

April 2020

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# **COVID-19**

## **Situation, Response & Key Developments**

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**BUSAN METROPOLITAN CITY**

**The Government of the Republic of Korea**

# I

# COVID-19 Situation

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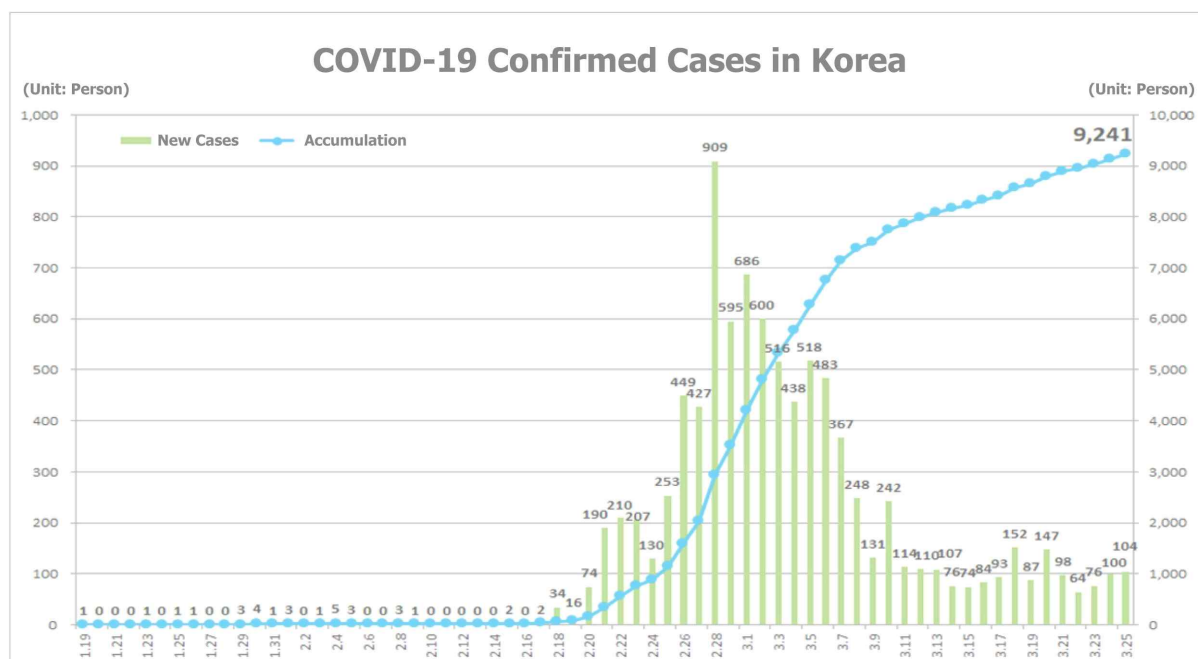
# 1. Outbreak of COVID-19

## □ Outbreak of COVID-19 in Korea and Community Spread

- The first COVID-19 confirmed patient in Korea, reported on Jan. 20, 2020, was a female Chinese national (born in 1984) who had visited Wuhan, China. Before February 18<sup>th</sup>, for a month, the country had little concern for community spread as cases of transmission were clearly identified in those who had visited Wuhan (10 cases), came in contact with a confirmed patient or traveled overseas. The number of new cases only showed a gradual increase (30 cases in a month) and were confined to Seoul and the capital area.
- However, community spread became a reality after a member of the Shincheonji Church of Jesus in Daegu tested positive (Feb. 18). In response, the Busan Metropolitan City Government ramped up its efforts to contain COVID-19 by taking preemptive control measures, updating treatment manuals, and reorganizing infection prevention and control systems.
- Busan saw its first confirmed COVID-19 case on February 21<sup>st</sup>, 2020, a month after the outbreak of the first confirmed case in Korea (Jan. 20). The number of cases surged to 50 over the next five days (Feb. 25), which added surmounting pressure to patient treatment and contact tracing. However, since March 10<sup>th</sup>, a large number of patients have fully recovered, a welcoming development which allowed the city government to better cope with the outbreak regarding supply of patient beds, treatment and contact tracing.

## 2 COVID-19 Situation, Response and Key Developments in Korea

- Number of newly confirmed cases in Korea: highest daily record of 909 cases (Feb. 28), decreased to under 100 cases (Mar. 14)



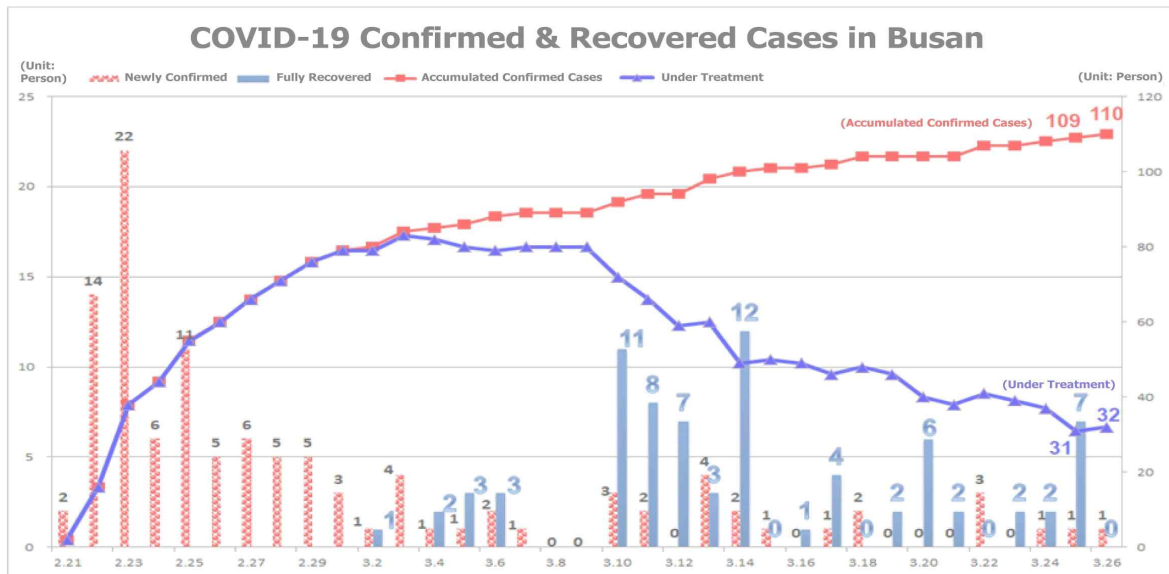
- Timeline of Korea's Response to COVID-19

Date	Key Development & Response
Dec. 31, 2019	27 cases of pneumonia of unknown origin were reported in Wuhan, Hubei Province, China.
Jan. 9, 2020	Wuhan government announced the cause of novel coronavirus as the first death took place.
Jan. 20	Korea saw its first COVID-19 confirmed patient. Korean government raised its infectious disease alert level from Blue (level 1) to Yellow (level 2).
Jan. 23	Chinese government locked down Wuhan, the epicenter of the outbreak.
Jan. 27	Korean government raised the national alert level to Orange (level 3) and launched the Central Disaster Management Headquarters.
Jan. 30	WHO declared the novel coronavirus outbreak a Public Health Emergency of International Concern (PHEIC).
Feb. 4	Korea began banning entry of all foreign nationals who had been to China's Hubei Province, strengthened entry procedures and halted visa-free entry to Jeju Island from China.
Feb. 5	The 2 <sup>nd</sup> confirmed patient in Korea fully recovered and was released from hospitalized treatment 13 days after testing positive, the first recovery in Korea.
Feb. 12	Korean government followed WHO decision to officially name the new coronavirus as COVID-19, designated Hong Kong and Macau as contaminated areas and enhanced entry procedures accordingly.
Feb. 18	A female Korean national aged 61 without any travel history tested positive as Patient No. 31.
Feb. 19	Cluster infection took place among those who came in contact with Patient No. 31 at Shincheonji Church in Daegu.
Feb. 20	The number of confirmed cases increased to over 100, with 1 deaths from

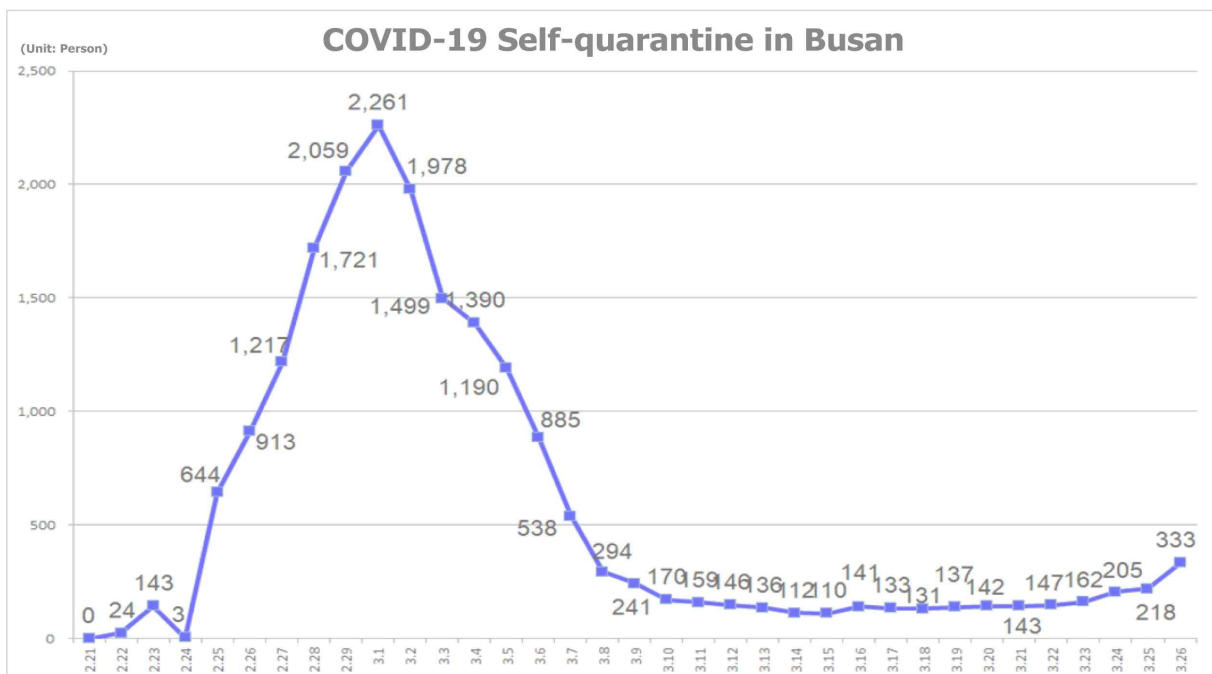
Date	Key Development & Response
	Daenam Hospital in Cheongdo, Gyeongsangbuk-do Province.
Feb. 22	The number of confirmed cases increased to more than 430 (231 cases from Shincheonji Church, 111 cases from Cheongdo Daenam Hospital) with 3 deaths.
Feb. 23	The number of confirmed cases increased to 600, with death toll at 5. Korean government raised its infectious disease alert level to the highest, Red (level 4).
Feb. 26	The number of confirmed cases in Korea exceeded 10 million with 12 deaths.
Mar. 11	WHO declared COVID-19 a pandemic.
Mar. 13	Korea recorded the 'highest' number of fully recovered patient (177 cases), with the number of the fully recovered exceeding the confirmed patients (Golden Cross).
Mar. 15	Korean government declared Daegu and Cheongdo as Special Disaster Zones.
Mar. 17	Ministry of Education postponed kindergarten and elementary/middle/high school opening for the third time (~April 3).
Mar. 18	A small cluster infection of about 90 cases was reported in five nursing hospitals in Daegu. National Assembly of Korea passed supplementary budget of 11.7 trillion KRW to respond to COVID-19.
Mar. 19	Korean government expanded special entry procedures for all international arrivals (both Korean and foreign nationals) and convened the 1 <sup>st</sup> Emergency Economic Council Meeting.
Mar. 21	Prime Minister announced statement on strict social distancing campaign.
Mar. 22	Korean government began conducting COVID-19 tests for all arrivals from Europe.

### 3 COVID-19 Situation, Response and Key Developments in Busan

- Number of newly confirmed cases in Busan: highest daily record of 22 cases (Feb. 23), no additional confirmed case on Mar. 17



- Number of people under Self-quarantine in Busan: highest daily record of 2,261 (Mar. 1), a decrease to 200 or less (Mar. 10)



○ Timeline of Busan’s Response to COVID-19

Date	Key Development & Response
Jan. 20	Launched Emergency Quarantine Team as the national infectious disease alert level was raised to Yellow (level 2)
Jan. 27-28	Hosted the Joint Emergency Meeting of City Government·Gu/Gun Offices·Related Institutions, presided over by the Mayor of Busan as the national alert level was raised to Orange (level 3)
Jan. 29	Established Disaster Response Support Headquarters against coronavirus
Feb. 3	Launched two-track emergency response system to implement quarantine and minimize economic impact ▸ Busan Disaster and Safety Countermeasures Headquarters + Emergency Economic Recovery Response Headquarters
Feb. 4	Hosted the 1 <sup>st</sup> Private·Public Joint Emergency Economic Meeting ▸ Came up with preemptive response, including monitoring of local economy and establishing countermeasures
Feb. 5	Established a plan to provide medical equipment worth 0.3 billion KRW to 8 Chinese provinces and cities, including Busan’s six friendship/sister cities, along with Shandong Province and Shanxi Province.
Feb. 10	Hosted the Comprehensive Meeting for Coronavirus ▸ Established countermeasures for each level of outbreak.
Feb. 12	Convened the 2 <sup>nd</sup> Private·Public Joint Emergency Economic Meeting ▸ Discussed tailored support to tourism industries and small and micro businesses.
Feb. 14	Signed the Agreement on Comprehensive Finance between Busan Metropolitan City Government·BNK Busan Bank ▸ Extending loan maturity dates, applying special interest rates and providing emergency fund of 100 billion KRW irrespective of credit ratings
Feb. 20	Hosted the 3 <sup>rd</sup> Private·Public Joint Emergency Economic Meeting and announced measures to boost local tourism.
Feb. 24	Convened a meeting with 5 religious group leaders for COVID-19 and built consensus on refraining from religious events.
Feb. 26	Held the 4 <sup>th</sup> Private·Public Joint Emergency Economic Meeting ▸ Reviewed measures and tailored support for affected small and micro businesses
Feb. 26	Convened Busan·Ulsan·Gyeongnam Joint Video Conference ▸ Agreed on establishing a joint response system on the metropolitan region level, including COVID-19 information sharing.
Feb. 27	Offered emergency medical masks ▸ Provided 33,000 medical masks to the vulnerable population, including patients suffering from kidney problems
Feb. 29	Conducted random night inspections of Shincheonji Church and related facilities ▸ Gu·Gun office joint inspection, including closing down related facilities
Mar. 3	Designated the 1 <sup>st</sup> Busan Clean Zone business ▸ Aiming to ease citizens’ concerns and reaffirming a level of safety in Busan to revitalize small and micro businesses in neighborhoods
Mar. 3	Held the Joint Meeting of Related Institutions followed by a delay in kindergarten and school openings ▸ To provide childcare support and prevent infection at private academies
Mar. 4	Convened the City Government·Gu/Gun Office Joint Emergency Meeting ▸ Collaboration and cooperation to establish measures for quarantine and supply of medical masks
Mar. 5	Started operation of drive-thru screening clinics in Busan ▸ Operating an increasing number of drive-thru screening clinics for rapid and safe testing
Mar. 8	Started providing emergency administrative support to pharmacies selling medical masks ▸ Dispatched 700 city officials to 1,534 pharmacies
Mar. 9	Announced three measures to ease burdens on small and micro-business ▸ Aiming to ease the burden of 1) rent 2) lack of funds 3) income decrease
Mar. 10	Launched a community donation campaign ▸ Provided priority support to businesses that were visited by confirmed patients

Date	Key Development & Response
Mar. 11	Extended mandatory shutdown of Sincheonji Church facilities and ban on demonstrations ▸ (prolonged) Mar. 11 - Mar. 24 (2 weeks)
Mar. 11	Implemented comprehensive monitoring of facilities with high-risk of infection, including multiuse facilities and workplaces with a large number of employees (Mar. 12-Mar. 27)
Mar. 12	Enhanced on-site support for swift execution of policy funds for COVID-19 ▸ Meeting with commercial banks and dispatching of on-site support team
Mar. 18	Busan City Council passed the 1 <sup>st</sup> supplementary budget of 225.8 billion KRW aimed at tackling COVID-19
Mar. 19	Started online briefing (to avoid person-to-person contact) as part of social distancing campaign measure
Mar. 24	Announced emergency supplementary budget for small and micro businesses



## II

# Response to COVID-19

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# 1. First City to Employ Two-track Response Model: Quarantine & Economy

## Establish Prompt and Effective Two-track Emergency Response System to Conduct Quarantine and Minimize Economic Shock

- When the first confirmed case was reported in Korea, Busan launched the Emergency Quarantine Team and established a 24-hour Emergency Contact System in order to trace contact and prepare for the further spreading of the outbreak (Jan. 20).
  - \* 5 teams (including Infectious Disease Control Team), consisting of 27 officials + Infectious Disease Management Center, consisting of 9 officials, headed by Director General of Welfare & Health Bureau
- As the Korean government raised the infectious disease alert level to orange (level 3), Busan immediately responded by establishing the Disaster Response Support Headquarters in support of the Emergency Quarantine Team (Jan. 29).
  - \* 1 team of 2 groups, consisting of 11 officials, headed by Assistant Mayor for Public Safety
- The Busan Metropolitan City Government launched the **Two-track Emergency Response System** focused on quarantine and the economy, the first city in Korea, before a confirmed case took place. This shows the city government's effort to pool the local community's capacity together and minimize the impact of the outbreak on the local economy and society (Feb. 3).
  - Emergency Response System is operating by two tracks: 1) Quarantine, by the Busan Disaster and Safety Countermeasures Headquarters\*, and 2) economic measures to promote consumption and revitalize the local economy, by the Emergency Financial Support Response Headquarters\*\*
    - \* 10 teams, including Administration Management Team, with participation from related institutions headed by the Mayor, and coordinated by the Vice Mayor for Administrative Affairs
    - \*\* 6 teams, including Export/Import Support Team, with participation from 40 related institutions, headed by the Mayor and coordinated by the Vice Mayor for Economic Affairs

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## □ **Expand Response System upon the First Confirmed Case and Raising of the National Alert Level**

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- As confirmed cases were reported in Gyeongsangnam-do Province following Daegu City and Geongsangbuk-do Province, Busan Metropolitan City speculated about the possibility of future community spreading. The city government ordered the **shutdown of Shincheonji Church facilities** and delay of the Busan Transportation Corporation' s employment test (Feb. 21).
- Furthermore, Busan made a **bold, preemptive, and comprehensive response to the spread of the virus**. The city government **reviewed the possibility of drawing up a supplementary budget** to inject vitality into the shrinking local economy.
- Despite such efforts, Busan saw its first confirmed case in the evening of February 21, 2020. In response, the city government expanded **the operations of the Busan Disaster and Safety Countermeasures Headquarters** by adding a 24-hour emergency monitoring system.
- Since the first confirmed case occurred in Korea, several cluster infections took place (22 confirmed cases reported over 3 days). The Korean government **raised the infectious disease alert level to its highest, red (level 4)**, and launched the **Central Disease Control Headquarters** headed by the Prime Minister as part of a special measure to curb community spreading.
- The city government **further expanded the scale and scope of the Busan Disaster and Safety Countermeasures Headquarters' work** which was already in full operation since it preemptively launched.
- \* Expanded from 10 teams consisting of 40 officials to 1 division of 12 teams consisting of 78 officials / Delayed the opening of the World Team Table Tennis Championships (Feb. 25)

## 2. Prompt Quarantine & Medical System with Enhanced Treatment Facility

### Shorten Waiting Times and Provide Rapid Treatment with the Development of Real-time RT-PCR

- Korea Centers for Disease Control & Prevention (KCDC) analyzed the genetic sequence released by Chinese scientists and developed Real-time RT-PCR, a new testing measure (Jan. 13). **Real-time RT-PCR** considerably reduces testing times, which allows medical staff to provide quick treatment to prevent fatalities.
- \* Real-time RT-PCR greatly improved the speed and convenience of testing. It takes only six hours to receive results and **requires just one test to confirm whether a testee is infected.**

Pan-corona test, the existing method, **takes 1-2 days** and testees should go through **two steps**. However, the new method, RT-PCR, **produces confirmed results in only six hours without any need to go through multiple testing stages**. This gives enhanced capacity to effectively contain COVID-19.

- **Since the first case was reported (Jan. 20), Busan** participated in KCDC's training (Jan. 17) and evaluation (Jan. 17-21) on the new testing method, along with other seven other regions in Korea, in order to trace contact and curb the spread of the virus. In addition, **an enhanced response plan for 24h COVID-19 testing was established (Jan. 21).**
  - As the national infectious disease alert level was raised from blue (level 1) to yellow (level 2) (Jan. 20), Pan-corona virus tests were conducted on suspected cases and patients under investigation in Yeongnam area. (Jan. 22)
  - As the national alert level was further raised from yellow (level 2) to orange(level 3)(Jan. 27), Busan reorganized the COVID-19 testing system and adopted the new method, RT-PCR, to facilitate a faster process.

- To promptly respond to further spreading, Busan allowed private testing centers to conduct diagnostic tests to improve speed and convenience.
  - Busan Metropolitan City Institute of Health & Environment conducts epidemiological investigations on cause and source of infection, and tests critical ill patients during the night.
  - Private testing centers implement tests on specimen collected from medical institutions or screening clinics established at public healthcare centers.
  - Private testing centers in Busan: Pusan National University Hospital, Seegene Busan Clinic
- The national government raised alert level to the highest, red (level 4)(Feb. 23), after cluster of community infections in the city of Daegu and Gyeongsangbuk-do Province (Feb. 18), a surge in confirmed cases, and the first reported case in Busan (Feb. 21) took place. As the support system was expanded to the pan-governmental level, testing capacity was also enhanced to 24h testing.
  - An increase to three teams consisting of 15 officials, Busan Metropolitan City Institute of Health & Environment

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**□ Conduct Prompt and Precise Epidemiological Investigations to Detect Sources of Infection and Control Transmission**

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- Immediately after the first confirmed patient in Korea was reported (Jan. 20), Busan launched the **Emergency Quarantine Team** on COVID-19 to take a preemptive response (Since Jan. 21).
- **Private·Public Joint Response Team** consists of **10 city government officials** from the Health Policy Division and specialists from the private sector for a prompt response to stem further spreading and conduct epidemiological investigations. A team of **epidemiological specialists** were allocated as part of the **On-site Response Team**.

- A designated government official conducts one-on-one monitoring of symptoms on those who came into contact with a confirmed patient in Korea by phone twice a day. Each individual is categorized to be put under active surveillance accordingly.

❖ The purpose of epidemiological investigations are to identify or confirm causes and sources of infection and transmission.

- Epidemiological investigations are conducted on confirmed patients and contacts when pathogens are detected once a confirmed patient develops symptoms as he/she goes through treatments and tests at screening clinics.
- Identifying contacts by tracing whereabouts of confirmed patients before being isolated in government-designated institutions for hospitalized treatment to stop the spread of the virus is crucial to epidemiological investigations.
- In particular, it is important to identify those who might have come in contact with confirmed patients using information on their whereabouts in order to put contacts under self-quarantine and monitoring to stop transmission and further spreading as quickly as possible.

○ After a reported suspected patient tested positive at a screening clinic, a **Private • Public Joint Response Team** (consisting of 1 quarantine specialist, 4 epidemiological specialists from city government, and 23 administrative officials) **was immediately dispatched on-site** to conduct an investigation.

- To trace and identify contacts, interviews of patient, analysis of information, including CCTV footage and reviews of collected information were thoroughly conducted.
- To figure out transmission routes and source of infections, the travel history of a confirmed patients and his/her family members, and the possibility of infections occurring during normal daily schedule or at places, including workplaces, homes (accommodation), restaurants, medical institutions are all taken into consideration.

- Quarantine and disinfection are immediately carried out on all identified routes and places visited by a confirmed patient, and all contacts, including family members are placed under self-quarantine.
- As the number of confirmed cases in Korea skyrocketed since the first patient was reported, each local government started giving patient numbers to all confirmed cases, which was previously done at the national level. In addition, Busan effectively responded to increasing cluster infection cases on February 22 (11 cases) and 23 (22 cases).
- A sudden surge in contacts followed by rising cluster infections put pressure on investigation capacity, partly due to lack of personnel.
- \* (Number of Contacts) 160 on Feb. 23, 285 on Feb. 24, 639 on Feb. 25, 1,376 on Feb. 26, 2,059 on Feb. 27
- **More epidemiological specialists (2→4→7 persons) and city officials were recruited\*** to make a targeted effort on prompt epidemiological investigations.
- \* Dispatched 2 more medical officers from public health centers and appointed 3 more epidemiological specialists to increase the number of personnel from the existing 2 city government officials.
- **(Oncheon Church)** It was confirmed that Patient No. 1, a member of Oncheon Church, actively participated in church activities. Additional confirmed cases took place and developed into cluster infections. In response, Busan conducted investigations on church members to identify the routes of transmission and any possible connection with Shinchoenji Church.
- The first confirmed patient in Busan (Feb. 21) was a member of Oncheon Church, and an additional 31 confirmed cases were reported among church members. Investigations on cluster infections were conducted.
- The church suspended its services and masses (Feb. 29) while looking into risk factors and putting all its members under self-quarantine.
- The city government made a concentrated effort to find out the source of infection by utilizing location information gathered from base station and DUR(Drug Utilization Review) data. (Feb. 14 - Feb. 17).