The Rising Demand for Emergency Services and How Call Centres are Looking to Technology to Help

This document examines how rising emergency call volumes and public expectations are pressuring call centres, and how a combination of technology, staff support, and policy changes is being used to manage demand and improve outcomes.

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EENA
European Emergency Number Association
EENA 112
Avenue de la Toison d'Or 79, Brussels, Belgium
T: +32/2.534.97.89
E-mail: info@eena.org

Author(s):
Ross Venhuizen
Member, EENA Tech & Ops committee

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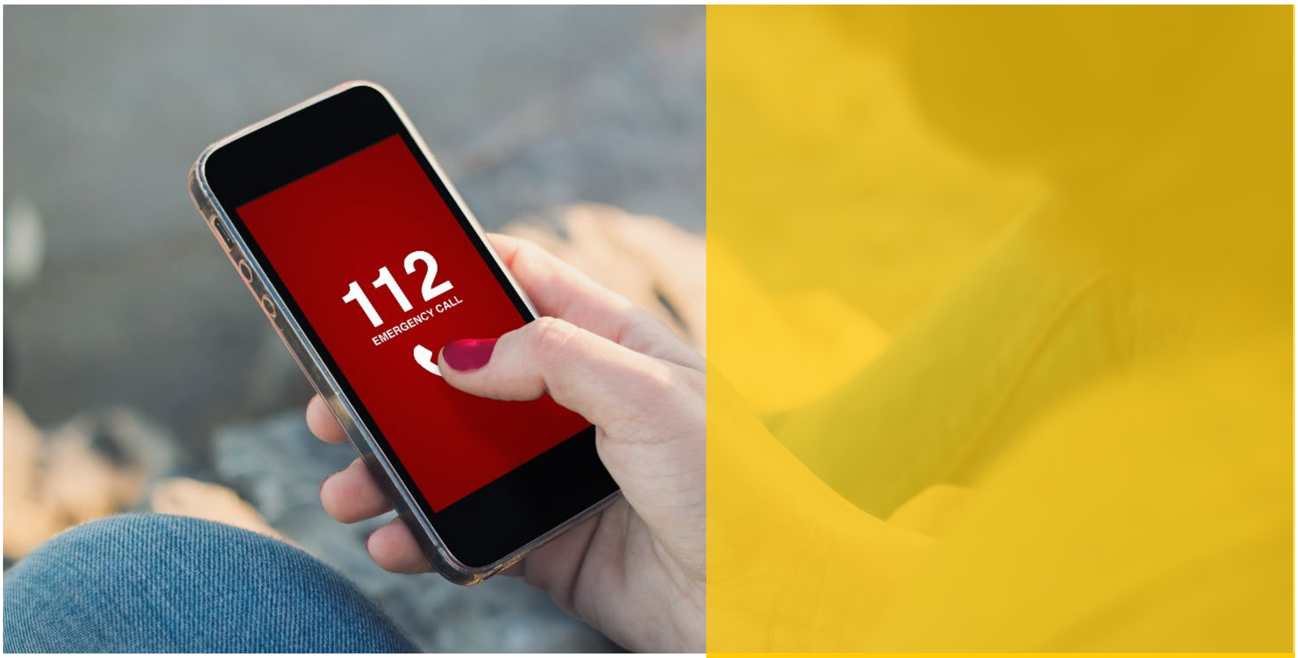

EXECUTIVE SUMMARY

This document outlines the growing pressure on emergency call centres due to rising call volumes, increased public expectations, and staffing challenges. Technologies like eCall and smartphone emergency features contribute to both real and false call increases, while recruitment and retention issues have been worsened by the post-pandemic ‘Great Resignation’.

To cope, agencies are exploring cloud-based systems and AI tools to support triage, translation, and decision-making. Video call pilots have improved response times and user satisfaction. However, these solutions require careful implementation to address risks like data privacy and staff training.

Alongside tech adoption, many centres are focusing on staff wellbeing, process improvements, and policy changes to manage demand and reduce misuse of emergency numbers. A combined approach of innovation and human-centred strategies offers the most effective way forward.

This document intends to provide an overview of the growing challenges faced by emergency call centres due to rising demand and public expectations, and how technological and strategic innovations are being explored to help manage these pressures.

1 | A growing problem

As the demand for emergency services continues to rise, emergency call centres across the world are facing a number of challenges in meeting this growing demand, while striving to deliver better outcomes for all of those callers. But it's not just the volume of calls that is increasing; the public's expectations of the emergency services are too.

The rise in the volume of emergency calls is truly a global problem. The Report on the implementation of 112, published by the European Commission in 2024[1], found that the overall emergency call volume, including calls made to country-specific national emergency numbers, increased by 6% year-over-year to 285 million. Similarly, the 2021 call volume data in the North America Emergency Number Association's (NENA) most recently published National 911 Report showed US states on average experienced a 4% increase in 911 calls compared to 2020. And the trend in rising emergency call volumes shows no sign of slowing down. In Poland alone, nearly 22.4 million incoming calls were registered in Emergency Notification Centres in 2023, over a million more calls than a year earlier. In Australia, ambulances in New South Wales responded to a record-high of 116,000 emergency calls in April 2022, a dramatic rise compared to the 281,400 emergency calls in the whole of 2018.

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2 | Rising demand, rising expectations

Another challenge Public Safety Answer Points (PSAPs) face is the growth in calls initiated by sources other than the caller. New functionality added by Android in 2023 made it easier for users to call emergency services with the click of a button. It also led to a rise in accidental or 'false calls' made without any intentional input from the user. At its peak, EENA's The False Call Mystery blogpost found this functionality to have added several million 'false calls' each year in the EU.

The introduction of eCalls in 2018 added a further vector for growth in emergency service volume. In 2022, the EU 112 Implementation Report found that over 400,000 eCalls were placed in member states. Some of these calls simply replace mobile calls that would have been made manually by the public, but many are additive to overall emergency services volume. The eCall system allows for life saving calls to be made when a driver is incapable of calling for emergency services themselves. However, it also can be accidentally triggered in situations such as vehicle malfunctions or minor collisions that don't require emergency assistance.

In fact, the implementation of 112 itself has led to an increase in the demands put upon PSAPs. The 112 Implementation Report found that 1.5 million calls to 112 were made by 'roamers', international visitors to EU countries, leading to a greater demand for foreign language speakers and translation services.

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[1] https://digital-strategy.ec.europa.eu/en/library/2024-report-implementation-eu-emergency-number-112

3 | The “Great Resignation” and retention problems

Among all of these challenges, emergency call centres have also suffered from the ‘Great Resignation’ in the wake of the Covid-19 pandemic. It is estimated that 15% of the US population quit their jobs in 2022 after the pandemic as they re-evaluated their lives, choosing to leave stressful or demanding jobs.

For emergency call centres this simply exacerbated the ongoing problem of staff recruitment and retention. An ambulance trust in the UK found that more than half of its new call handlers quit the ‘relentless’ job within a year of starting, and a third within six months, with ‘health’ being given as the main reason. Similarly a study released by the International Academies of Dispatch (IAED) and the National Association of State 911 Administrators (NASNA) reports that over 50% of 911 centres are facing a genuine staffing emergency.

4 | Doing more with less

Many emergency services feel the problems they are facing, from increasing expectations to staff retention, are further complicated by budgets that are flat or have even gone down in recent years. This challenge highlights the need to do more with even less than before. An analysis of police financial forecasts in the UK revealed police forces in England and Wales could face a combined budget shortfall of almost £721m by 2026. Meanwhile, funding for fire and rescue services in the UK was cut by £140M between 2016 and 2021 despite the number of non-fire incidents attended such as flooding, road traffic collisions, water rescues, evacuations and hazardous chemical incidents increasing by 28% in the same five year period.

5 | Agencies experimenting with new technology to help

The public safety community is still in the early days of evaluating and adopting new technologies intended to help emergency call centres effectively manage the rising demand and expectations from the public. However, the potential for technology to help is widely recognised. The UK Home Office’s “Policing Productivity Review” recently found that investments in technology could save as many as 15 million hours over the next 5 years for call takers and officers.

In the US, UK, and much of Latin America, cloud-hosted or hybrid offerings have gained traction in control rooms as a way to enable greater flexibility for employees. In the US, cloud call taking and dispatch systems have become popular backup solutions for an agency with a primary system on premise. In the UK, the majority of new call handling systems purchased over the past 3 years have been cloud-first offerings. Of course, this reliance on cloud infrastructure also introduces operational risks. Disruptions to internet connectivity, whether due to natural disasters, cyberattacks, or technical failures, could severely impact a call center's ability to operate. Robust contingency plans, including redundant internet connections and backup power systems, are crucial.

Supporting this move, a 2024 report found that 90% of US first responders would be more likely to extend their career if there was an option to work remotely. Some agencies are embracing these findings, by looking to enable remote workflows for call takers and responders. In the UK, a Rapid Video Response (RVR) trial by Kent Police used video calls to respond to calls from victims of domestic abuse. Upon determining the caller was open to a video response, Kent Police call takers sent a video link to the caller via text message or email. Once received, the victim would immediately connect with a waiting police officer who conducted the virtual first response via a recorded video call. Their use of video calls increased victim satisfaction significantly from 78 to 89% and reduced the average delay in response from 1969 minutes to three minutes.

6 | The question of AI

Artificial intelligence (AI) will undoubtedly play a part in the control rooms of the future and bring benefits to both call centres and call handlers. Agencies across the globe are starting to explore the potential benefits and how the associated risks can best be mitigated.

One early area of promise is around automating mundane tasks in the control room. AI Chatbots, for example, can be used to handle routine queries for coming to police services via web chat or email. Similarly, some agencies in the US have added AI-assisted triage solutions to their non-emergency line. The AI can converse with callers and respond to many of the most common questions without the need for human intervention. The commercial call centre world is already seeing benefits to this approach, largely due to the cost savings it brings.

Another promising path involves the use of AI to improve data collection and decision making. At the EENA 2024 Conference, representatives from the Polytechnic University of Valencia discussed a pilot programme they were running to determine if AI could better assess the severity of EMS calls. They found their deep learning algorithm was 13% more accurate at predicting if the life of a person was at risk during 112 calls, compared to call takers using their standard classification tree. For now, this algorithm is being used to help guide their training and classification plans in slow time, but in the future, tools like these are likely to be able to assist call handlers in real time – improving the quality of decisions and the speed at which they're made.

Some agencies are already pursuing AI solutions to assist mid call. Greater Harris County, Texas for example is currently using live transcription and translation integrated with their call taking solution. This set up allows their call takers to have a second opportunity to catch words that they might have missed from the caller without needing to interrupt. They've also found it helps to reduce the language gap when pulling in language translation providers, as they are able to follow the translated dialogue in real time. Similarly, AI noise cancellation software can be used to remove background or unwanted or distracting noise from calls such as traffic noise, loud groups of people near the call or a crying child. Greater Copenhagen Fire Department in Denmark found that an AI noise removal solution helped them to reduce misunderstandings and make better decisions, faster.

As with any new technology, it's crucial to acknowledge the challenges associated with AI adoption. Data security and privacy are paramount. Ensuring compliance with regulations like GDPR is essential, and robust cybersecurity frameworks are needed to protect sensitive caller information. Furthermore, call takers may require extensive training to effectively use and trust AI-powered tools. User resistance to new technologies is a common hurdle, and a gradual, well-supported implementation is key. There are also ethical considerations around bias in AI algorithms, which must be carefully addressed to ensure fair and equitable outcomes.

7 | Beyond technology: a holistic approach

While technology offers significant potential, it's not a silver bullet. Emergency services are also tackling the challenges they face through a range of non-technological strategies:

- **Workforce Strategies:** Recognising the high-stress nature of the job, many agencies are implementing programmes to support call taker well-being. These include mental health support services, peer support groups, and stress management training. These initiatives aim to improve job satisfaction and reduce staff turnover.
- **Process Optimisation:** Call centers are continually reviewing and refining their call triage protocols. By optimising these processes, they can more accurately assess the urgency of calls and reduce unnecessary dispatches, freeing up resources for genuine emergencies.
- **Policy Initiatives**: Governments and regulatory bodies are exploring various policy changes to address the root causes of rising demand and improve system efficiency. These include:
    - **"Right Care, Right Place" Initiatives:** Many regions are implementing programmes designed to divert non-emergency calls away from traditional 911/112 systems. This often involves establishing alternative helplines (like 311 in the US or 111 in the UK) for non-urgent medical advice or social service needs. The goal is to ensure that emergency resources are reserved for true life-threatening situations. This can involve public awareness campaigns to educate citizens about appropriate use of emergency numbers.
    - **Addressing "Frequent Caller" Challenges:** Some individuals repeatedly call emergency services for non-emergency issues, often due to underlying social, mental health, or medical needs. Policy responses can include creating specialised "high-utiliser" programmes. These programmes often involve multidisciplinary teams (social workers, mental health professionals, paramedics) who proactively engage with frequent callers to address their underlying needs and connect them with appropriate community resources, thereby reducing their reliance on emergency services.
    - **Legislation Addressing Misuse of Emergency Numbers:** Some jurisdictions have strengthened laws and penalties related to the misuse of emergency numbers (e.g., prank calls, non-emergency calls). This is intended to deter inappropriate use and free up lines for genuine emergencies. This can be coupled with public awareness campaigns about the consequences of misuse

8 | A better future

As the demand for emergency services continues to rise, call centres face significant challenges in meeting this demand and delivering better outcomes. But by embracing technological advancements such as AI and video calls, while carefully considering the associated risks and implementation challenges, implementing human-centred systems and practices, and establishing robust contact management systems, call centres can effectively manage the increasing demand and improve response times. Crucially, a holistic approach that combines technology with workforce support, process improvements, and policy adjustments offers the most promising path forward. These strategies, combined with comprehensive training and support for call handlers, can help ensure that emergency services responses are delivered promptly and efficiently to those in need and deliver better outcomes for both call handlers and callers.