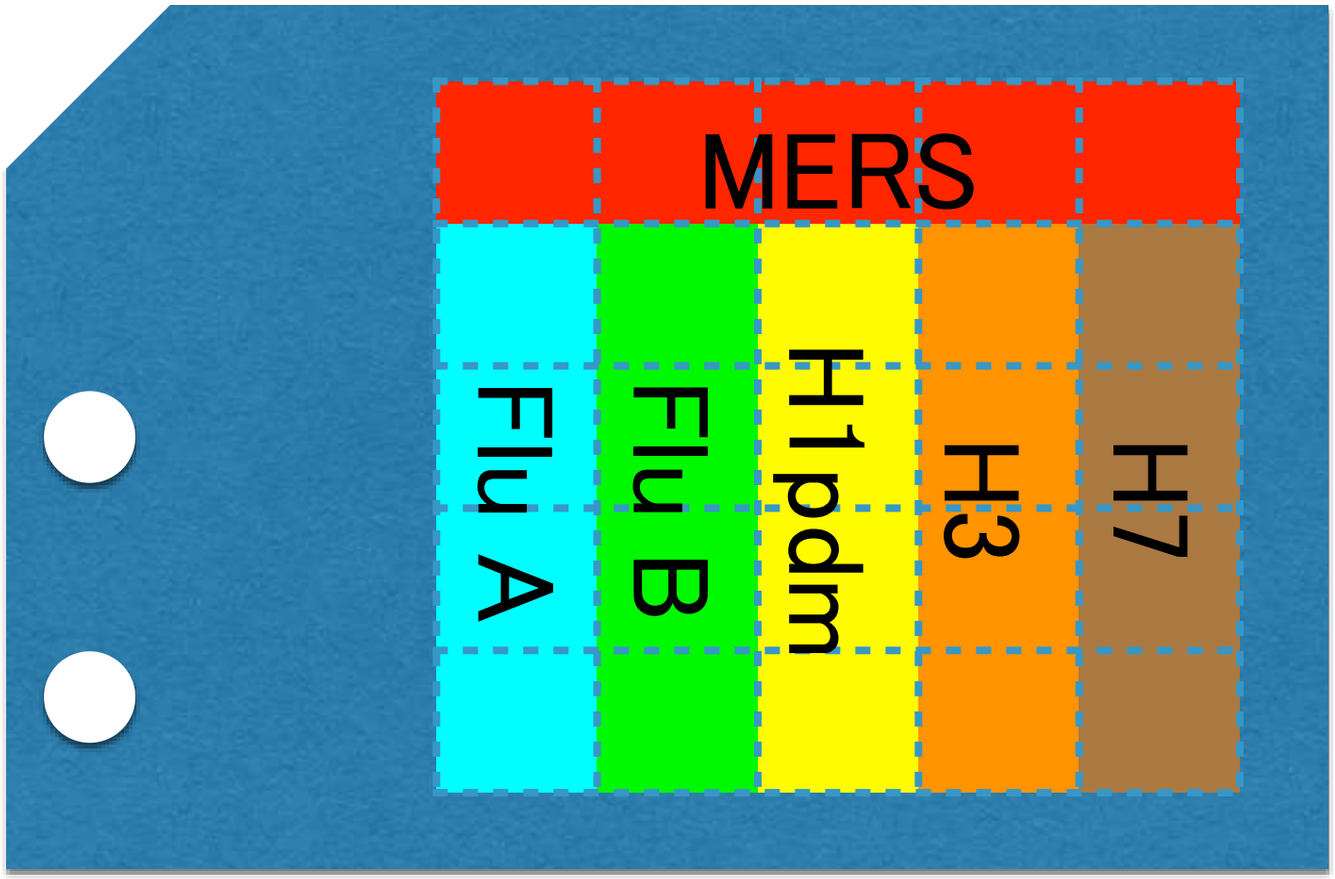
LAMP method for MERS-CoV detection

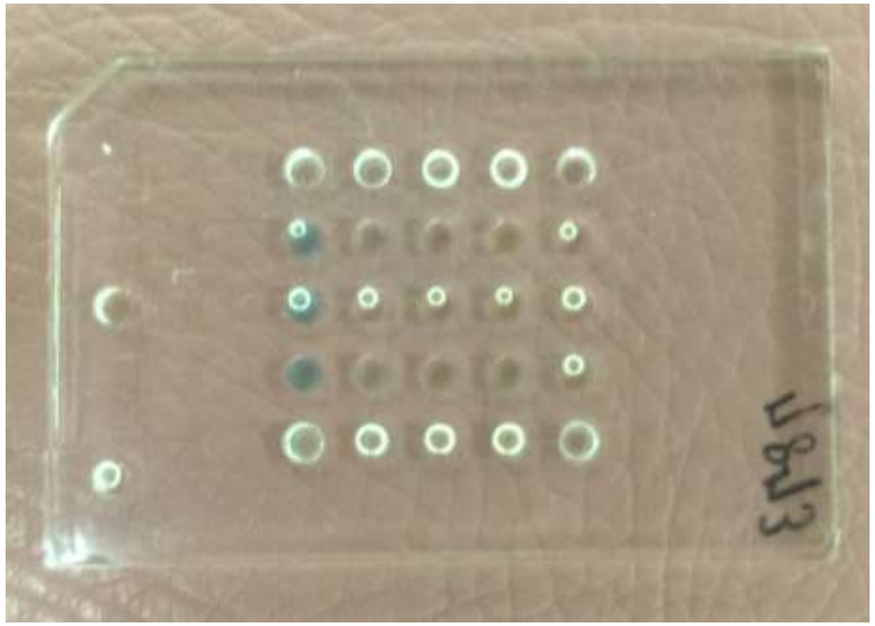
- Loop-mediated Isothermal Amplification is a simple, rapid, specific and cost-effective nucleic acid amplification method solely developed by Eiken Chemical Co., Ltd.

- It takes only 30 minutes to detect pathogens including MERS-CoV.

- We have multiplex LAMP method system in our laboratory in ID unit.

Chip Layout





gned by Dr. Kageyama, National Institute of Infectious Diseases, Japan and EIKEN

- LAMP Test System

File(F) Edit(E) Setup(S) Version(V)

Program setup

Stand-by

STOP

1502 | 1508 | Unit-3 | Unit-4

Comment

Sample name : 20160104

Chip ID : I1-0154

Chip type : No.6

Information

Tray state : CLOSE

Chip state : NONE

Heater temp.(Upper) : 0.0 ℃

(Lower) : 0.0 ℃

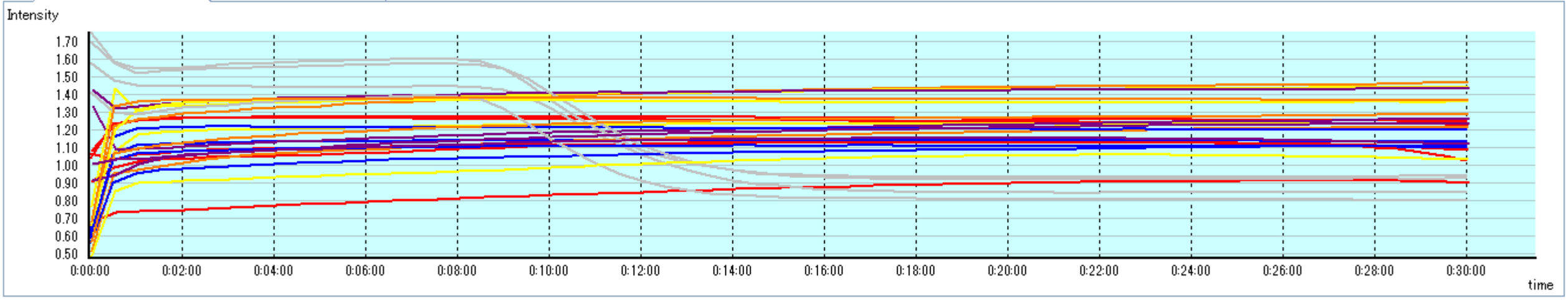
Meas time : 30 min

Remain time :

Well information

1	MERS	−	None	2	MERS	+/−	None	3		−	None	4		−	None	5		−	None
6	FLUA	−	None	7	FLUB	+	9.58	8	H1pdm	−	None	9	H3	−	None	10	H7N9	−	None
11	FLUA	−	None	12	FLUB	+	9.11	13	H1pdm	−	None	14	H3	−	None	15	H7N9	−	None
16	FLUA	−	None	17	FLUB	+	9.45	18	H1pdm	−	None	19	H3	−	None	20	H7N9	−	None
21	FLUA	−	None	22	FLUB	+	8.91	23	H1pdm	−	None	24	H3	−	None	25	H7N9	−	None

Real-time graph | Measurement data



Ready

File(F) Edit(E) Setup(S) Version(V)

Program setup

1502 | 1508 | Unit-3 | Unit-4

Comment

Sample name : 20160104

Chip ID : I1-0154

Chip type : No.6

Information

Tray state : CLO

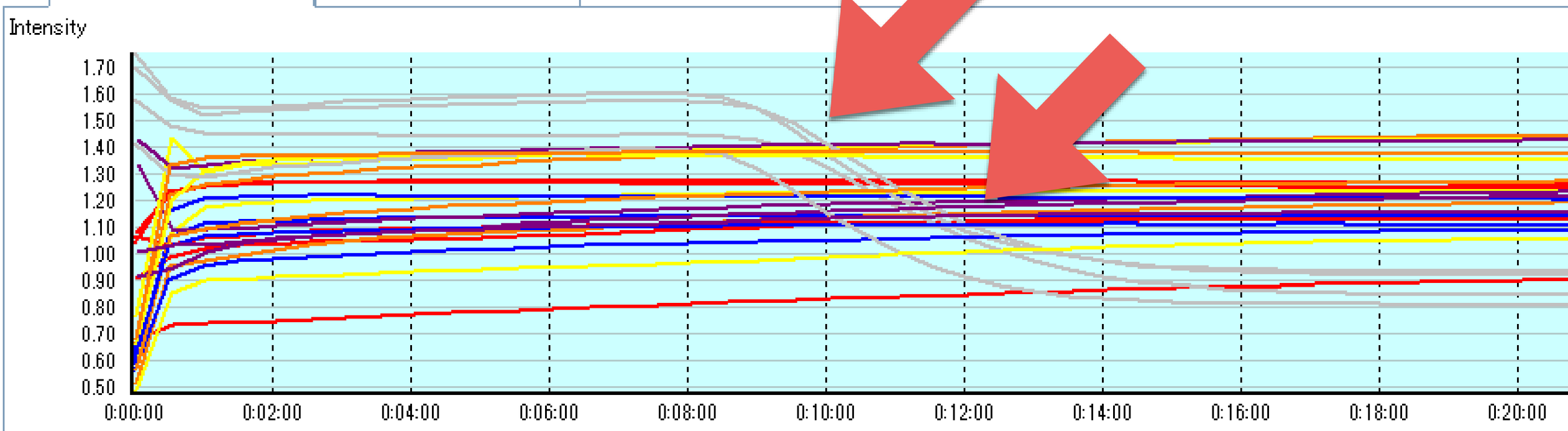
Chip state : NON

Well information

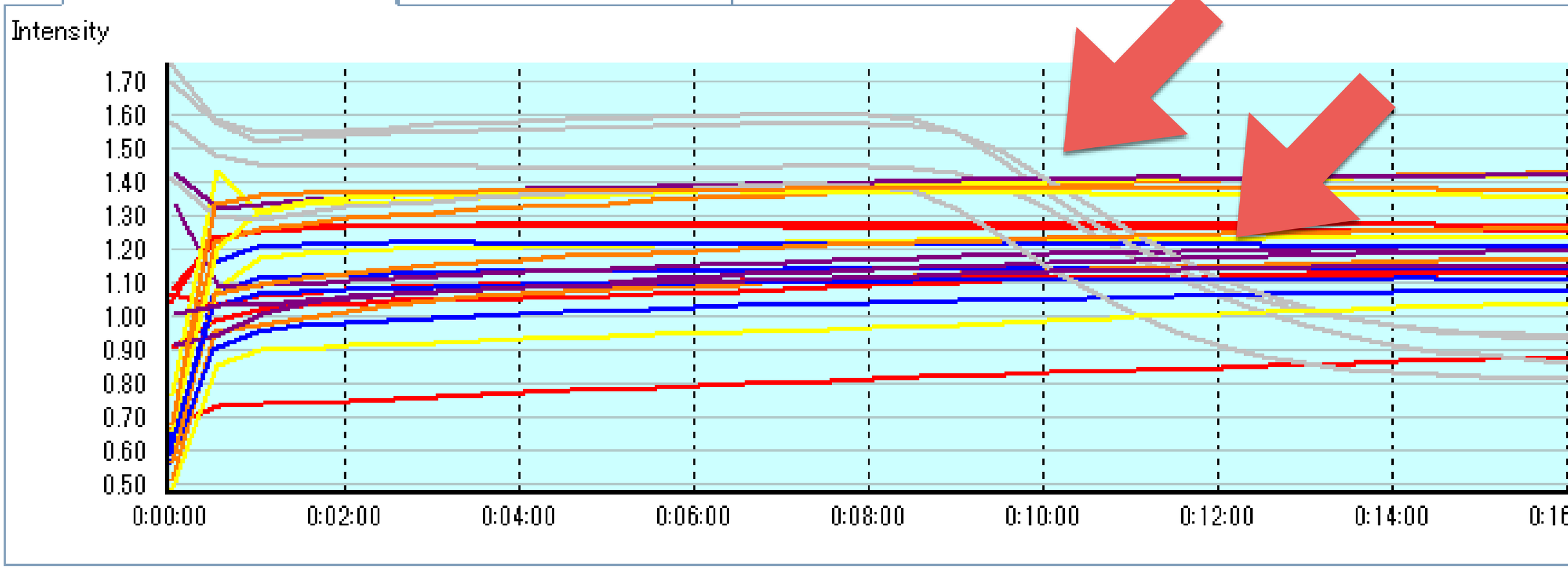
1	MERS	−	None	2	MERS	+/−	None	3		−	None
6	FLUA	−	None	7	FLUB	+	9.58	8	H1pdm	−	None
11	FLUA	−	None	12	FLUB	+	9.11	13	H1pdm	−	None
16	FLUA	−	None	17	FLUB	+	9.45	18	H1pdm	−	None
21	FLUA	−	None	22	FLUB	+	8.91	23	H1pdm	−	None

4		
9	H3	
14	H3	
19	H3	
24	H3	

Real-time graph | Measurement data



Real-time graph | Measurement data



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