

Capacity Building of Public Health Preparedness and Response



Donghyok Kwon, DVM, PhD

**Korea Centers for Disease Control and Prevention
Ministry of Health and Welfare**

**Collaboration between Health Authorities
and Other Relevant Stakeholders to
Strengthen National Capacities for Pandemic
Preparedness and Response**

- Experience on MERS Outbreak in Korea-

Contents

- ① Epidemiology & Characteristics of MERS-CoV Outbreak in the Republic of Korea
- ② Control measures of MERS-CoV
- ③ Collaboration: International & Multi-sectoral
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Rapid and global spread of infectious diseases



THE GLOBAL AVIATION NETWORK

**DISEASE CAN SPREAD NEARLY
ANYWHERE WITHIN 24 HOURS**

Index case and transmission route

April											May																							
27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
UAE, Bahrain, KSA									In Korea																									

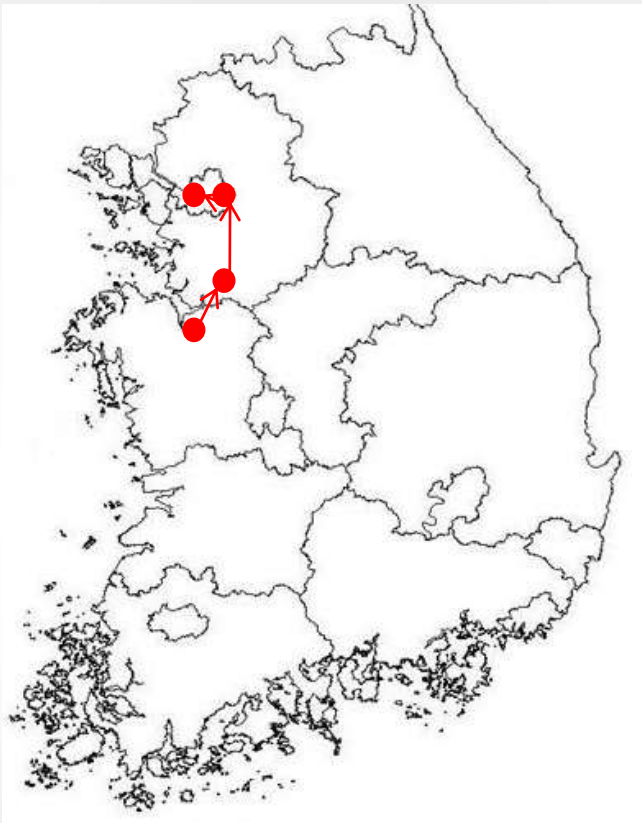
Sx.

Clinically Well

Mild Illness

Severe Illness(Hospitalization)

Route



May 11: Fever, Myalgia

May 12, 14, 15 (**Clinic A**): **A nurse** was infected

May 15~17 (**Hospital B**): Fever, Cough, dyspnea, pneumonia
* **29 were infected**

May 17 (**Clinic C**): **A physician** was infected

May 17, 18~20 (**Hospital D**)

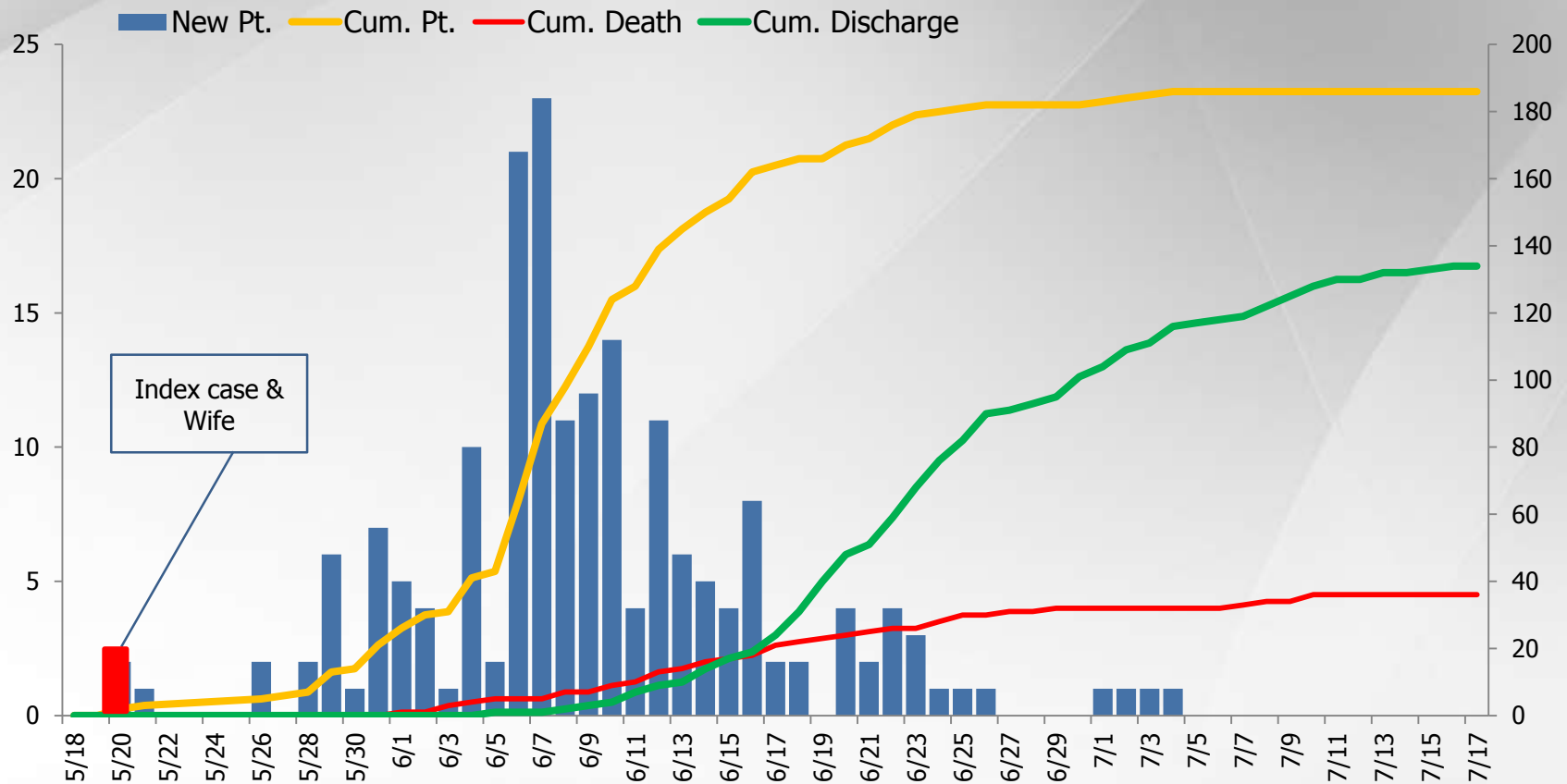
5.20 (NMC): Isolation treatment in negative pressure room

KSA : Kingdom of Saudi Arabia

Situation of New Pt. / Discharge / Death

Incidence (N)

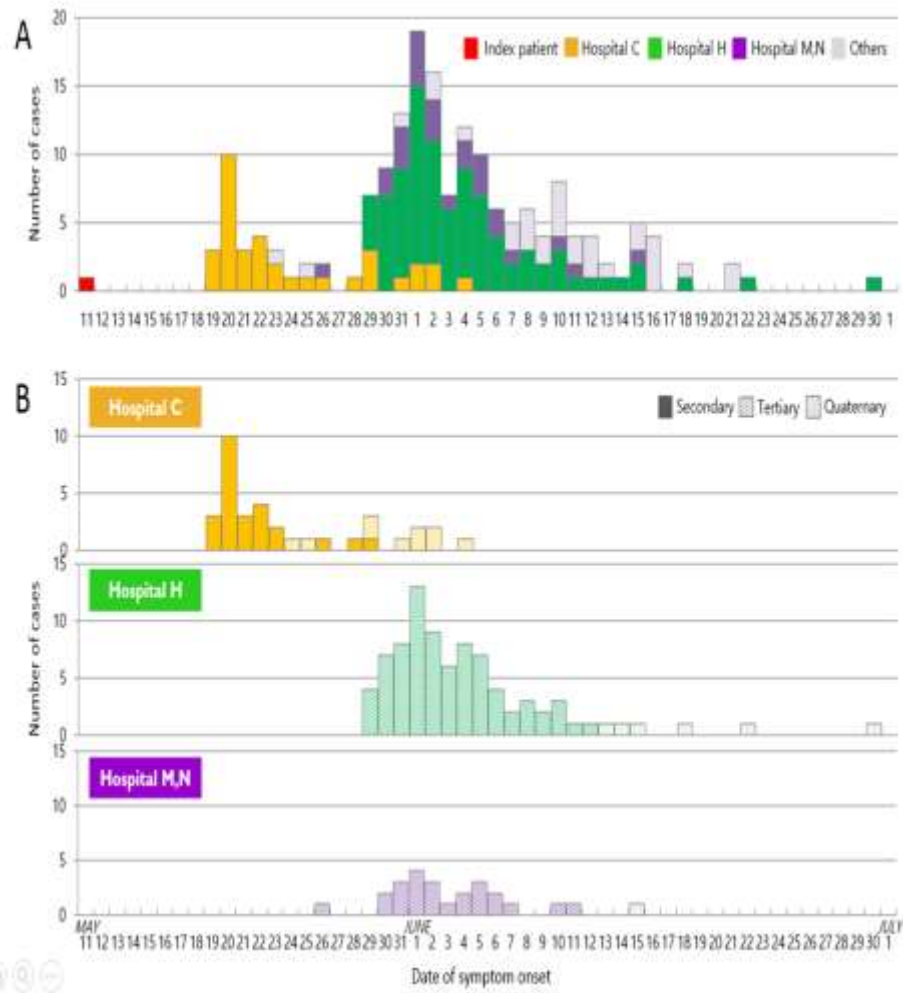
Cumulative (N)



* Classification by confirmed date

	cases	discharged	deaths	Patients under treatment
Total (as of 31. Aug)	186	147	38	1(Stable)

Hospital-based outbreak



Characteristics of MERS-CoV Infection in Korea

Characteristics 1

No Community Spread,
Inter-hospital Spread

Characteristics 2

“Super Spreading Event”
with high transmissibility

Characteristics 3

“Super Spreader”
Unpredictable

Control Measures in Korea [early phase]

1

Entry Control

Quarantine/Monitoring system

- Tracing of Visitors to risk areas for 14 days

2

Epidemiological Investigation

Patients & Contacts tracing

- Patients investigated on transmission route
- Contacts traced for symptom onset

3

Quarantine & Treatment

Home Quarantine/ Isolation

- **Suspected cases** quarantined with lab testing
- **Confirmed cases** treated in facilities
- **Contacts** under home quarantine

Control Measures in Korea [spreading phase]

1

Applying broad epidemic investigation for contact tracing

- Expansion of Epi Investigation
- Strict management of home quarantine

2

Intensive management for hospitals

- Operate Joint Rapid Response Team(JRRT)
- JRRT on site management

3

Strengthening of Infection prevention & control in hospitals

- Suspected cases were separated from other patients
- Resp. patients screened separately & hospitalized in a single room

Information Sharing and Communication

- Report the MERS case information via IHR (WHO)
- Website(www.mers.go.kr) was established to share information on patients & outbreak situation

Category	MERS Portal Website		MOWH Homepage	
	Registered Postings	Hits	Registered Postings	Hits
MERS PresRelease	25	18,272	24	11,409
MERS Statistics	14	5,534	13	5,234
Other Information	27	17,175	24	9,146
Total	66	40,981	61	25,829

- Produced MERS brochures with 16 languages

Korea-WHO Joint Mission on MERS-CoV outbreak

- Korea-WHO joint mission team of 16 experts activated (June 9-13)
- KCDC, NMC briefing on MERS situation, Expert meeting, on-site visit
- Assessing ROK's response and control efforts
 - Especially on virus transmission routes, contact tracing, quarantine measures, and governance system
- Evaluation of the strategy for information sharing and communications with public



Technical Cooperation with the KSA

- Presentation of KSA MERS Outbreak experiences on clinical/epidemiological aspects, countermeasures and risk communication followed by discussions with Korean experts
- Information sharing on infection prevention and control for hospital-related MERS cases

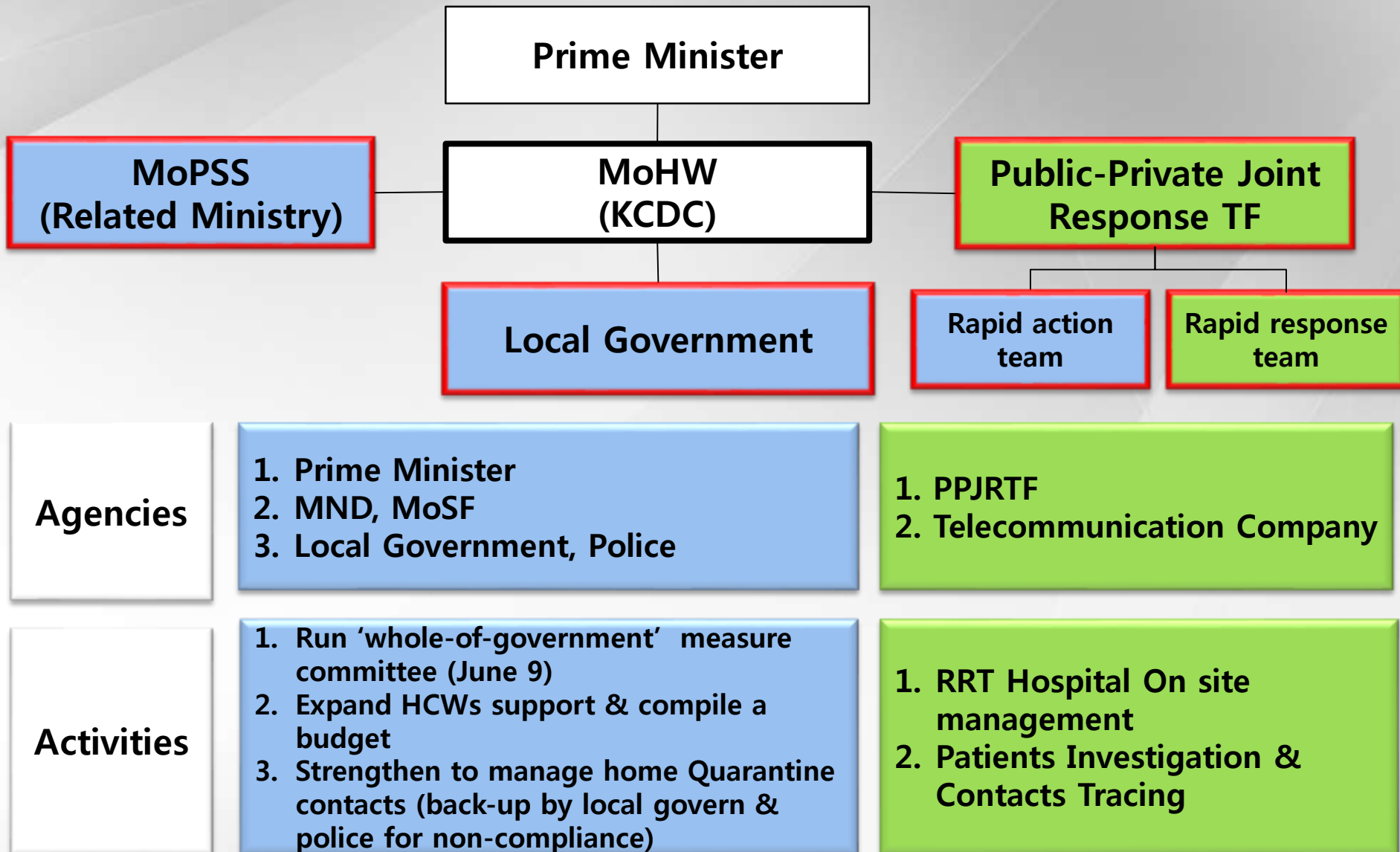


Technical Cooperation with US CDC

- US CDC's MERS Technical Cooperation Team visited (June 21- July 1)
 - Conference with experts visiting 4 hospitals and the quarantine station at Incheon international airport
 - Introduction of an imported US MERS case to Korean clinicians
- Acknowledging Korea's experience will enhance knowledge on MERS
- Sympathizing with Korea's contribution through collaborated research and information sharing



Collaboration between agencies & activities



MoPSS : Ministry of Public Safety And Security, MoJ : Ministry of Justice
MND : Ministry of National Defence, MoSf : Ministry of Strategy & Finance

Impact minimized with rapid cooperation of multi-sectors



Lessons learned from MERS-CoV Outbreak

Preparedness

- ✓ Real time monitoring of global Emerging Infectious Disease(EID) situation
- ✓ Enhancement of Epidemic Intelligence Service(EIS) officers' capacities

Information Sharing

- ✓ Information sharing with international partners is critical.
- ✓ Join exercise for lag finding would be essential.

Strengthen multi-sectoral collaboration

- ✓ Specification of roles, responsibilities and coordinating system to be arranged
- ✓ Collaboration, coordination between public & private sectors to be secured

Revision of infectious disease crisis response system

1. Recruitment of Qualified Experts at KCDC

- ☑ Increase experts strengthen the experts' capacities
 - 30 EIS Officers are under recruiting

2. Secure infrastructure for Rapid Response and Infection Control

- ☑ Strengthen Quarantine system for emerging infectious diseases
- ☑ 24h monitoring system by operating Emergency Operations Center(EOC)
- ☑ Improve Infection Prevention & Control Capacities

3. Strengthen R&D for infectious diseases

- ☑ Develop new laboratory diagnostic methods, including MERS detection kit
- ☑ Strengthen R&D for emergency response, including vaccine development

Disaster Management System of Korea

- Ministry of Public Safety and Security(MPSS)
 - Was established on Nov. 19, 2014.
 - To create a prompt, comprehensive system, to cope with disasters and safety problems by building a disasters management system
 - It has Central Fire Service and Korea Coast Guard
 - It can establish, administer and control total coordinating policies of safety and disaster
- MPSS is a control tower and will cooperate with departments in charge of natural or man-made disasters
 - MOH and KCDC are in charge of Public Health issues
 - Ship capsizing: Ministry of Oceans and Fisheries
 - Oil Spills: Ministry of Environment & MOF etc.

Recommendations

- Within the country, multi-sectoral collaboration is essential to cope with infectious disease outbreak.
 - MOH and KCDC coped with MERS in Korea with the cooperation of other agencies (governmental and private sectors)
- And information sharing with people is very important.
 - MOH and KCDC delayed in sharing the information of hospitals where the MERS-CoV confirmed patients visited and this caused loss of credibility of Korean Health authorities.
- Globally, cooperation with WHO or other countries where experienced and coped with the infectious disease should be warranted.
 - With the collaboration and advice of these countries, Korea could finish MERS



Thank you