

Responding to COVID-19 Among U.S. Military Units in South Korea: The U.S. Forces Korea's Operation Kill the Virus

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ABSTRACT

Introduction:

The coronavirus disease 2019 (COVID-19) is a viral respiratory illness caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and has led to one of the world's largest infectious disease outbreaks. COVID-19 first emerged in Wuhan, Hubei, China, in December 2019, and the emergence was especially concerning to the U.S. Forces Korea (USFK) stationed in the Republic of Korea (ROK, South Korea), which remains vital to peace and security of the East Asian region. The first wave of cases emerged in South Korea from China before a globally established response, which forced USFK into a challenging position to combat a novel virus with countless unknowns regarding effective control and portended impact.

Materials and Methods:

As cases began to emerge in South Korea, USFK in early February began to proactively formulate peninsula-wide preventative health measures to protect the force. Eventually, USFK spearheaded a uniquely proactive Operation Kill the Virus that targeted COVID-19 as an enemy that must be rigorously defended against. Through the operation, USFK systematically employed eight key principles to successfully combat the pandemic, which are documented in this article.

Results:

The operation's eight principles focused on (1) Treat it like a combat operation, (2) Protect the force to protect the mission, (3) Stay one step ahead of the curve by exercising an abundance of caution, (4) Use predictive analysis, (5) Maintain open and transparent dialog with the community every day, (6) Be empathetic but prepare the community for lifestyle and culture changes, (7) Follow and enforce rules, and finally (8) Keep your foot on the gas and fight complacency. By closely collaborating with the ROK government, especially the Korean Centers for Disease Control and Prevention, USFK effectively limited the number of locally acquired cases, including service members, families, and civilians, to 24 by April 2020. Vital to that success was ensuring a sufficient capability and capacity to test, trace, treat, and logistically support with personal protective equipment and sufficient infrastructure for quarantine and isolation. As the pandemic shifted to the USA and Europe, new cases in the ROK shifted from locally acquired to imported from international travelers. Fundamental to USFK's sustained preservation of readiness and training included aggressive quarantine and testing of all arrivals from the United States of America (USA), identification of hotspots in all installations, and perpetual fine-tuning of the operation's principles in collaboration with the ROK's aggressive approach to eradicate COVID-19 from the peninsula.

Conclusions:

In successfully executing the operation, USFK imparts three main lessons for future outbreaks. First, a military command should execute a health response similar to how it executes combat operations against a battlefield enemy. Second, the command should maintain flexibility to new changes or risks that alter courses of action. And finally, engagement with the local community, host nation, and international partners should not be compromised when formulating strategies. The USFK's immediate recognition of the public health threat by all levels of leadership and medical personnel enabled a unique and highly effective Operation Kill the Virus that engaged all members of the community, both local and international.

INTRODUCTION

The coronavirus disease 2019 (COVID-19) is a viral respiratory illness caused by severe acute respiratory syndrome

coronavirus 2 (SARS-CoV-2) that first emerged in Wuhan, Hubei, China, in December 2019.¹ The emergence was especially concerning to U.S. military units deployed in East Asian countries in close proximity to China. Particularly, the U.S. Forces Korea (USFK) stationed in the Republic of Korea (ROK, South Korea) remained critically vulnerable to the outbreak, thus undermining peace and security of the East Asian region. As no official peace treaty exists between the ROK and the Democratic People's Republic of Korea,² it remains exceptionally important to maximize US–ROK alliance readiness. Similar to the USFK's operation against

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the Severe Acute Respiratory Syndrome (SARS) in 2003³ and Middle East Respiratory Syndrome (MERS) in 2015,⁴ USFK spearheaded a uniquely proactive Operation Kill the Virus beginning in February 2020 that galvanized all USFK personnel and affiliated individuals to join the frontlines in combating the virus.⁵ Ultimately, the objectives of this article are to (1) describe the emergence of COVID-19 in South Korea and its impact on USFK, (2) document USFK's Kill the Virus principles that are continually leveraged throughout the pandemic, and (3) highlight lessons learned for future infectious outbreaks.

BACKGROUND

In the initial stages of the outbreak, COVID-19 remained largely misunderstood and received little attention from surveillance programs. As cases increased across several countries, the World Health Organization (WHO) declared the COVID-19 outbreak a Public Health Emergence of International Concern on January 30, 2020,⁶ and restricted movement from China to the United States of America (USA).^{7,8} Thereafter, the U.S. Secretary of Health and Human Services declared a public health emergency (PHE) on January 31, 2020, which prompted USFK to prohibit all travel to and from China and mandate all personnel to immediately depart the country.⁹ The outbreak eventually became recognized as a pandemic on March 11, 2020,¹⁰ as case numbers quickly surpassed those inside China.¹¹

The first COVID-19 case emerged in South Korea on January 20, 2020¹² with cases escalating on February 21, 2020, in Daegu, South Korea.¹³ Afterward, South Korea's total confirmed cases frighteningly increased to 3150 by February 29, 2020, and 5186 by March 3, 2020, which resulted in the country's largest spikes.¹¹ But with lessons learned from the most recent MERS 2015 outbreak, South Korea was prepared to effectively streamline safeguard measures and preventative protocol by increasing their health system capacity to match the increase of cases.¹⁴ Essentially, the Korean Centers for Disease Control and Prevention (KCDC) were fundamentally prepared for the pandemic, and USFK importantly sought success within the country's health system.

In early February, USFK began to proactively formulate peninsula-wide preventative health measures (e.g., contact tracing, contingency, and action plans) to protect the force, eventually initiating Operation Kill the Virus. But despite such measures, USFK witnessed its first positive case, a USFK dependent living in Daegu, on February 24, 2020 (*Fig. 1A*).¹⁵

Executing a response initially posed a monumental challenge, as there was incredible lack of knowledge on the novel virus (e.g., pathophysiology, mortality rate, asymptomatic transmission, etc.) and South Korea witnessed the outbreak earlier than most countries, such as Italy, Germany, and the USA, whose initial peaks occurred around March 27,

2020; April 5, 2020, 2020; and April 11, 2020, respectively (*Fig. 1B*).^{11,16} Despite limited guidance from the WHO or U.S. Centers for Disease Control and Prevention (CDC), USFK took initiative by aiming to address every unknown unknowns and known unknowns of the enemy, while staying flexible to rapidly changing information to win the battle. Ultimately, USFK succeeded in implementing Operation Kill the Virus with eight key principles that provided forecast as COVID-19 surged throughout the world.

USFK HEALTH RESPONSE PLAN: KILL THE VIRUS PRINCIPLES

Principle 1: Treat it Like a Combat Operation

Issue Clear Commander's Intent

The COVID-19 outbreak worldwide prompted the USFK command to treat the virus like a combat operation. The USFK immediately instituted a 14-day self-quarantine for U.S. service members returning from mainland China to South Korea after January 19, 2020, effective on February 2, 2020.¹⁷ Upon the first confirmed USFK positive case on February 24, 2020, all South Korean and U.S. military bases were on lockdown, and USFK prohibited non-essential travel to and from USFK installations in Daegu and nationwide. Additionally, all USFK installations sharply curtailed access, stopped all sporting events, temporarily closed schools, and mandated temperature checks at entry gates. Senior leaders implemented a zero-risk tolerance policy of infections to protect the force, which did not change overtime, enabling a predictable process throughout the pandemic.

Flatten Communication

Classifying the COVID-19 threat level to high, USFK defined an organized leadership structure to respond effectively through the implementation of a PHE, which provided needed authorities to protect the force to protect the mission. The PHE advocated an ecosystem that unified all military personnel under the overarching authority of the commander, who then directed consistent regulations to maximize protection. The USFK also assembled a watch team with designated leadership components to rapidly develop and streamline emergency health responses with support from the USFK command (*Fig. 2*).

Institute Control Measures and Execute Battle Drills at Echelon

Given the need for additional medical and laboratory personnel, the USFK Surgeon requested for an endemic infectious disease team from the First Area Medical Laboratory and assigned members of the 65th Medical Brigade to form the MTOE Assigned Personnel, augmenting care of the Brian D. Algood Army Community Hospital (BDAACH) and the

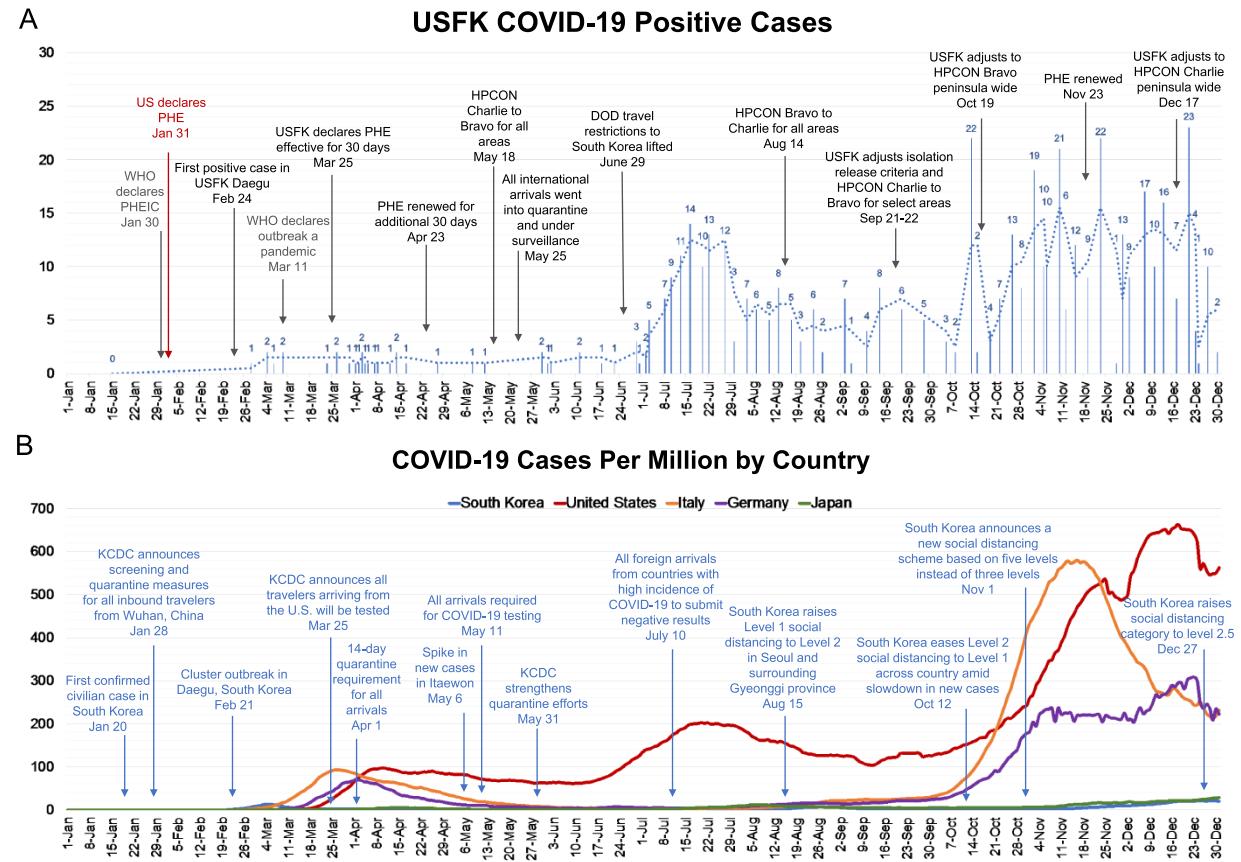


FIGURE 1. A. Timeline of COVID-19 confirmed cases among United States Forces Korea service members and affiliated individuals, January 2020 - December 2020. From March 1, 2020 to August 31, 2020, a total of 13,323 people went into quarantine and a total of 121 people went into isolation. From May 25, 2020 to August 31, 2020, a total of 3,602 people were under surveillance. B. COVID-19 cases per million in South Korea, the United States, Italy, Germany, and Japan.

clinic in Daegu. The USFK coordinated with all leadership components to ensure sufficient logistical support by personnel, administration, installations, schools, and other infrastructure.

Build Shared Understanding through Routine Updates and See the Operational Environment

The USFK Surgeon, responsible for establishing health services and force health protection programs, worked directly with the USFK Command through the J33, who assesses, plans, and directs health policies through control joint full-spectrum military operations. The USFK Surgeon cooperated with relevant host country stakeholders, such as the Korean Armed Forces Medical Command and governmental agencies, including the Korean National Institutes of Health and the KCDC (Fig. 2). Close collaboration between both the ROK and U.S. parties was key to accurately reporting health data to the WHO and CDC and also receiving the most up-to-date information. Likewise, the USFK Surgeon closely corresponded with the military research and medical community as well as international partners, such as the U.S. Indo-Pacific Command (INDOPACOM), U.S. Forces Japan,

DC Liaison Officer, Transportation Command, and the U.S. Embassy in Korea.

Execute with Speed and Violence of Action

Finally, treating the outbreak like a combat operation enhanced communication among all USFK components through “Break Glass Bridge” concept, which allowed the USFK Commander to drop down to lower echelons and receive immediate update from all USFK components through 24/7 real-time data synchronization, daily reporting with Commander’s Critical Information Requirements criteria, and DoD databases, i.e., SharePoint and Non-Classified Internet Protocol Router Network.

Principle 2: Protect the Force to Protect the Mission

USFK COVID-19 Threat Classification

Defining and assessing the level of threat help guide essential course of actions (COAs). Thus, USFK classified the severity of the COVID-19 threat into categories specified by the DoD’s instruction 6200.03 (DoDi 6200.03),¹⁸ which provides guidelines on readiness in public health emergencies and health protection conditions (HPCONs)¹⁹ (Table S1). The

USFK Leadership Structure

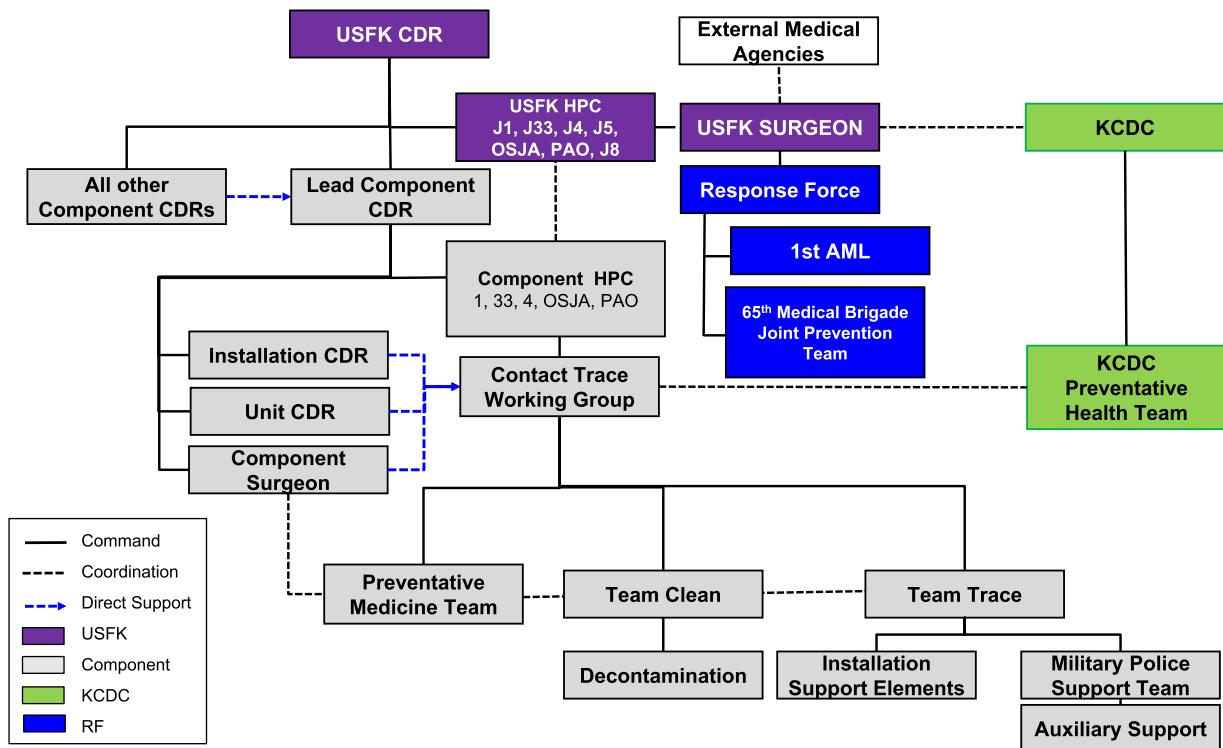


FIGURE 2. USFK Leadership Structure. To rapidly streamline emergency health responses, the USFK Commander (CDR) defined a clear leadership structure and watch team, consisting of the Surgeon, deputy Chief of Staff, Public Affairs Officer (PAO), current Mid and Deep Fight Working Groups (J5 OPR), Joint Staff of Logistics (J4), Joint Staff of Manpower and Personnel (J1), Joint Staff Current Operations Officer (J33), Joint Staff of Force Structure, Resources, and Assessment (J8), and Office of Staff Judge Advocate (OSJA). The USFK Health Protection Council (HPC) would coordinate with other USFK components, such as Installation Commanders, Component HPC, Contact Trace Working Group, Preventative Medicine Team, Team Clean, and Team Trace to implement proper screening, surveillance, and contact tracing of individuals. The USFK Surgeon would coordinate with relevant host country stakeholders, such as the Korean Armed Forces Medical Command and governmental agencies, including the Korean National Institutes of Health and the KCDC. The USFK Surgeon would also request additional medical and laboratory support from the Response Force (RF), including 1st Area Medical Laboratory (AML) and the 65th Medical Brigade when needed.

USFK tracked these HPCON measures to anticipate the worst possible outcomes, proactively develop contingency plans, and operationalize DODi action plans recommended at each level. The HPCON status is adjusted according to South Korea's Infectious Disease Risk Alert System and Countermeasure Activities²⁰ and local spread threat, as monitored by the USFK Watch Team and KCDC. The USFK aimed to stay ahead of KCDC in implementing restriction measures but allowed KCDC to lead on lifting those measures, i.e., USFK would analyze outcomes after 14 days of South Korea's policy implementation before deciding to lift any mitigation measure within USFK. Although pre-existing Pandemic Influenza plans were available in Korea, USFK mostly charted their course using the DoDi and public health strategies that have been validated over time due to the novelty of the pandemic, lack of global agreement in methods to approach COVID-19, and the ROK government's lead.

The HPCON measures were also used to determine the status of USFK joint military exercises with the ROK.

The USFK's peninsula-wide HPCON level of Charlie in February prompted the delay of the US-ROK annual joint drill.²¹ As the HPCON level lowered from Charlie to Bravo on May 18, 2020,²² USFK modified the annual summer drill, eventually held in late August 2020.²³ Adhering to health protocol, USFK scaled back these drills by including fewer personnel, replacing all field exercises with mainly computer simulations, changing infrastructure to maximize infection prevention, and screening personnel to maintain readiness while limiting contact rate.

Principle 3: Use Predictive Analysis

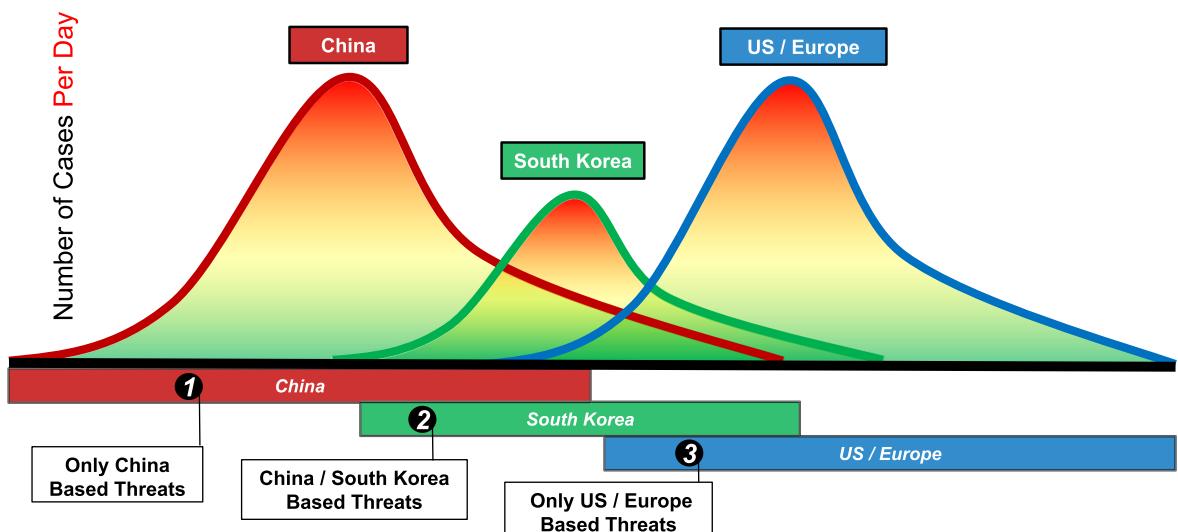
As medical data drive policy and decision-making, USFK leadership ensured meticulous surveillance and peninsula-wide data reporting. Through daily reports, USFK scrutinized South Korea's positive cases, quarantine, and isolation trends throughout all USFK installations. In particular,

USFK leveraged epidemic curves, which graph hypothetical cases per day vs. time, to predict the progression of COVID-19 across China, South Korea, and finally the USA ([Fig. 3A](#)). These curves helped determine the risk of infection in conjunction with HPCON levels to anticipate future healthcare burden. The USFK determined the Most Likely COA (MLCOA) of COVID-19 to follow a normal epidemic

curve that can be contained by aggressively isolating cases and contacts, while the Most Dangerous COA (MDCOA) of COVID-19 as continuous, sporadic outbreaks with no known connections ([Fig. 3B](#)). As these curves provide measurable estimates on adverse outcomes, USFK remained vigilant in staying one step ahead of the curve to ensure control over infectious spread.

A

Prediction of COVID-19 Waves



B

USFK Epidemic Curves

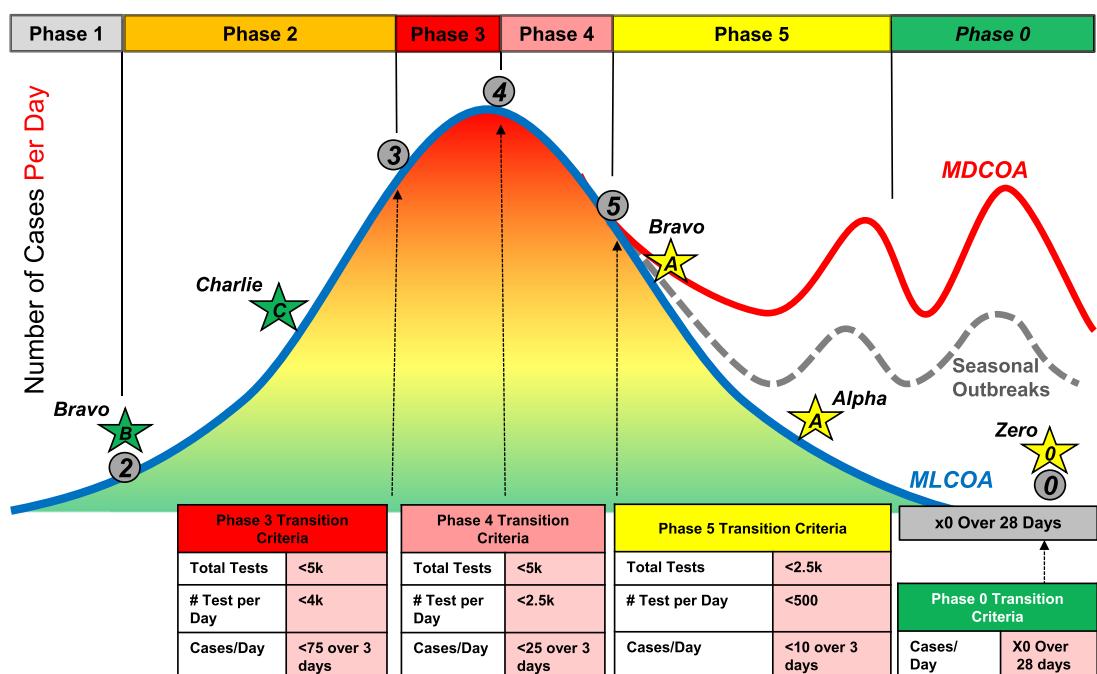


FIGURE 3. (A) Prediction of coronavirus disease 2019 (COVID-19) waves (B) The U.S. Forces Korea (USFK) epidemic curves.

Principle 4: Stay “One Step Ahead of the Curve” by Exercising an Abundance of Caution

Travel Restrictions, Screening, Quarantine, Isolation, and Surveillance

The USFK conducted screening through an algorithm called spot reports (SPOTREPS) to track COVID-19 cases (Fig. 4). All travelers arriving from outside the Korean peninsula were required to undergo a 14-day quarantine, screened with a travel health declaration form, administered a temperature check, and observed for signs of illness such as fever, cough, and difficulty breathing. Travelers may be referred for a secondary screening if they are positive in any criterion. The referred traveler is then interviewed for symptoms and exposure history and added to SPOTREP tracker. If a SPOTREP confirms a negative test, the individual is permitted to return to the unit.

If the test result is positive, however, the confirmed case is on immediate unit stand-down and recorded in case/quarantine reports. The USFK Surgeon notifies the command, proceeding with actions to change HPCON level. The Contact Trace Working Group is then responsible for notifying the ROK government and KCDC as well as coordinating with preventative health and medicine teams (PH/PMs).

The PH/PM is then responsible for identifying hotspots on post, identifying known contacts based on patient recollection, and updating the Hotspot/Hospital Status (HOTSPOT). Team Clean is responsible for immediate cleaning and shutting down of exposed locations, while Team Trace is responsible for tracking confirmed cases and secondary contacts throughout the quarantine process.

The USFK also implemented stringent protocol for isolation of positive cases. The USFK initially followed KCDC guidance of a window of asymptomatic and two negative tests at least 24 h apart, while new information was learned about the virus. After surveillance and reporting of any confirmed positive cases, individuals are required to undergo self-isolation for 21 days after which they would be able to be discharged (protocol implemented as of September 21, 2020).²⁴ Additionally, contacts of positive cases were required to undergo quarantine for 14 days from the date of contact with a negative test to be released from quarantine. With extended screening, quarantine, and isolation, USFK proactively met the increased demand for health services by coordinating with relevant USFK components to provide medical supplies and quarantine infrastructure, i.e., isolation beds, expanded life support, resiliency, and behavioral health services.

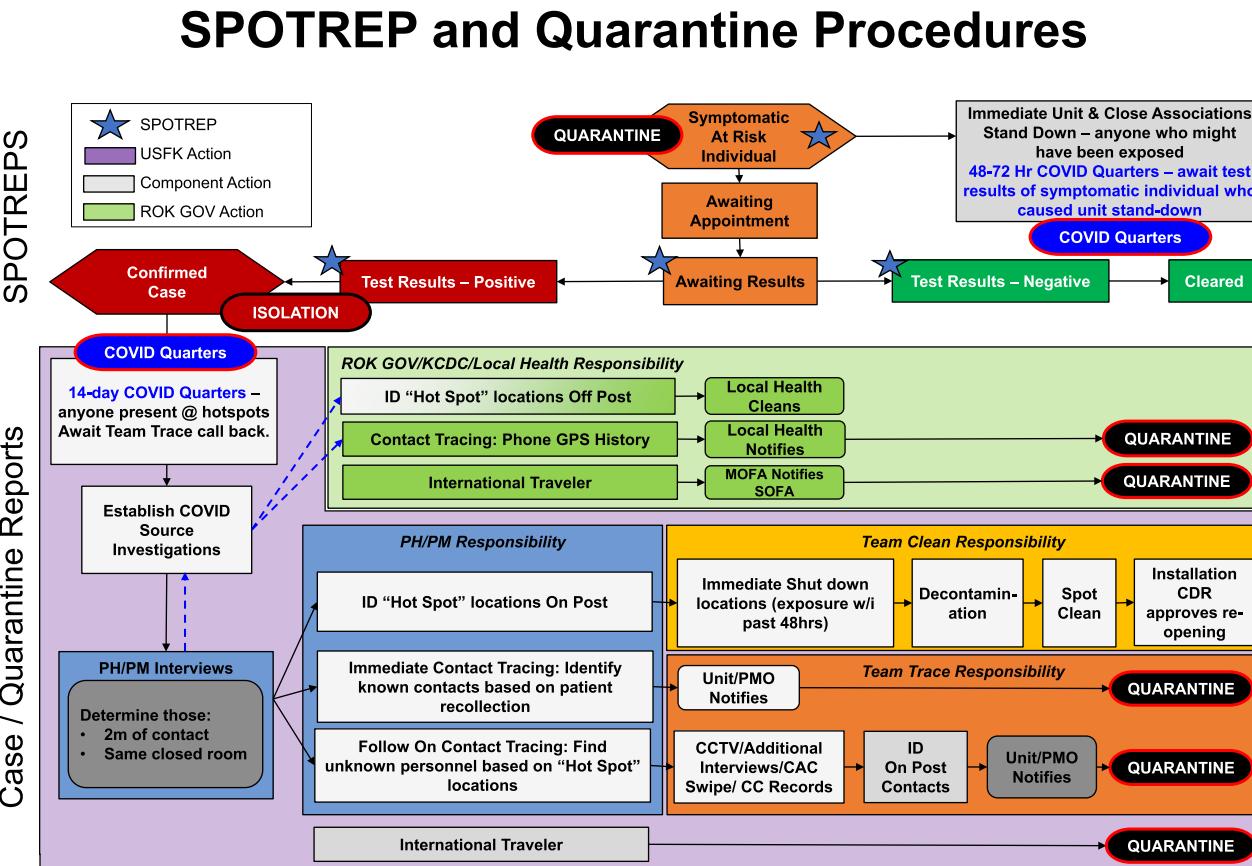


FIGURE 4. USFK Spot Reports (SPOTREP) and Quarantine Procedures.

Principle 5: Maintain Open and Transparent Dialog with the Community Every Day

The USFK prioritized the opinions and values of military community members and the local people. Through high-visibility communication platforms, such as town halls, alert notifications, Google maps, SurveyMonkey, social media, USFK public webpage, and podcasts, USFK relayed all information while promoting transparent dialog. For instance, USFK distributed several surveys to assess the anxiety level of community members and collect opinions on issues pertaining to school, youth centers, telework, and reopening dates. This strategy was effective in encouraging everyone to support one another in adhering to rules and adjusting to new lifestyle changes. The operation also encouraged community members to cope with confinement through creative avenues, including poster contests with prizes, yoga classes, or outdoor exercise classes.

Principle 6: Be Empathetic But Prepare the Community for Lifestyle and Culture Changes

Although recognizing lifestyle changes may be ongoing, USFK aimed to empathize with the community's challenges. For instance, USFK fought for opportunities to compensate its personnel via hardship duty pay, incentive pay, and Exception to Policy. The USFK also encouraged high-risk population members and personnel with symptoms to stay at home without penalty. And finally, dual-military families or single parents were also exempted from penalization, providing them with more opportunities to look after their family or children when necessary.

Principle 7: Follow and Enforce Rules

The operation aimed to instill a sense of responsibility in practicing proper hygiene procedures to prevent infectious spread, such as washing hands or using hand sanitizer, minimizing non-mission essential gatherings, using caution when traveling off-installation, and avoiding work or school when feeling sick while seeking medical treatment. The USFK also enforced social distancing by conducting meetings via video teleconferencing and empowering subordinates to do the right thing to protect themselves and those around them.

Principle 8: Keep Your Foot on the Gas and Fight Complacency

This last principle reminds us of USFK's sustained fight against COVID-19 and the global community's inevitable vulnerability to infectious diseases. It is crucial for USFK and U.S. forces around the world to document lessons learned from effective response plans and continually improve those strategies. From SARS 2003 to MERS 2015 to the COVID-19 pandemic, USFK strives to deliberately fight complacency and forge through the frontlines with improved health strategies that protect the force to protect the mission.²⁷

Limitations of the Operation

There are important limitations of the operation to consider, including (1) USFK's spike in cases during summer months despite adherence to protocol and (2) limitations on streamlining testing protocol throughout USFK despite South Korea's robust testing infrastructure. During the summer, USFK experienced a large turnover of personnel, which coincided with a spike in imported cases²⁵ (Fig. 1A). Just before the spike, HPCON's level changed from Charlie to Bravo by the end of May, consequently loosening peninsula mitigation measures. The USFK strove to prevent a super-spreader event and controlled risk amid relaxed constraints by dividing South Korea into regionally specific HPCON statuses based on hotspot locations. For instance, in May 2020, Seoul was identified as a hotspot after a resurge of domestic cases upon a club gathering at Itaewon, which shifted risk to South Korea (Fig. 1B).²⁶ In response to these events, the PHE was importantly extended, which enabled the USFK Commander to continue to enforce preventative measures. The USFK also ensured that all new incomers received mandatory training on USFK Kill the Virus principles and preventative protocol. With adherence to these strategies, USFK did not witness a positive case from within South Korea from April 13, 2020, to September 25, 2020, other than the imported spike in cases during the summer months.

Another shortcoming of the operation was that it was challenging for USFK to conduct testing, as the USA lacked accurate testing capacity, and there were barriers to rapid responsiveness amid operational settings. Testing for SARS-CoV-2 went through stages in USFK with collaboration and use of the ROK testing system, which parallels the normal use of ROK testing through TRICARE facilities and a College of American Pathologists (CAP)-approved reference lab in Seoul. As USFK received increased testing capacity, there was increasing balance between what was transferred to the reference lab and what would remain within the USFK system. The USFK also supports U.S. military assets across INDOPACOM due to its enhanced capacity through assets made available in South Korea vs. those of other areas, such as Guam and Japan. A tracker of testing capacity within the ROK and USFK was maintained to ensure capacity during movement of personnel to Korea or to support military assets outside Korea. This required a delicate balance of ROK assets, BDAACH assets, and the U.S. logistic hub (U.S. Army Medical Material Center Korea) to order and retain appropriate supplies and vendors for flex capacity.

Despite such challenges, USFK continues to enhance its readiness with plans to vaccinate its military personnel (including Korean Augmentation to the U.S. Army), mission-essential civilians, healthcare personnel, and TRICARE beneficiaries with the Moderna COVID-19 vaccine, which was approved for emergency use authorization in December 2020 by the U.S. FDA, in accordance with DoD directives and guidelines.²⁷

CONCLUSIONS AND LESSONS LEARNED

By successfully executing the operation, USFK imparts three main lessons for future outbreaks. First, a military command should execute a health response similar to how it executes combat operations against a battlefield enemy. Second, the command should maintain flexibility to new changes or risks that alter COAs. During any outbreak, epidemic, and/or pandemic of a novel pathogen, there are countless unknown unknowns that have to be identified and addressed to develop known knowns. And finally, engagement with the local community, host nation, and international partners should not be compromised when formulating strategies. The USFK's immediate recognition of the public health threat by all levels of leadership and medical personnel enabled a unique and highly effective Operation Kill the Virus that engaged all members of the community, both local and international.

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SUPPLEMENTARY MATERIAL

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CONFLICT OF INTEREST STATEMENT

The authors declare that there is no conflict of interest.

REFERENCES

- WHO: Naming the coronavirus disease (COVID-19) and the virus that causes it. 2020. Available at [https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-\(covid-2019\)-and-the-virus-that-causes-it](https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it); accessed October 15, 2020.
- Blakemore E: The Korean War hasn't officially ended. One reason: POWs. History. February 28, 2019.
- Casey JJ 3rd, Lee HC, O'Mara ST, Plummer AD: The war on severe acute respiratory syndrome: United States Forces Korea's campaign plan. Mil Med 2006; 171(2): 131-5.
- WHO: Middle East respiratory syndrome coronavirus (MERS-CoV): summary and risk assessment of current situation in the Republic of Korea and China—as of 19 June 2015. In: World Health Organization, ed. World Health Organization; 2015: 8.
- Gamel K: US military community gets creative in coping with coronavirus fears in South Korea. Stars Stripes 2020. March 3, 2020.
- WHO: Timeline: WHO's COVID-19 response. World Health Organization, 2020. Available at <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/interactive-timeline#event-3>; accessed September 15, 2020.
- WHO: Novel Coronavirus (2019-nCoV) situation report—10. World Health Organization, 2020.
- WHO: Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV). World Health Organization; 2020. Available at [https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-\(2019-ncov\)](https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)); accessed September 15, 2020.
- Trump DJ: Proclamation on declaring a national emergency concerning the novel coronavirus disease (COVID-19) outbreak. The White House. 2020. Available at <https://www.whitehouse.gov/presidential-actions/proclamation-declaring-national-emergency-concerning-novel-coronavirus-disease-covid-19-outbreak/>; accessed September 15, 2020.
- WHO: WHO Director-General's opening remarks at the media briefing on COVID-19-11 March 2020. World Health Organization; 2020. Available at <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19—11-march-2020>; accessed September 15, 2020.
- JHU: COVID-19 dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU). Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU); 2020. Available at <https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6>; accessed October 14, 2020.
- Kim JY, Choe PG, Oh Y, et al: The first case of 2019 novel coronavirus pneumonia imported into Korea from Wuhan, China: implication for infection prevention and control measures. J Korean Med Sci 2020; 35(5): e61.
- KDCA: Press release. Korea disease control and prevention agency (KDCA). 2020. Available at <https://www.cdc.go.kr/board/board.es?mid=a3040200000&bid=0030>; accessed October 8, 2020.
- Kim K, Tandi T, Choi JW, Moon J, Kim M: Middle East respiratory syndrome coronavirus (MERS-CoV) outbreak in South Korea, 2015: epidemiology, characteristics and public health implications. J Hosp Infect 2017; 95(2): 207-13.
- USFK: USFK individual confirmed with COVID-19. United States Forces Korea; 2020. Available at <https://www.usfk.mil/Media/News/Article/2091383/usfk-individual-confirmed-with-covid-19/>; accessed October 9, 2020.
- CDC E: Daily new confirmed COVID-19 cases. 2020. Available at <https://ourworldindata.org/coronavirus>; accessed October 15, 2020.
- USFK: USFK implements self-quarantine for US servicemembers, 주한미군 사령부, 장병들을 위한 자체 격리조치 시행. United States Forces Korea, 2020. Available at <https://www.usfk.mil/Media/Press-Releases/Article/2072172/usfk-implements-self-quarantine-for-us-servicemembers/>; accessed October 8, 2020.
- Department of Defense: Public Health Emergency Management (PHEM) Within the DOD: Readiness OoTSoDfPa. 2019.
- News D: HPCON: understanding health protection condition levels. US Department of Defense 2020. March 27, 2020.
- Korea GotRo: All about Korea's response to COVID-19. In: Affairs MoF, ed. The Republic of Korea; 2020:240.
- Kim H-J, Korea S: US postpone annual military drills due to virus. Military Times. 2020.
- Affairs UP: USFK lowers health protection condition to Bravo. 2020. Available at <https://www.usfk.mil/Media/News/Article/2189540/usfk-lowers-health-protection-condition-to-bravo/>; accessed October 7, 2020.
- Kim T-H: US, South Korea to begin scaled-down military drills amid virus spike. Military Times 2020. August 16, 2020.
- Korea UF: USFK adjusts COVID-19 isolation release criteria. United States Forces Korea, 2020. Available at <https://www.usfk.mil/Media/News/Article/2355732/usfk-adjusts-covid-19-isolation-release-criteria/>; accessed October 8, 2020.
- Travel Restrictions: Green locations, June 29, 2020. US Department of Defense, 2020. Available at <https://www.defense.gov/Newsroom/Releases/Release/Article/2241675/travel-restrictions-green-locations-june-29-2020/>; accessed October 8, 2020.

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26. Cooperation DoRaaI: The updates on COVID-19 in Korea as of 10 May. Korea Disease Control and Prevention Agency, 2020. Available at https://www.cdc.go.kr/board/board.es?mid=a30402000000&bid=0030&act=view&list_no=367186&tag=&nPage=1; accessed October 4, 2020.
27. USFK: USFK commander's message about the Moderna COVID-19 vaccine. United States Forces Korea, 2020. Available at <https://www.usfk.mil/Media/News/Article/2455614/usfk-commanders-message-about-the-moderna-covid-19-vaccine/>; accessed January 1, 2021.