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June 14, 2019

Quantifying the High Cost of Delayed Emergency Response at the Workplace

Every day, as the first point of contact in an emergency situation, 911 dispatchers and call takers are saving lives. Thanks to their ability to alert first responders, communicate with panic-stricken callers, and issue life-saving pre-arrival instructions, their services are essential to the safety of our entire country. The problem is—and to no fault of those dispatchers and call takers—the system itself is dangerously outdated and costly when it fails.



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To quantify the total costs of longer response times, SimpleSense analyzed the latest market research, interviewed industry experts, and calculated the potential savings of the SimpleSense platform, which shares critical emergency information between enterprise security teams and public first responders.

therefore decrease 911 response times for emergencies that take place in commercial buildings, campuses, and other high-occupancy locations. We are doing so by facilitating a more pragmatic interaction between responding agencies (e.g., police, fire, EMS) and private security/emergency teams.

With real-time sharing of critical information to all responding parties through a software platform, SimpleSense helps minimize response times, ultimately saving both lives and dollars. In the case of first responders and on-site security/emergency teams, this creates opportunities for all parties to communicate detailed critical information rapidly and efficiently. In essence, SimpleSense eliminates information silos so dispatchers, first responders, private emergency/security teams, and even property owners can respond jointly, in sync with each other.



Keeping all response participants informed is vital, especially as any single responder, regardless of their position in the centralized command structure, may have access to critical information that's valuable to all responders. In our piece, "[How Decentralizing Access to Information Will Reduce Response Times](#)," we highlight how essential public and private access can be in the case of a rapidly evolving emergency.

For instance, decentralized access can:

- Immediately alert on-premises staff of the emergency
- Decrease location confusion on large campuses
- Eliminate entry issues (e.g., locked gates and doors)
- Minimize delays in communication between call centers
- Provide security camera access
- Focus radio communication on only the most critical information

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public and private information silos.

Moreover, the police and fire commanders guiding the rescue efforts did not talk to one another during the crisis. - 9/11 report

The High Cost of Confusion

The single event that led to the most change in the last 50 years was 9/11. The size and severity of the attack tested the modern emergency response system past its breaking point. The New York Times reported on the systemic breakdown in July 2002:

Minutes after the south tower collapsed at the World Trade Center, police helicopters hovered near the remaining tower to check its condition. "About 15 floors down from the top, it looks like it's glowing red," the pilot of one helicopter, Aviation 14, radioed at 10:07 a.m. "It's inevitable."

Seconds later, another pilot reported: "I don't think this has too much longer to go. I would evacuate all people within the area of that second building."

Those clear warnings, captured on police radio tapes, were transmitted 21 minutes before the building fell, and officials say they were relayed to police officers, most of whom managed to escape. Yet most firefighters never heard those warnings, or earlier orders to get out. Their radio system frequently failed that morning. Even if the radio network had been reliable, it was not linked to the police system. Moreover, the police and fire commanders guiding the rescue efforts did not talk to one another during the crisis.

communication protocols, radio hardware, and software, to name a few.

Today, a higher volume of complex calls, like active shooter incidents, is now testing the post-9/11 emergency response system.

No Time for Delays

However, it's not just national tragedies that push the bounds of 9-1-1's current infrastructure; it's everyday emergencies. Even with today's technology, dispatchers aren't always able to see a callback number or location of a 9-1-1 caller who used his or her mobile device. This lack of information equates to significant increases in response times, and these delays can lead to perilous outcomes. For instance, the American Heart Association found that for every minute that passes without CPR and defibrillation, the chances of survival decrease by 7-10%.

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Moreover, in just 30 seconds, a small flame can turn into a major fire. In two minutes, a fire can become life-threatening. In five minutes, a fire can engulf a residence in flames. However, delays aren't just dangerous; they're expensive.



In a study published by [Value in Health](#), Thai researchers found that the monetary value for a one-minute improvement for each dispatch equated to between \$10,229 and \$172,576 depending on the nature of the injury. Over a year, a one-minute improvement on every dispatch would save roughly \$50,204,000.

Crunching the Numbers

Outcomes

Quantifying the Impact of Emergency Response Times

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Using data from a 2015 [RapidSOS](#) study, reducing response time by one minute can save **149,333** lives a year. Because SimpleSense focuses on a smaller subset of the population—people working in large corporate buildings and campuses—we estimate our technology will equate to a two-minute reduction in response time.

Potential savings are based on the 155 million people with jobs (325 million total U.S. population as of 2018:

By decentralizing access to critical information during emergencies, SimpleSense can actively service the 15% of the population that is at work during a weekday. By using the same saved-lives-per-minute metric as RapidSOS, this reduced response rate can save 47,458 lives annually.

The United States Department of Agriculture (USDA), Food and Drug Administration (FDA), and Environment Protection Agency (EPA) all publish estimates of the value of a human life to examine the socio-economic cost benefits of potential legislation. Depending on the government agency, the “value” (as cold and calculated as it sounds) of a human life is between \$8.9 and 10 million.

For SimpleSense, we looked for a number most relevant to the costs of workplace injury and death. In 2017, The National Safety Council estimated the total economic costs of workplace death to be **\$1,150,000**. Multiplied by the number of potential lives saved, SimpleSense has a total potential value to the private sector of over **\$54 billion annually**.

COST



The true cost to the nation, employers, and individuals of work-related deaths and injuries is much greater than the cost of workers' compensation insurance alone. The figures above show National Safety Council estimates of the total economic costs of work-related deaths and injuries.

Source: [National Safety Council - Injury Facts](#)

To refine our estimate further, we can estimate that the portion of commercial and public buildings interested or able to make use of SimpleSense's technology is about one-third, as companies of greater than 500 employees employ 38.2% of the population. In this case, the annual value of the service is \$20 billion a year.

Right-Time-Right-Place Data Can Save Lives

There is no longer a question of whether or not we have enough data—we do, and we gather more every day. Today, it's about developing a practical

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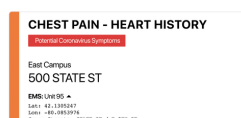
sources into clear, actionable, at-a-glance operations for first responders. This decentralized access to information combined with a solution-based, user-friendly interface will eliminate information silos between public and private emergency, fire, and security services.

It's our goal to enhance centralized, radio-based emergency communications to ensure the highest levels of safety. Follow us on our journey by signing up for our newsletter. Moreover, if you would like to pilot SimpleSense, [click here](#) to contact us today.

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