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WHITE PAPER

Effective Public Communication During the COVID-19 Pandemic

A best practise guide to using public warning systems for government health officials.

The ongoing COVID-19 pandemic has increased the pressure on government officials across the world to find ways to limit the spread of the virus in order to return their country to normal as quickly and safely as possible and mitigate the economic impact of the pandemic.

Public health departments are constantly adjusting their pandemic containment plans but can struggle to communicate them with the right constituents - residents, visitors, tourists and inbound roamers.

Effective communication to the public is an essential part of controlling the spread of COVID-19. Governments therefore need a way to send trusted, accurate and reliable information on a regular basis as the situation changes across the country or even throughout the world. This has never been more important since false information can circulate via social media in a matter of hours.

Government officials may not be aware that it is possible to securely communicate with the public via their mobile phones without any opt-in or the need to download an app.

This paper will illustrate how a modern public warning system can be used to keep the public warned and informed during the pandemic with examples from countries across the world.

What is a public warning system?

Public warning systems are used by government or public authorities to notify the public regarding imminent or developing major emergencies and disasters.

Such alerts or warnings may be transmitted to the population through:

+ Mobile telephony networks using broadcast alerts or SMS alerts which do not require the public to opt-in.
+ Secondary channels including sirens, TV, radio, and digital signage.
+ Other channels which require the public to take action by opting in to receive email or downloading an official app.

Public warning systems are used by many countries across the world today. The European Union considers the protection of Europeans and anyone visiting the region a top priority. The EU has issued a mandate to ensure that European countries are prepared to alert and respond to any public safety incident, emergency, or disaster, in a targeted, fast, and reliable way.

In response this mandate, Article 110 of the European Electronic Communications Code (EECC) issued in 2018 requires all 27 EU member states and countries within the European Economic Area (EEA) to implement a public warning system that can alert people via their mobile phones, by June 2022.

PUBLIC WARNING SYSTEMS: COVID-19 USE CASES

- **Declaring a lock-down**
- **Monitoring the pandemic's expansion**
- **Mitigating the spread**
- **Identifying all vulnerable individuals**
- **Communicating with residents who are visiting or have visited another country**
- **Preventing dense population gathering**

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The challenges for public health officials during COVID-19

During the pandemic, maintaining the health and wellbeing of the population and providing healthcare capacity is the priority for government health officials.

Changes in COVID-19 transmission rates will be linked to changes in policy for imposing or easing lockdowns and other restrictions wither on a local or national basis. Therefore, trusted communication from government to the public is essential to ensure these changes are understood. This communication exchange must also be secure and 100% compliant with privacy regulations including GDPR.

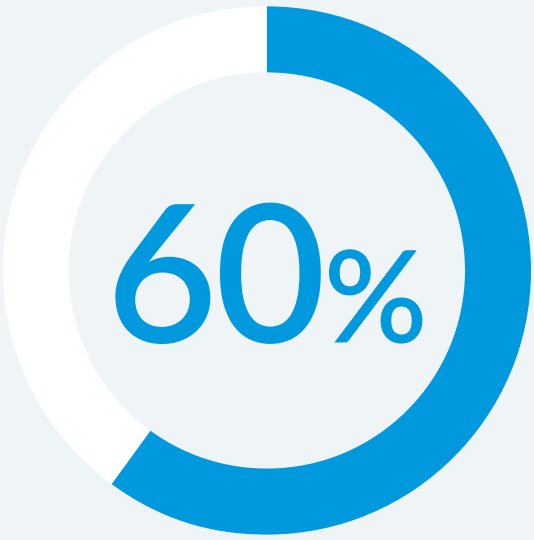
The public is of course a blend of citizens, residents, and visitors from other countries. Citizens may also be in other countries for business or personal travel and may therefore need reliable information from their own government whilst abroad.

So, the challenge for government is how to ensure that official public health information reaches everyone that needs to know in a secure and reliable way that does not breach privacy rules. In other words, getting the right information to the right people at the right time in the right place and using the right channels.

Mobile phones are used by over 60% of the global population, yet most governments are not using the mobile network to directly warn and inform the public and may not be aware that there are solutions available to do this.

There are two technologies which make it possible to alert the public via mobile phones without the need for the public to opt-in:

1. **Cell Broadcast (CB).** A one to many broadcast which is picked up by mobile devices. An audible alert and a message appear on the home screen of all mobile devices in a defined area, without using the mobile operator network.
2. **Location Based SMS (LB-SMS).** A one to one communication where an SMS is sent directly to all mobile devices connected to the mobile operator network in a defined area.



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COVID-19 Scenarios

Public warning systems can be used during COVID-19 for situational intelligence and to send targeted messages to everyone in a specific geographical area. Typical scenarios include:

+ Declaring a lock-down.
+ Monitoring the pandemics expansion.
+ Mitigating the spread.
+ Identifying all vulnerable individuals.
+ Communicating with residents who are visiting or have visited another country.
+ Preventing dense population gathering.

The next section will examine 4 of these scenarios in more detail with illustrations from countries that are using public warning systems to deliver the right message to the right people during COVID-19.

1. A localized lock-down is ordered to manage a new outbreak in a city or region

New clusters of COVID-19 in cities or regions must be managed to prevent the spread and avoid a countrywide lockdown.

The right information

+ Declare a lock-down and notify everyone in the affected area.
+ Provide instructions on social distancing rules, wearing masks, staying home etc.
+ Inform people who may have passed through the area in the recent past.
+ Provide specific help to vulnerable people or those who need special assistance at home.
+ Alert people on entering the lock-down area to make them aware of the restrictions.
+ Provide updates on the changing situation.
+ Provide all clear message when the threat has passed, and people can return to normal.

The right people

+ Residents, regular commuters, business owners, the elderly or the disabled.
+ Relatives or care givers who may have vulnerable family members in the area.
+ Visitors to the area: delivery vehicles, shoppers, potential tourists, business travellers etc.

The right time

+ At the start of the lock-down.
+ Triggered by movement into the affected area – using geo-fenced incident zones.
+ Daily or weekly updates throughout the lock-down period.
+ Once the lock-down is lifted.

The right place

+ Target messages to everyone within the defined lock-down area.
+ Trigger messages to anyone entering the lock-down area.
+ Reach people who may have passed through the area.

The right channels

+ Mobile phone alerts.
+ Social media posts from official government accounts.
+ Digital display signs.
+ Other communication methods including mobile apps and email. These can be used as secondary channels since they require the public to opt-in.

More information on Cell Broadcast and location-based SMS is available on the Everbridge website:
https://www.everbridge.com/products/public-warning/

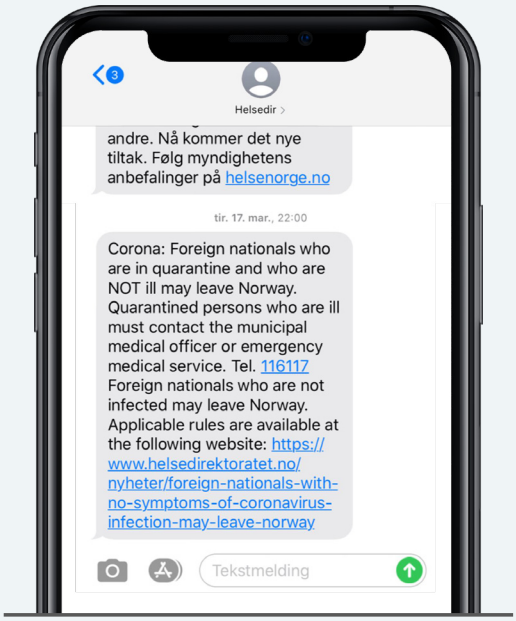
Examples from New Zealand

In New Zealand, the National Emergency Management Agency (NEMA) uses Cell Broadcast technology from Everbridge one2many to send alerts to mobile phones across the entire country or on a localised basis. During the COVID-19 pandemic, NEMA has issued many alerts to the public. For example:

> COVID-19 ALL-OF-GOVERNMENT RESPONSE: From midday Wednesday 12 August, the AUCKLAND REGION moves to COVID-19 Alert Level 3. The rest of New Zealand moves to Alert Level 2. Positive cases of COVID-19 have been identified in a household in the Auckland Region. If you are in Auckland, STAY HOME where possible, and follow Alert Level 3 guidelines. This will stop the transmission of COVID-19 and SAVE LIVES. For more information on Alert Level 3 and Alert Level 2 go to www.covid19.govt.nz Issued 11 August 2020 10:12pm

Examples from Norway

In Norway, the Directorate of Health has issued several alerts, including national alerts to the entire Norwegian population of 5.4 million people and 300,000 foreign visitors advising them on lock-down restrictions. These SMS messages were sent direct to mobile phones users in their local language including Norwegian, English, French, German, Spanish, Polish and Russian.



2. Managing Crowded Places

During the pandemic, government authorities need to maintain social distancing in public places including parks, city centres or beaches. A public warning system can be used in two ways:

Firstly, for situational awareness to visualise on a map how many mobile phone subscribers are in a defined area. This can be monitored over time to assess if a crowd is reaching dangerous levels which could increase the risk of the virus spreading.

Secondly, alerts can be sent to the public to remind them of social distancing rules or to ask people to leave or avoid the area.

The right information

+ Enforce social distancing rules or wearing masks.
+ Instruction to leave the area.
+ Instruction to avoid the area.

The right people

+ Anyone already in the crowded area.
+ Anyone already travelling towards the crowded area.
+ Anyone planning to travel to the crowded area by posting alerts along travel routes and in railway stations.

The right time

+ Sent to anyone who enters a defined area on a map.
+ Sent to anyone already in the area.

The right place

+ A geo fenced area on a map.

The right channels

+ Mobile phone alerts.
+ Digital signage on major travel routes including road signs and railway stations.
+ Mobile apps – as a secondary channel for those who have downloaded the app.
+ Radio, TV, and social media.

Example from Norway

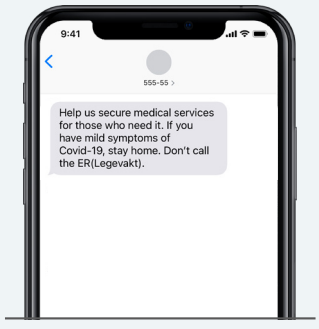
Many city dwellers in Norway have second homes in the mountains. During lock-down a large influx of people threatened to overwhelm the healthcare system in these smaller mountain communities.

The Municipalities in Norway used Everbridge Public Warning for situational awareness to understand the number of people entering the mountain communities, when population numbers were to high messages were sent to tell the visiting population to return home. The same system was then used to enforce 'stay home' orders. SMS alerts were sent to the population of Oslo and Bergen advising them to stay home.

Examples of message sent to residents of Oslo:

Norwegian message

English message



3. Communicate with your own citizens in high risk countries

Governments are having to update travel bans and the list of destinations to avoid but struggling to communicate this information to the right people in a timely manner.

A Public Warning System that uses location-based technology makes it possible for government officials to see how many mobile phones from your country are connected to the network in the affected foreign destinations. The government can then contact those citizens through their mobile phones to provide information and assistance. The personal identifiable information (PII) of the individual citizen is protected as no contact data leaves the telephone network.

In extreme situations, this information can support rescue efforts by helping the authorities to plan for large scale repatriations whilst provide vital information to people on the ground.

The right information

+ Alert your citizens to a new or ongoing threat of COVID-19 in the country they are visiting.
+ Provide information on the situation and advice on how to stay safe.
+ Provide information on how to repatriate or contact the authorities for help coming home.
+ Provide updates on quarantine rules upon their return.
+ Provide an all clear once the threat is no longer there.

The right people

+ Situational intelligence on the number of mobile phone users from your own country that are roaming overseas in any country.

The right time

+ When a foreign country, a region, is considered ‘high risk’.
+ When new “return to country” rules are being implemented.
+ Throughout the lock-down period.
+ After lock-down is lifted.

The right place

+ People located in specific country or region.

The right channels

+ Mobile phone alerts
+ Mobile apps – as a secondary channel for those who have downloaded the app.

Examples from Norway

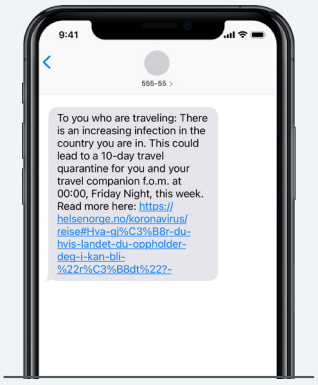
Since July 2020, the Norwegian Ministry of Health has been monitoring the ongoing situation in other countries. Over 15 countries are now considered to be high risk – so called ‘RED’ countries.

Using the Everbridge Public Warming platform, the Ministry can see the exact number of Norwegian cell phones connected to the operator networks in these RED countries and from the same platform they are able to send messages to those mobile devices in Norwegian advising them of the change in quarantine rules when they arrive home.

Below is the message sent to those devices from Helsedir. (The directorate of Health in Norway)

Norwegian message

English message



> “We’ve had a few incidents abroad where our foreign ministry wanted to know how many Icelanders are in the area, to be able to quickly send a message to all Icelandic citizens”
>
> —Tómas Gíslason, Deputy CEO 112 Iceland

4. Foreign nationals (inbound roamers) visiting your country from overseas

This is the reverse situation from the previous example. In this case the authorities can identify the nationality of overseas visitors that arrive at their own border and provide information or instructions to those users in their own native language. These people can also be sent follow up messages during their stay, should the situation change.

The right information

+ Provide instructions on restricted areas, social distancing, or quarantine rules.
+ Instructions on how to download the official mobile phone App – if one is available.
+ Instructions on how to request medical assistance.
+ Provide regular updates during their stay in country.
+ All message in their native language

The right people

+ Foreign nationals visiting your country connected to the mobile phone network.

The right time

+ On arrival in the country when the mobile phone connects to the network.
+ Throughout possible local lock-downs.
+ After lock-downs are lifted.
+ Provide follow up messages during their stay or send all clear once the threat is no longer there.

The right place

+ Arrival at border entry points once the inbound roamer connects to the network.

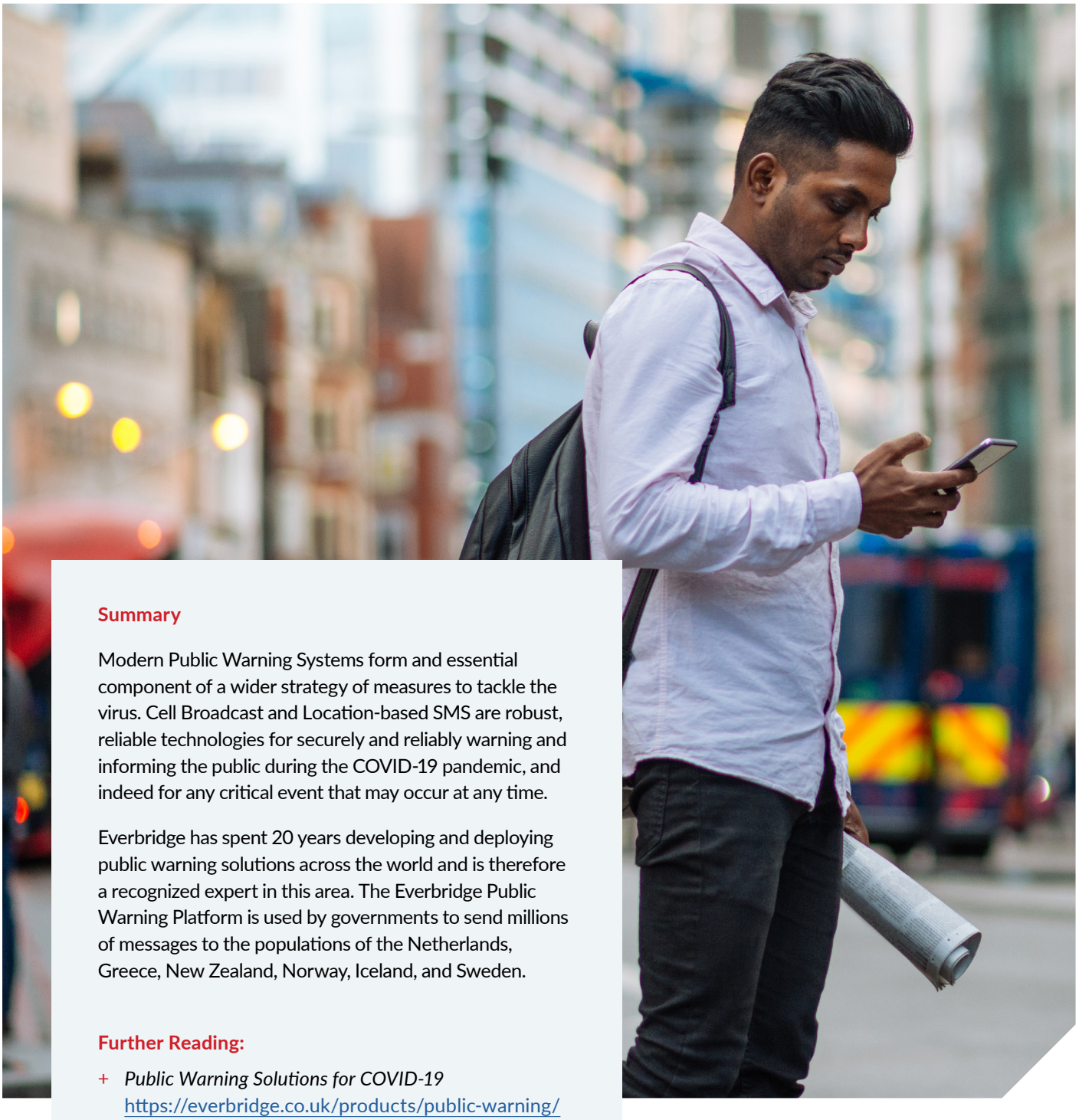
The right channels

+ Mobile phone alerts.

Examples from Iceland

Iceland uses Everbridge Public Warning to send Location-Based SMS alerts to 330,000 Icelandic citizens and tourists in the country. During the pandemic SMS alerts have been sent to provide official information. Anyone arriving at the airports and ferry ports from overseas received the following message:

Coming from infected areas? Visit www.landlaeknir.is/covid19. If you have symptoms call 1700 or for emergencies call 112.



Summary

Modern Public Warning Systems form and essential component of a wider strategy of measures to tackle the virus. Cell Broadcast and Location-based SMS are robust, reliable technologies for securely and reliably warning and informing the public during the COVID-19 pandemic, and indeed for any critical event that may occur at any time.

Everbridge has spent 20 years developing and deploying public warning solutions across the world and is therefore a recognized expert in this area. The Everbridge Public Warning Platform is used by governments to send millions of messages to the populations of the Netherlands, Greece, New Zealand, Norway, Iceland, and Sweden.

Further Reading:

+ *Public Warning Solutions for COVID-19*
  https://everbridge.co.uk/products/public-warning/coronavirus-beyond/
+ *COVID-19: What We Can Learn From Norway's Health Ministry*
  https://everbridge.co.uk/blog/4-lessons-from-norway-during-covid-19/
+ *About Everbridge Public Warning*
  https://www.everbridge.com/products/public-warning/

About Everbridge

Everbridge, Inc. (NASDAQ: EVBG) is a global software company providing enterprise software applications that automate and accelerate organizations' operational response to critical events in order to keep people safe and businesses running. During public safety threats such as active shooter situations, terrorist attacks or severe weather conditions, as well as critical business events including IT outages, cyber-attacks or other incidents such as product recalls or supply-chain interruptions, over 5,000 global customers rely on the company's Critical Event Management Platform to quickly and reliably aggregate and assess threat data, locate people at risk and responders able to assist, automate the execution of pre-defined communications processes through the secure delivery to over 100 different communication devices, and track progress on executing response plans.

The company's platform sent over 3.5 billion messages in 2019 and offers the ability to reach over 550 million people in more than 200 countries and territories, including the entire mobile populations on a country-wide scale in Australia, Greece, Iceland, the Netherlands, Peru, Singapore, Sweden, and a number of the largest states in India.

The company's critical communications and enterprise safety applications include Mass Notification, Incident Management, Safety Connection™, IT Alerting, Visual Command Center®, Public Warning, Crisis Management, Community Engagement™ and Secure Messaging.

Everbridge serves 8 of the 10 largest U.S. cities, 9 of the 10 largest U.S.-based investment banks, 47 of the 50 busiest North American airports, 9 of the 10 largest global consulting firms, 7 of the 10 largest global auto makers, all 4 of the largest global accounting firms, 9 of the 10 largest U.S.-based health care providers, and 6 of the 10 largest technology companies in the world.

Everbridge is based in Boston and Los Angeles with additional offices in Lansing, San Francisco, Abu Dhabi, Beijing, Bangalore, Kolkata, Paris, London, Munich, New York, Oslo, Singapore, Stockholm and Tilburg.

For more information, visit www.everbridge.com.

everbridge®

VISIT www.everbridge.com/products/public-warning/
EMAIL publicwarning@everbridge.com
CALL +44-(0)800-035-0081