The false call mystery

Earlier this year, emergency call centres experienced a strange and alarming issue. Globally, millions of calls to emergency numbers were made, but the callers were completely silent. **Amy Leete** investigates...

When citizens call the emergency services – whether that be 999, 911, 000, 111, 112, or any other emergency number – they expect several things. Thanks to glitzy Hollywood thrillers, emergency calls are perceived as simple communications: you call for help, and you are connected immediately to an operator who knows exactly where you are and what you need.

The reality is that emergency communications are more like a concert orchestra: while the public perceives a smooth and reliable performance, there are hundreds of individuals each playing an essential role behind the scenes to make the magic happen.

What happens when something goes wrong? In recent months, Public Safety Answering Points (PSAPs) – emergency call centres – have become flooded with unintentional calls. These were mainly 'pocket dials,' where an unlocked phone in one's pocket or handbag makes unintended calls and the caller is entirely unaware that they have been connected to the emergency services. But who discovered the problem? Who raised the alarm, and who found the exact cause?

False calls are any communication initiated by a citizen with emergency services where there is no need for an emergency response. This can range from hoax calls, where callers deliberately mislead the emergency services (saying there is a fire when there is not, for example), to 'pocket dials' and other completely unintentional calls. There is no denying that false calls are a real issue for PSAPs across the world. False emergency calls divert emergency services away from people who may be in life- threatening situations and who need urgent help. This can mean the difference between life and death for someone in trouble. The number of false emergency calls is significant; in the European Emergency Number Association (EENA)'s *False Emergency Calls* document, this is shown to be several million each year in the EU. The document also records the different methods used by public authorities and PSAPs in handling false calls, from educating the public to blocking calls from SIM-less phones. But there is no globally agreed-upon method for handling false calls or even defining them – one of the purposes of EENA's document.

Indeed, readers may be surprised at how much diversity there is in emergency call handling. Each country has a different structure and method of answering emergency calls. The emergency resources needed in a densely populated country, such as Belgium, differ from those needed in countries with vast rural areas, such as Spain. Typically, the structure of these services is developed to match the unique challenges faced by each country. In the UK, Australia, and New Zealand, your call is first handled by an operator who asks what service you need (fire, police, ambulance) before connecting you to a new operator as per your request. In Finland, you only speak to one highly trained operator who manages both call-taking and the dispatch of intervention resources, whereas in Latin America, your call is answered by civilians who classify your call and make parallel dispatches of the emergency services you require. So, when something goes wrong, such as a sharp increase in false calls, how do PSAP managers know whether the problem is local, regional, national, or international? Who asks the questions, and who answers them?

The answer is public safety stakeholders. Individual PSAPs and countries rely on public safety organisations to look at the bigger picture; they supply a platform where emergency service agencies can raise issues and best practices internationally. Public safety organisations representing members in Canada, the European Union, the UK, and the US signed a first-of-its-kind agreement on November 4, 2019 to work together to improve the emergency communications systems that serve nearly one billion people worldwide. Under the pact, known as the *Collaborative Coalition for International Public Safety (CC:IPS)*, the Association of Public-Safety Communications Officials, Canada (APCO Canada), EENA, the British Association of Public-Safety Communications Officials (BAPCO), the National Emergency Number Association (NENA), and the National Emergency Communications Working Group (Aus/NZ) (NECWG-A/NZ) pledge to promote, support, and improve emergency communications services utilising the most current and commonly accepted technologies, standards, and best practices. Specifically, the groups have committed themselves to promoting, among a wide range of topics, next generation emergency communications, services, networks, and systems, such as the i3 standard for NG9-1-1 in North America and the NG1-1-2 standard in Europe. Under these frameworks, calls for emergency help are handled in a modern, Internet Protocol-based multimedia environment, as opposed to the voice- and landline-centric frameworks of the past.

There is no database of emergency call statistics shared internationally; each country keeps its own records, and these are not routinely shared without request. It was a phone call from the Netherlands 112 service to EENA that initially raised alarm bells. Since February, Dutch 112 advisors have noticed that emergency calls have increased rapidly, and call-takers are struggling to keep up with the pace. A data analysis also revealed that these calls were largely accidental; callers would disconnect without speaking. When they were called back for more information, most callers would explain that the phone called by itself, that the phone was in their pocket or handbag, and that their devices were Android. Through their own research, the Netherlands 112 service discovered that the latest Android update had introduced an emergency calling function: pressing the power button on Android devices a certain number of times automatically calls emergency services, allowing calls to be made by a locked phone or without notifying other people in the vicinity (useful, for example, in domestic violence cases where an emergency call needs to be made discreetly). Once the update that introduced this feature rolled out globally, the volume of false calls rose dramatically in each country where the update was applied.

No numbers

With this information, EENA reached out to other countries across Europe. A clear picture began to form as almost every country contacted was experiencing a similar issue. In Sweden, 40-45 per cent of calls to 112 were silent, equating to approximately 10,000 extra false calls a week. With Dorset Police (UK)'s head of contact management, Superintendent Pete Browning, advising that each false call takes about 20 minutes to resolve, it is clear that the knock-on effect is overwhelming. If each call-taker in Sweden spent twenty minutes handling each call, that is an additional 200,000 minutes required in a week, equivalent to more than 80 full-time call-takers required to handle this issue alone. With PSAPs globally facing staffing crises amidst the 'great resignation,' this is simply an impossible ask. In Ireland, false calls have doubled since mid-December, while in Austria, false calls increased by an astounding 500 per cent in May. In many countries, such as the UK, emergency services are obliged to investigate unanswered or abandoned

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emergency calls, resulting in significantly more time spent handling these calls. Through EENA's broad emergency services network, information on this issue came in from Europe and beyond, including Canada.

Each country has limitations on the data they can collect from each emergency call; some were able to identify the type of device making the call, some were able to tag the kind of call in their data (silent), while some could only confirm an increase in overall calls. But looking at the data from an international perspective, it is significantly easier to fill in the gaps and see a clear narrative.

Citizens began to discover the issue too, with individual countries and PSAPs urging citizens to make manual changes to their phones to fix the issue quickly. Police in Ontario, North Vancouver (Canada), and Greater Manchester (UK) publicly urged Android phone users to check their emergency settings after seeing an increase in false calls.

With confirmation of the issue across multiple European countries and several news reports, EENA reached out to CC:IPS to investigate the situation in the UK, Canada, the US, Australia, New Zealand, and Latin America. The issue was discussed at the next CC:IPS meeting as a priority. International counterparts reported similar issues. In Canada, increases in 911 calls were seen in every region. Of the PSAPs surveyed, there was a 54.6 per cent increase in false calls, equivalent to 56,700 more false calls in May 2023 than in May 2022. As in the UK, if each call-taker spent 20 minutes resolving each call, 1.134 million minutes of call-takers' time would be spent handling this particular issue alone. Not all accidental 911 calls: only the ones believed to be caused by the emergency SOS function on Android phones.

Across the globe, New Zealand also shared a significant spike in false calls, also identifying the recent Android update as the culprit. As in Europe, recruiting staff remains a major challenge globally, leading to a potentially dire situation as PSAPs simply do not have the staff to handle such an increase in volume.

With the issue now clearly global and a portfolio of evidence pointing to an issue with the power-button

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emergency call function, we collectively reached out to Samsung and other smartphone manufacturers, such as Google, for a solution. Within a matter of days, Samsung was able to confirm the issue and that it was working on a patch that would significantly reduce the false calls while still maintaining the emergency call function. The update still allows for the emergency SOS feature to be activated when the power button is pressed five times, but it will not automatically call the user's emergency number; it will just prompt them to do so. Samsung made the update available to most devices by the end of June 2023, although pushing the update to handsets required scheduling with individual mobile service providers in each country, so implementation occurred over some months. Through CC:IPS, all PSAPs who raised concerns were informed about these developments, including a public statement by EENA.

The latest Android update allows emergency calls via a locked phone, or without notifying others close by. This is useful in domestic violence cases where such calls need to be made discreetly. The volume of false calls rose dramatically in whatever country the update was applied

The question on many people's minds will be why this update was ever introduced in the first place. It is important to note that these emergency features are always implemented with the best of intentions. Being able to call the emergency services without unlocking the phone or manually dialling can be essential in many situations, such as allowing you to use a locked or unfamiliar phone in an emergency or contacting emergency services discreetly.

Very often, handset features become available globally because of a local requirement to do so. This is the case for the ability to call the emergency services using your handset's power button. A 2016 law in India made it a legal requirement for handsets to have physical panic buttons in order to combat rising gender-based violence. A release by the Indian government's Press Information Bureau said regulators decided a physical panic button is better than an app or other software because: "A woman in distress does not have more than a second or two to send out a distress message as a perpetrator will often reach out to take away her mobile phone in the event of a physical or sexual assault." Rather than produce a handset unique to India, the feature instead expanded globally. In many cases, this can allow a useful handset feature to be available globally; this is the case with Advanced Mobile Location, a life-saving technology that automatically sends the location of the caller to emergency services. However, new features can also be harmful without diligent testing of the feature in each environment it will be introduced in, such as in the case of the power button emergency function.

What we can learn from this incident is that co-operation between every stakeholder is important. From the physical design of the phone to the software capabilities, including the call-taker at the end of the line, every part of emergency communication has a significant effect on the end result. Designing handsets that are optimised for emergency communications requires consultation between handset operators and emergency services. Ensuring that accurate and reliable locations are given when emergency calls are made requires an intricate partnership between the handset operators, software developers, mobile service providers, and PSAPs receiving the information. Involving each stakeholder early in the process avoids issues later down the line. Public safety organisations can offer this platform, and we invite companies and smartphone manufacturers to work with us before releasing updates that may affect emergency communications. EENA's 2024 Conference will feature a panel on designing phones in a way that reduces false calls, bringing the issue to light with an audience that can make a difference.

Above all, this incident shows the importance of having platforms for discussion. Public safety organisations, such as CC:IPS, are an essential space for emergency services to discuss issues, learn from others, and develop best practises. It also serves as an early warning and response system for detecting critical issues. With the variety of technologies, call-answering models, and legislation in each country, many emergency services representatives feel like an issue is only happening to them. Had the Netherlands 112 service not asked international counterparts whether they too were experiencing an increase in false calls, the global scale of the issue may not have been discovered for a significantly longer time. Having a space to share concerns and data means problems are found – and ultimately fixed – quicker. We encourage all emergency services to continue proactively sharing data with us, as being informed about a problem is the only way we can start helping.

These platforms also allow for proactive innovation, looking to new and future technologies to mitigate issues before they happen. There are already a number of research studies suggesting that AI can perform as well as or better than humans at key healthcare tasks, such as diagnosing disease. Will there come a time when AI can constantly monitor call data and find anomalies in false call numbers before a human analyst discovers them? The possibility is certainly there, and interest in the opportunities AI presents for emergency services is growing rapidly.

It is said that asking the right questions takes as much skill as giving the right answers. While it will never be easy to ask the right questions in a sector full of so many moving parts, public safety organisations can certainly offer a space to ask them and receive the answers we need to keep saving lives. CRJ

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