

Report: Impact of COVID-19 on PSAP activities



Read about how the first phase of the COVID-19 outbreak affected Public Safety Answering Points, including changes in the volume of emergency calls and impacts on working conditions and procedures.

Report: Impact of COVID-19 on PSAP activities

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EXECUTIVE SUMMARY

Emergency services across the world have faced many challenges during the COVID-19 pandemic. This report explores the impact on and the response of emergency organisations, primarily in Europe, during the first peak of the crisis.

The report highlights that although some countries did not experience a significant change in the overall number of emergency calls, certain countries, particularly those hit hardest by the outbreak, saw an influx of calls which challenged the capacity of their emergency call centres.

Alternative numbers, such as non-emergency medical numbers and dedicated crisis information hotlines, were a useful tool to reduce the number of emergency calls and prevent the saturation of emergency call centres. It is particularly useful if these numbers are already well-established and well-known among the population.

In addition, services were often impacted differently, with many countries noting an increase in emergency medical calls and a decrease in non-medical emergency calls (fire and rescue, police). This highlights the importance of fostering synergies between emergency services. Inter-agency cooperation and the pooling of resources should be taken into consideration.

Emergency call centres responded in various ways to the challenges faced, including by introducing new protocols and making efforts to increase the number of staff. However, improvements can still be made.



The aim of this document is to provide insights and recommendations for countries to learn from each other and prepare for future public health challenges.



Future recommendations:

- Enable call-takers & dispatchers to work remotely
- Enable PSAPs to receive basic medical data automatically with the emergency call
- Have the ability to move personnel to another call centre
- Have the ability to transfer calls to another centre if needed (e.g. in case of overflow of calls, PSAP shutdown)
- Guarantee that call-takers and dispatchers have adequate access to Personal Protective Equipment (PPE) and COVID-19 testing
- Enable PSAPs to receive basic medical data automatically with the emergency call (on a voluntary basis)



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INTRODUCTION

The COVID-19 pandemic posed many challenges for emergency services and required a great deal of adaption in a short time frame. Emergency call centres (Public Safety Answering Points, PSAPs) were heavily impacted in many countries, whether in terms of changes in the volume or category of calls, the introduction of new protocols, or the establishment of new measures to protect staff members, amongst others.

This document will explore how PSAPs were impacted and what measures were taken by governments and emergency organisations to address this. The aim is to provide a comprehensive understanding of the situation in Europe and beyond, including recommendations and guidelines, so that countries can learn from the experiences of others and prepare for future challenges.

The document is split into 3 sections. The first section aims to explore the impact of the COVID-19 pandemic on emergency call centres, focusing on the volume of calls. We will explore whether the volume of calls changed and if so, which services were most heavily impacted? In doing so, we will be able to understand why changes occurred. When did PSAPs experience peaks in calls? Did factors such as an increase in COVID-19 cases or the introduction of restrictive measures drive an increase in calls?

The second section will focus on the measures taken by countries and individual PSAPs to deal with the impact of COVID-19. On one hand, this may involve the introduction of alternative numbers or the use of existing alternative numbers to reduce the chance of saturation of the PSAPs. On the other hand, this may include measures to ensure that PSAPs continue to run as normally as possible, for instance through increasing the number of staff members, reducing the chances of staff contracting the virus or ensuring back-up facilities.

The final section of the document will provide key recommendations for emergency response organisations.

1 | THE IMPACT OF COVID-19 ON PSAPS

How did COVID-19 impact the general activity of PSAPs in Europe?



1.1. | OBJECTIVES AND METHODOLOGY

This section of the document aims to answer the question: How did COVID-19 impact the general activity of PSAPs in Europe? To fully understand the overall impact during the first peak of the crisis in Europe, we considered:

- Was there an **increase or decrease** in emergency calls due to the outbreak of COVID-19?
- Did specific events such as the **announcement of restrictive measures** or the **confirmation of the first case of COVID-19** in the country impact the number of calls?
- Did **calls related to COVID-19** represent a significant proportion of emergency calls?
- Were **different services** (medical, fire and rescue, police) impacted differently?
- Did the **use of alternative numbers** for non-emergency calls related to COVID-19 impact the volume of calls?



Methodology

Methodology

The study uses data provided by email from official emergency response organisations or the relevant ministries. Detailed data from 18 European countries were received: Bulgaria, Croatia, Denmark (Greater Copenhagen), Estonia, Finland, Germany (Freiburg PSAP), Hungary, Iceland, Italy (Lombardy, Rome), Lithuania, Poland, Portugal (Mainland), Romania, Slovenia, Spain (La Rioja), Sweden, Switzerland (Lausanne PSAP) and the United Kingdom.¹

Qualitative information was also obtained through telephone interviews of representatives of the following countries: Croatia, Finland, Italy, and Romania. These interviews were carried out from 26 August to 01 September 2020.

The data focuses on the initial stage of emergency response in the country, from 15 February until 15 April 2020.² During this period, emergency organisations faced their first experiences of the challenges and needed to respond and adapt quickly as cases of COVID-19 cases rose in Europe. The unprecedented nature of the response in these initial stages makes this period different from any potential second peaks which may occur. It is therefore essential to understand how PSAPs were impacted during this stage and how organisations and governments responded.

Through understanding this stage of the response, we aim to provide guidelines and recommendations that may help to improve emergency response when faced with future challenges. By shedding light on the European context, best practices and lessons learnt may also be shared for countries currently dealing with the peak of the crisis.

As the data collected concerns PSAPs across Europe, it is important to also consider the call-handling procedures in each country. For instance, in some countries, call-takers in a multi-disciplinary call centre handle all emergency calls. In other countries, calls may be split between

¹ The source of the data for each country is presented in [Appendix 3](#).

² For some countries, a smaller data set has been used. Where this is so, this is detailed in [Appendix 3](#).

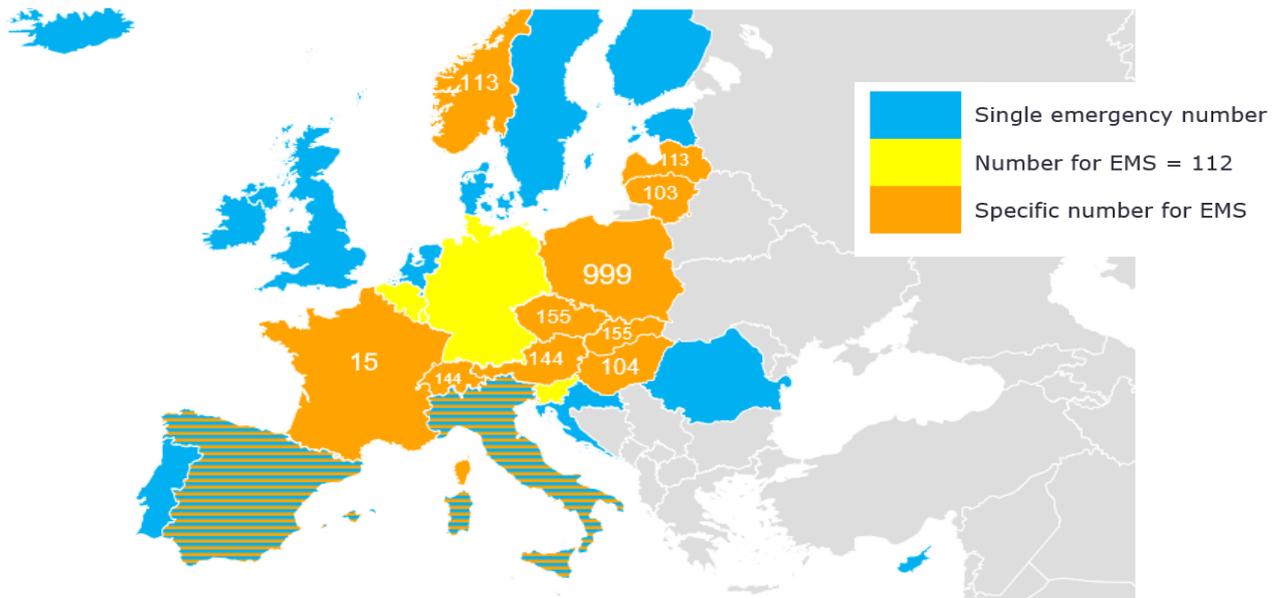
call centres depending on the service required. This may have an impact on the way in which the COVID-19 pandemic impacted call centres. A table is presented in [Appendix 1](#) to explain the system in each country. In addition, it presents events during the management of the pandemic which have the potential to impact the volume of emergency calls.

112 is the European Emergency Number, available across all of Europe. However, some countries also have national emergency numbers running alongside 112 (e.g. 999 in the UK). On the map below, you can see the different numbers that people can dial (in addition to 112) in case of medical emergency.

Besides numbers to call emergency services, countries also use alternative numbers for citizens to request non-emergency medical advice or general questions regarding a situation.

During the COVID-19 outbreak, these other helplines served sometimes as an essential support for emergency call centres, to prevent the dedicated emergency lines from being saturated with non-emergency calls. We will discuss this throughout the document.

Different numbers to dial in case of a medical emergency



1.2 | TERMINOLOGY

Alternative number: An alternative number may refer to both a non-emergency medical number and an information hotline for crisis situations.

Emergency call: A phone call made to emergency services.³

³ As demonstrated in [Appendix 1](#), some countries have a single emergency number, 112 – in Europe and parts of Africa - and 911 – in Americas. Other countries also use national numbers to connect callers to emergency services. The type of emergency calls for the data set of each country is highlighted in [Appendix 2](#).

Hotbed: An environment favouring the rapid growth/development for the spread of COVID-19.

PSAP: Public Safety Answering Point (emergency call centre)

Single emergency number: All emergency services in a country can be reached through one number.

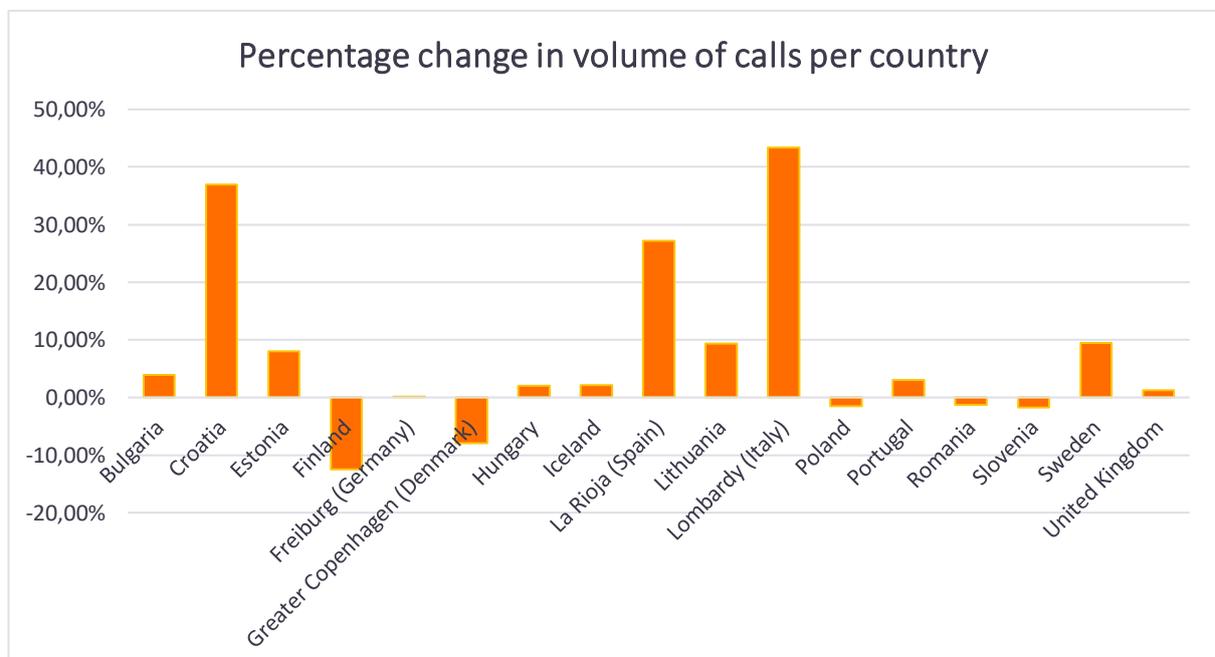
Well-established alternative number: A well-established alternative number refers to a number which was already in place. It was therefore known by the public in advance (to varying degrees) and differs from an alternative number which was established during the pandemic (e.g. dedicated COVID-19 hotline).

1.3 | IMPACT ON VOLUME OF EMERGENCY CALLS

Did the overall volume of emergency calls increase or decrease?

When comparing the daily volume of emergency calls⁴ during the observation period (15 February – 15 April) in 2020 and 2019,⁵ countries showed different experiences in the change in volume of calls.⁶

A significant increase in the volume of calls is evident in 3 countries/regions: Croatia (+37%), Lombardy (Italy) (+43%) and La Rioja (Spain) (+27%).⁷



⁴ Appendix 2 demonstrates the type of data presented for each country (for example, 112 calls only, 112 and national emergency number calls, etc.)

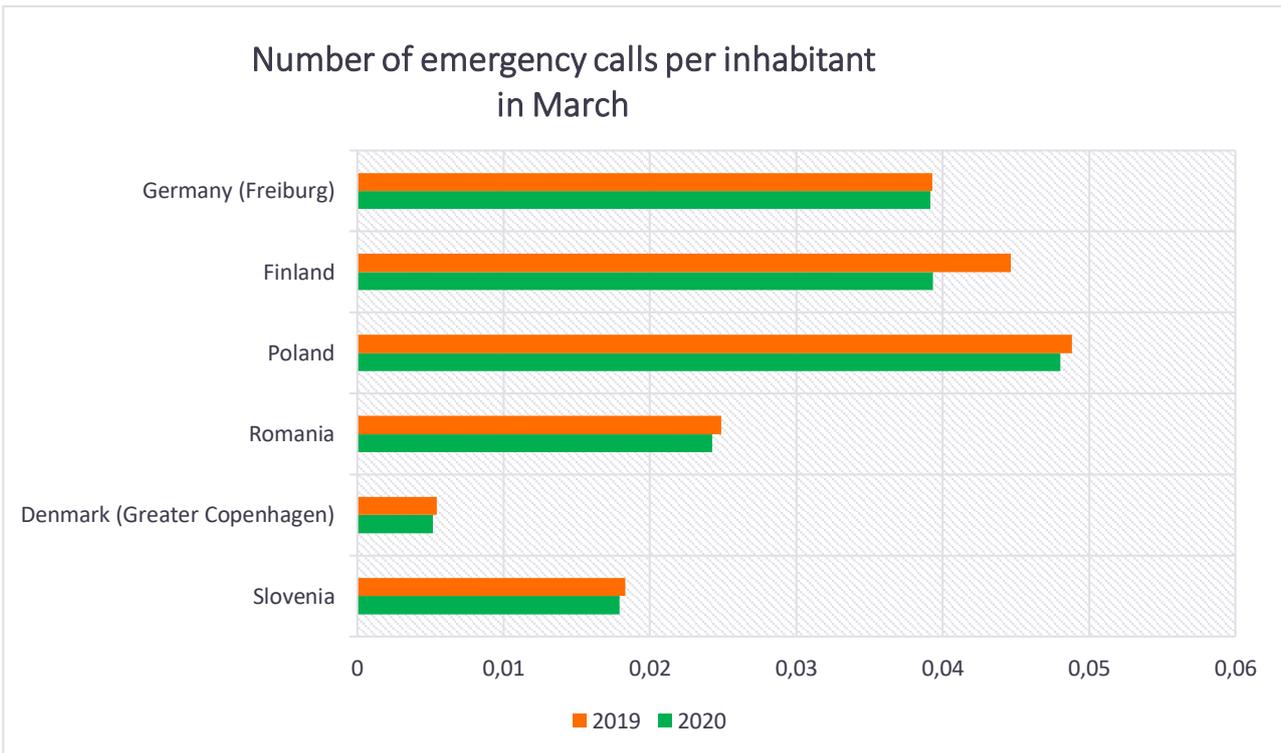
⁵ It should be noted that a general trend in Europe is that the number of emergency calls is increasing year after year.

⁶ 2020 was a leap year. Please note that for comparisons between overall and monthly figures, the data for 29 February 2020 has been removed, so that the same number of days are compared per year.

⁷ It should be noted that the observation periods per country may differ. Details of this can be found in the Appendix 3.

Which countries/regions saw a decrease in the number of calls per inhabitant?

We focus on the month of March, as it was on 13 March 2020 that the World Health Organisation (WHO) officially considered Europe as the epicentre of the COVID-19 pandemic.⁸ Additionally, as we will explore below, March was the month in which PSAPs were most significantly impacted.



This graph shows the countries that saw a decrease to emergency calls per inhabitant in March 2020 when compared to the same period in the previous year.⁹

In most of the countries mentioned, the decrease in the number of calls is not significant.

It is important to note that at the time, these countries were not very affected by the COVID-19 outbreak.

⁸ Bob Fredericks (2020-03-13) "WHO says Europe is new epicenter of coronavirus pandemic", New York Post <https://bit.ly/3l0WkN6> - Retrieved 2020-08-19

⁹ The information on the graph regarding the population per country was taken from Eurostat - European Commission database considering the 2019 demographics.

Eurostat (updated 2020-07-08) "Demographic balance, 2019 (thousands)", Eurostat <https://bit.ly/3inkXSk> - Retrieved 2020-09-08

The population of the Freiburg region in Germany was taken from a website that contains European population statistics in maps and charts for cities, agglomerations, and administrative divisions. Disclaimer: For this region, the population estimates after 2011 are based on the result of the 2011 census.

Statistisches Bundesamt Deutschland (web) (2020-07-05) "Freiburg im Breisgau (Baden-Württemberg)", City Population <https://bit.ly/2FitMhE> - Retrieved 2020-09-08

The countries that had the largest decrease in the volume of calls compared to the previous year were Finland (-11.9%), Greater Copenhagen (Denmark) (-4.44%) and Romania (-2.45%).

Finland was the country analysed with the most significant decrease of calls compared to the previous year.

According to an interview carried on the 26-08-2020 with an official from Emergency Response Centre Finland, the Finnish government had a good, strategic, and timely communication response level: 100% of calls were answered within 10 seconds, with an average response time of 4 seconds. An information helpline was established before the lockdown and the State of Emergency in the country.

The medical helpline 116 117 (already in place before the COVID-19 crisis), regional COVID-19 number, and websites to carry out symptom checkers were some of the strategies that also proved to be effective.

The Medical Helpline number - 116 117 from the Health Service developed a service in cooperation the Finnish Emergency Response Centre in the 112 application for citizens to self-analysis symptoms. This feature has helped to reduce calls to 112 and the medical helpline.

Romania is one of the countries analysed also with a decrease in the number of calls in comparison with the previous year.

This unusual situation led the Special Telecommunications Service (STS), the entity responsible for the call handling in Romania, to issue a *press note*, on 8 June 2020, thanking citizens for their responsible use of 112.

"Although in recent months our country has faced the COVID-19 pandemic, it is remarkable that, even in this context, the number of non-emergency calls decreased, which demonstrates that citizens are fully aware of the importance of responsibly calling the 112 emergency number."¹⁰

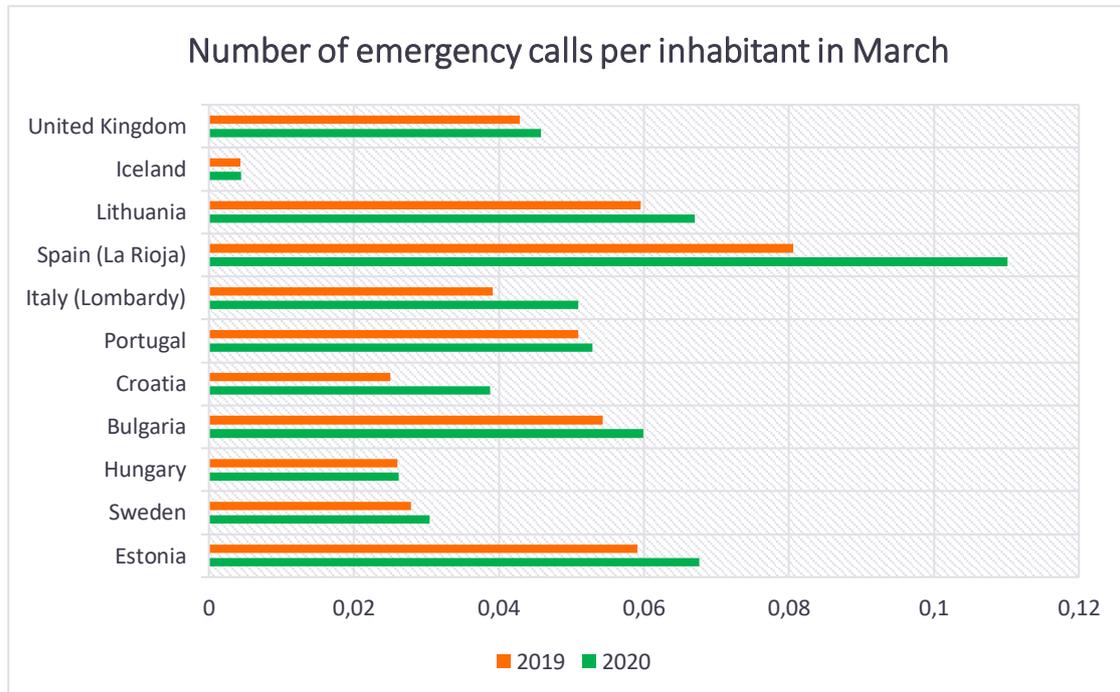
"In the first six months of 2020, the 112 Emergency Service received 4,896,707 calls, 14.33% less than the same period last year."¹¹

According to an interview carried on the 28-08-2020 with STS, the introduction of an alternative number and the media campaign to promote this number proved to be a good strategy to decrease the number of inappropriate calls to 112.

¹⁰ STS Press Office (2020-07-08) "**Decrease in non-emergency calls to 112**", STS <https://bit.ly/2Yg26Rv> - Retrieved 2020-08-19

¹¹ STS Press Office (2020-07-08) "**Decrease in non-emergency calls to 112**", STS <https://bit.ly/2Yg26Rv> - Retrieved 2020-08-19

Which countries/regions saw an increase in the number of calls per inhabitant?



This graph shows the countries that saw an increase in emergency calls per inhabitant in March 2020, when compared to March 2019.¹² The increase in the number of calls is especially noticeable in the countries/regions that were most affected by the virus: Italy (Lombardy) with an increase of 30.2% and Spain (La Rioja) with an increase of 36.7%.

These two European regions, during the period of analysis, and even now, were highly impacted by the COVID-19 pandemic with high death rates.

Of the countries/regions analysed, the Spanish region of La Rioja stands out, with a significant increase in calls in March 2020, compared to 2019. Considering the population density, La Rioja was one of the Spanish regions worst-hit by the virus.¹³ There is therefore a visible impact on the severity of COVID-19 in the region on the number of emergency calls.

¹² The information on the graph regarding the population per country was taken from Eurostat - European Commission database considering the 2019 demographics.

Eurostat (updated 2020-07-08) "Demographic balance, 2019 (thousands)", Eurostat <https://bit.ly/3inKXSk> - Retrieved 2020-09-08

The population of La Rioja, Spain was taken from a website that contains European population statistics in maps and charts for cities, agglomerations, and administrative divisions.

Instituto Nacional de Estadística, Madrid (web) (2019-12-27) "Autonomous Community of La Rioja", City Population <https://bit.ly/2ZzWhz1> - Retrieved 2020-09-08

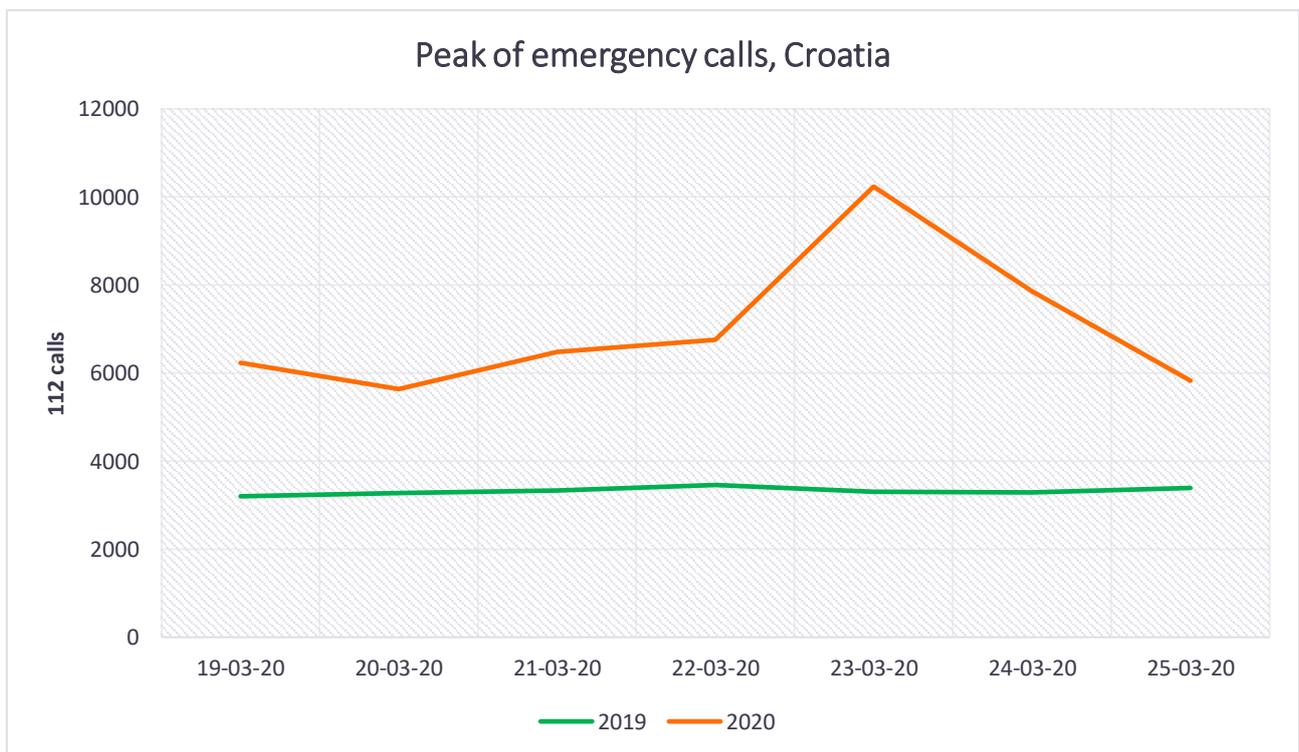
¹³ James Badcock (31-05-2020) "La Rioja: Spain's worst-hit region leads way out of pandemic", The Telegraph <https://bit.ly/3iNFe3w> - Retrieved 2020-08-19

This impact on the number of calls to 112 is also clearly visible in the **Region of Lombardy** (Italy). Besides being the most populated region in Italy, it was also the region most affected by COVID-19 and the first European zone to be affected.

More difficult to understand, because the country was not very affected with COVID-19 at the time, was an increase in the number of calls to 112 this year in **Croatia**. With an increase of 54.7% compared to last year, Croatia is the country in our sample which had the highest percentage increase of emergency calls.

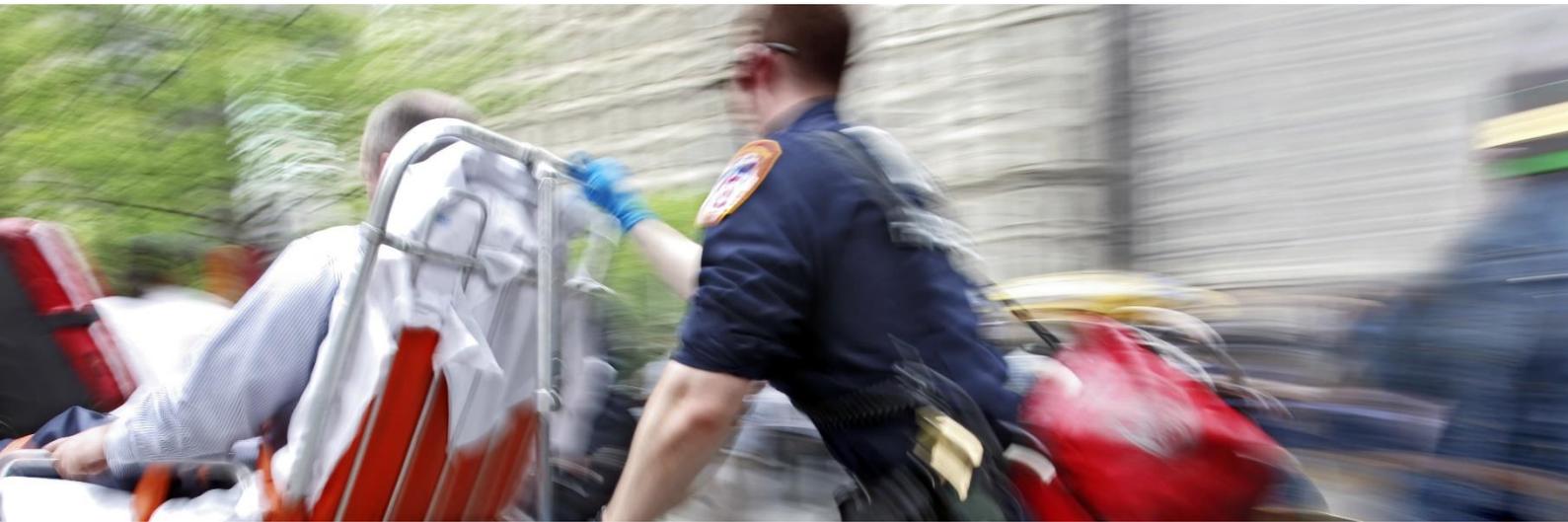
According to an interview carried on 01-09-2020 with an official from the Ministry of Interior of Croatia, this increase was related to COVID-19 calls (e.g. questions about symptoms, measures, transit to other countries). However, it was also explained that the high number of calls received on 23 March (see graph below) was due to concerns regarding the huge earthquake (5.3-magnitude) that hit the city of Zagreb. It was the largest to affect the city in 140 years.¹⁴

A new number (113) was introduced to unload the burden of calls that fell on 112 operators. During the first days of operation, the 113 number was receiving around 500,000 calls per day. This reduced after a few days to between 2000-20,000 calls daily.



The day after the incident, the 112 centre received 10,235 calls, compared to 3304 calls on the same day last year.

¹⁴ BBC (2020-03-22) "Earthquake rocks Croatia's capital Zagreb", BBC news <https://bbc.in/3ioGeLP> - Retrieved 2020-09-08

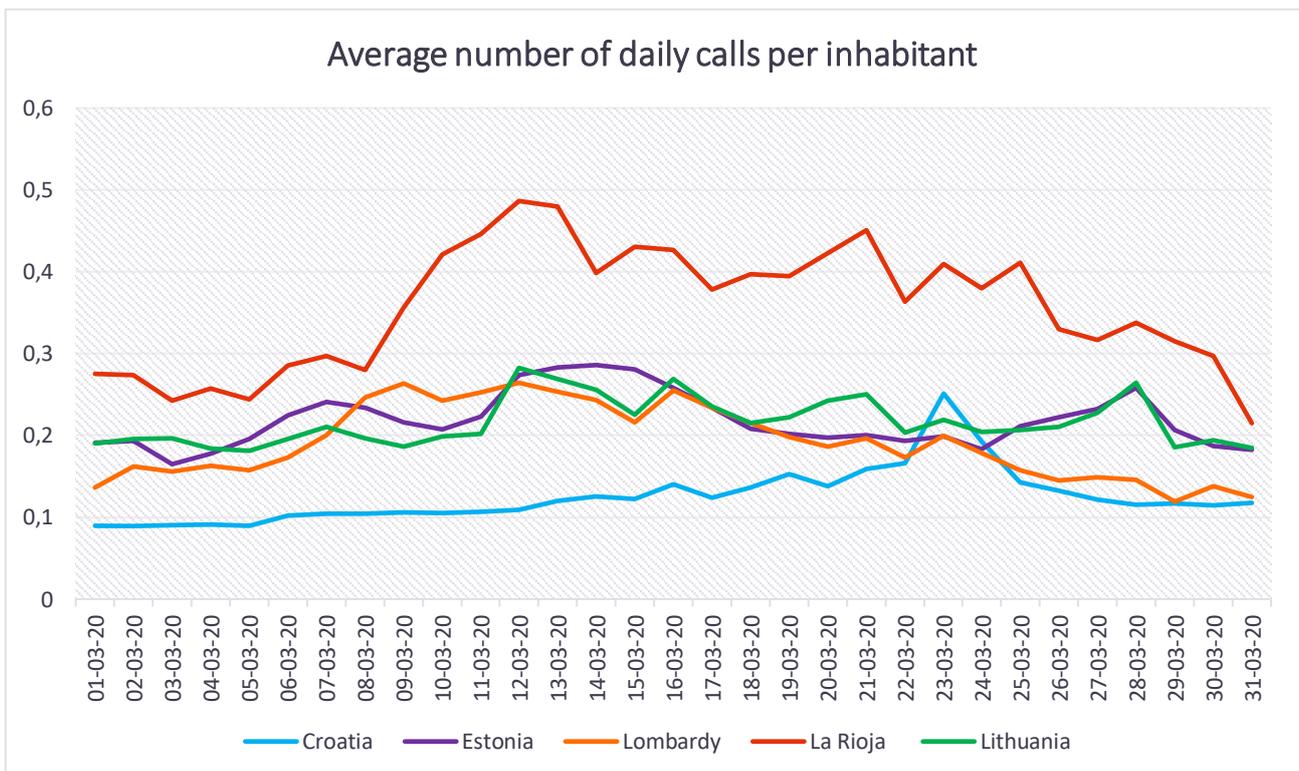


When did most peaks in emergency calls occur?

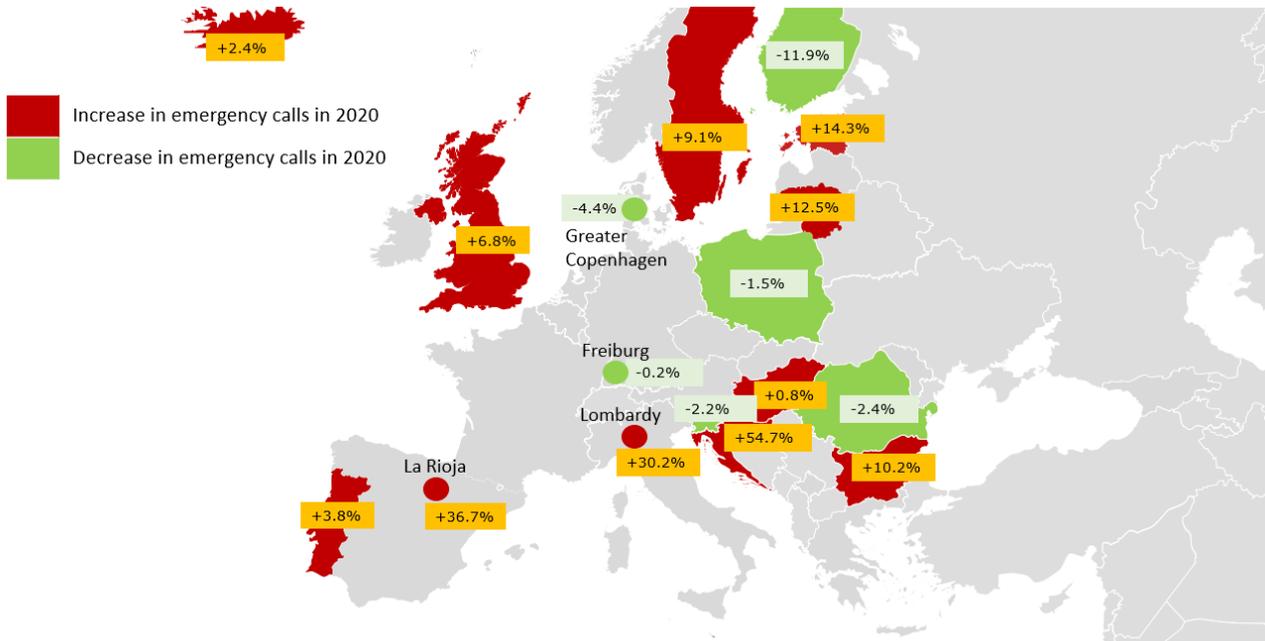
Beyond the total volume over the observation period, the break-up of the data per day shows that an increase of emergency calls was particularly strong in mid-to-late March.

Of the 5 countries with the highest increase in overall emergency calls, all demonstrate significant increases in mid-to-late March (see below).

Most countries saw higher activity in March 2020 compared to 2019, even if the overall volume of calls did not significantly increase during the full observation period.



Which countries/regions saw the most change in calls per inhabitant (March 2019-2020)?

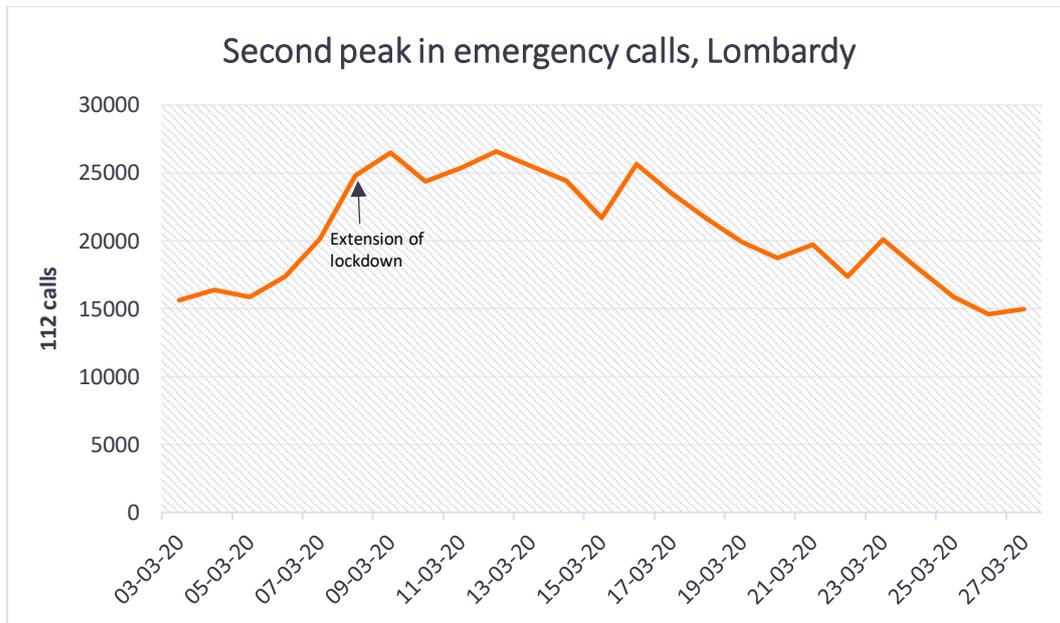


In **Bulgaria**, there was a 10% increase in calls in March (compared to 3.9% during the overall observation period). Similarly, although the overall calls in the **United Kingdom** increased minimally by only 1.3%, there was a 6.8% increase in March.

The countries/regions with the highest increases overall also saw significantly higher increases in March: 54.8% in **Croatia**, 51.9% in **Lombardy** (Italy) and 36.7% in **La Rioja** (Spain). As mentioned above, the peak in Croatia in March can be attributed to the earthquake in Zagreb on 22 March.

In **Lombardy** (Italy), the peak in emergency calls was experienced in February, but March saw an overall higher increase in emergency calls. This increase in March coincides with the extension of lockdown restrictions to cover the whole of Lombardy, announced on 8 March.

According to an interview carried out on the 31-08-2020 with a public safety solution provider, the peaks of calls in the 3 PSAPs of Lombardy (Brescia, Milan, and Varese) is correlated with the declaration of the hotbeds.



A similar picture is seen in **La Rioja** (Spain), with an increase in calls (from 8 March) coinciding with local lockdown measures: lockdown in the La Rioja town of Haro was announced on 7 March. At a similar time, the head of Spain’s centre for health emergencies, described the outbreak in La Rioja as “a worrying situation” that required “drastic” but necessary measures.¹⁵

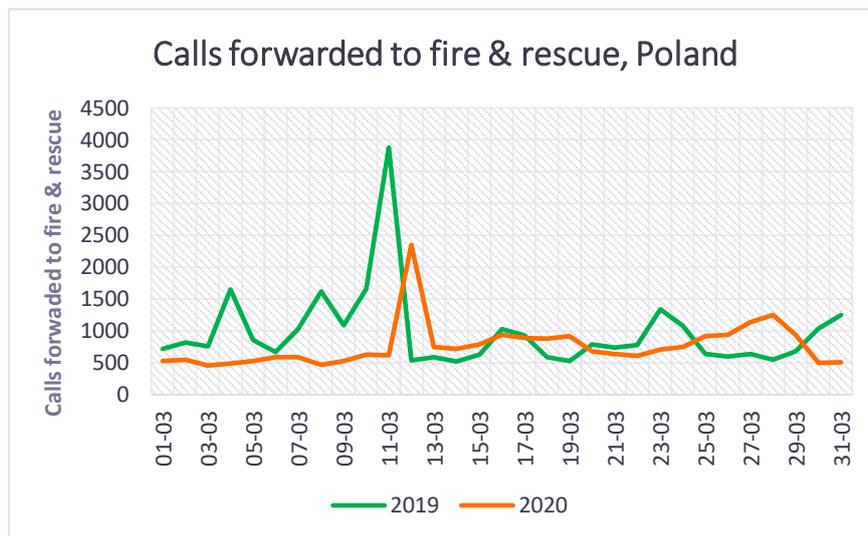
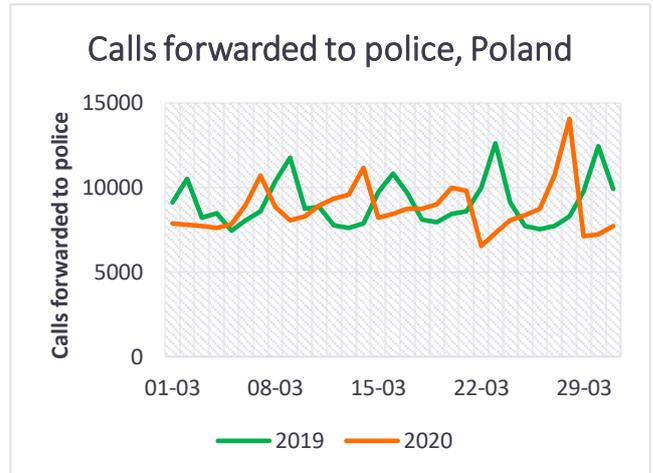
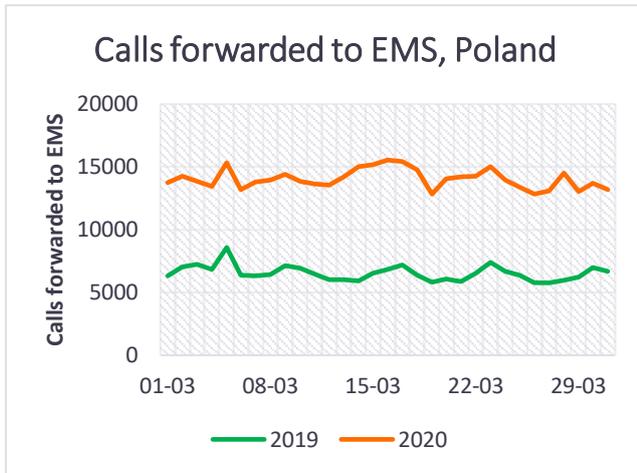
Did volume of calls differ per service?

Due to the nature of the pandemic, the various services (emergency medical services, fire and rescue services, police services) often experienced different changes.

In some countries that did not see an overall increase in the volume of calls, we can see an increase in calls to emergency medical services.

Poland experienced a slight decrease in overall emergency calls in March 2020 (-1.6%). However, the number of 112 calls forwarded to the emergency medical services saw a significant increase (+14.6%) compared to 2019, peaking on 14 March at 9076 calls. Meanwhile, calls forwarded to the fire and rescue service saw a significant decrease in 2020 (-21.2%) and those forwarded to the police a slight decrease (-3.6%). This could be due to the introduction of lockdown measures, which led to less incidents related to fire and rescue or security, as people remained in their homes.

¹⁵ Sam Jones (2020-03-07) “Spanish town faces police lockdown to contain coronavirus”, The Guardian <https://bit.ly/3hvT0Xe> - Retrieved 2020-06-24



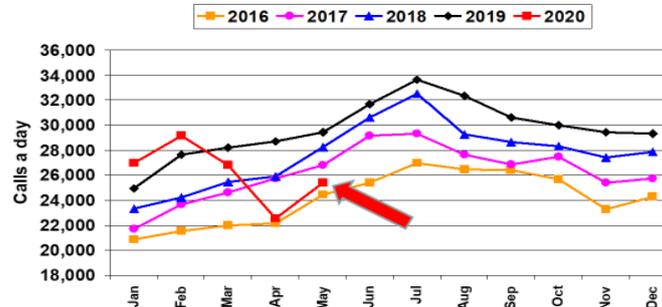
Other countries also reported a decrease in calls to non-medical services. In the Spanish region of **La Rioja**, calls regarding fires during the observation period reduced by 36% compared to 2019, by 21% for security incidents and by 6% for traffic accidents. Sweden reported a 2.8% increase in calls to emergency medical services, a 4.8% decrease in fire and rescue service calls and a more significant 7% decrease for police calls.

In the **UK**, there was a significant decrease in calls for the police during the observation period and a significant increase in calls for medical services in March. There was no significant change in calls for fire services.¹⁶

¹⁶ Graphs for UK provided by representative of the National Health Service, detailing 112 and 999 calls handled by BT. BT handles all incoming emergency calls and forwards them to the correct service. Therefore, this concerns all calls to that service, whether there was a dispatch made or not.

Police calls to 999/112

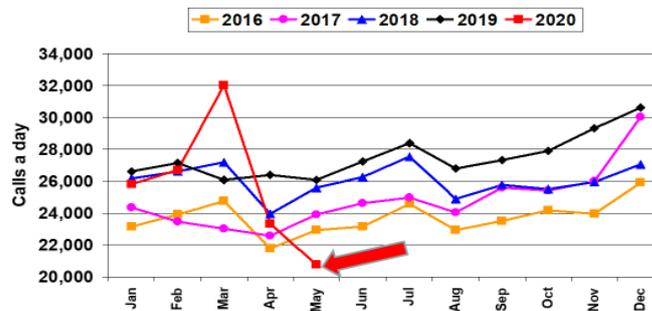
Police calls declined in March (95%) and April (79%). In May they recovered a bit (86%) but still significantly below "normal" levels.



BT Calls

Ambulance calls to 999/112

Huge increase in calls in March, followed by a decline in April and a further decline in May, which had the lowest number of calls since January 2014.



BT Calls

Source: National Health Service, UK

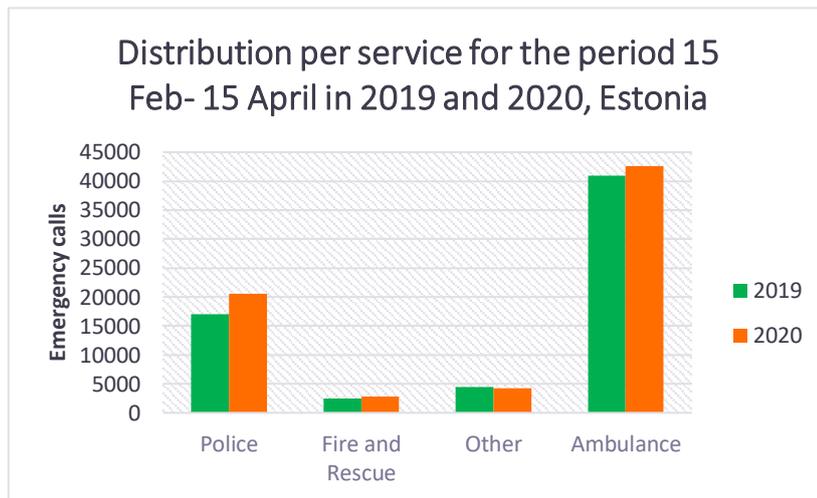
As demonstrated above, the UK reported a peak in calls to the ambulance service in March (the month of introduction of lockdown measures), which significantly reduced in the following months.

Other countries also experienced short peaks in emergency medical calls. In Portugal, the number of classified calls transferred to INEM (emergency medical service) increased by 8.7% from 1-13 March compared to 2019.

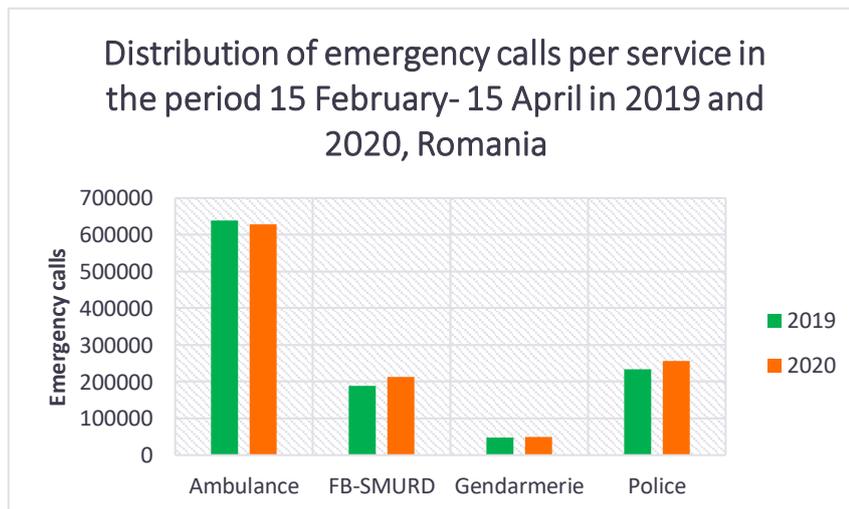
The distribution of calls per service highlights the importance of interconnected PSAPs, where calls can be transferred to other call centres in case of high influx of calls. In countries where calls are directed to different PSAPs depending on the service, the call centres for emergency medical services may risk becoming saturated, whilst call centres for other services may become underutilised.

However, it should be noted that there were some countries that did not experience this trend. In **Estonia**, there was a relative percentage increase of calls for all services during the observation period: fire brigade (+13.54%), police (+20.41%) and ambulance (+3.93%).

The State of emergency was declared by the Estonian Prime Minister in the last hour of 12 March. From 13 March to 15 April, there were 23% more police cases compared to the same period in 2019, primarily because people called to report violation of lockdown rules. From 13 March to 15 April, there were 3% more fire and rescue cases. Most of the cases were reported on 3 April when there was a storm in Estonia and fire and rescue was dispatched to the scenes where fallen trees, power lines etc. caused danger.¹⁷



Romania experienced a slight decrease in calls to the ambulance service in the observation period, when compared to 2019, and an increase in calls to other services. In an interview with a representative of STS, it was highlighted that calls to fire and rescue services (FR-SMURD) increased as they began handling medical calls, to ease pressure on emergency medical services.



Interestingly, Lithuania saw a significant increase (+15.8%) in 112 calls for police services in March (2-31 March), compared to 2019. A large part of this increase can be attributed to an increase in calls to report violations of quarantine measures. If these are discounted, the increase is much smaller (+5.5%).

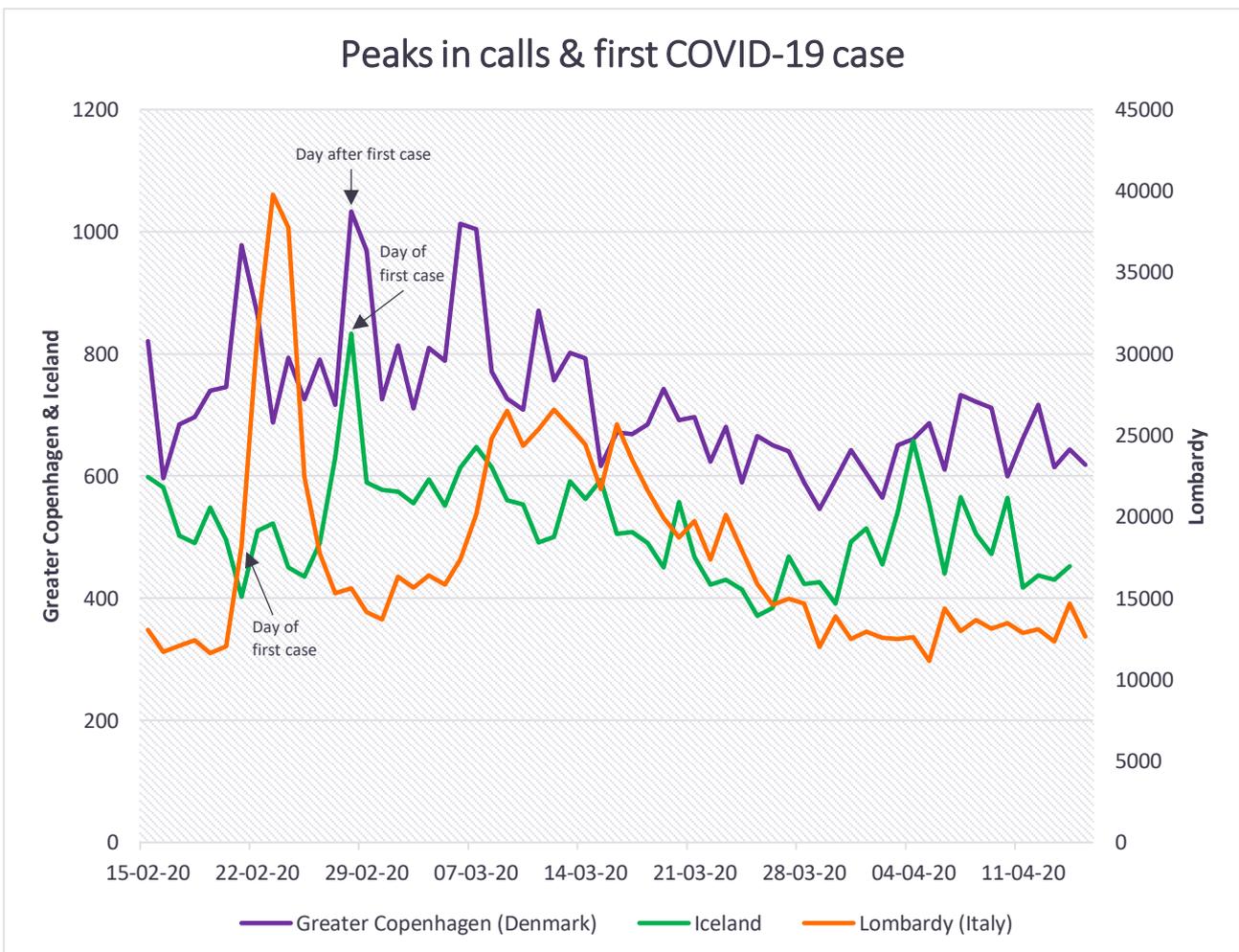
¹⁷ For the graph of Estonia, the observation period is 15 February to 15 April 2020 and 16 February to 16 April 2019. The slight difference in the dates is because the call load depends on the days of the week.

1.4 | FACTORS IMPACTING CHANGES IN VOLUME OF CALLS

How did the number of COVID-19 cases impact the volume of calls?

When considering the peak in emergency calls, we see trends emerge. Some countries saw a peak in emergency calls correlating with the confirmation of the first case of COVID-19 in the country. This trend is evident, for example, in Greater Copenhagen (Denmark), Iceland and Lombardy (Italy).

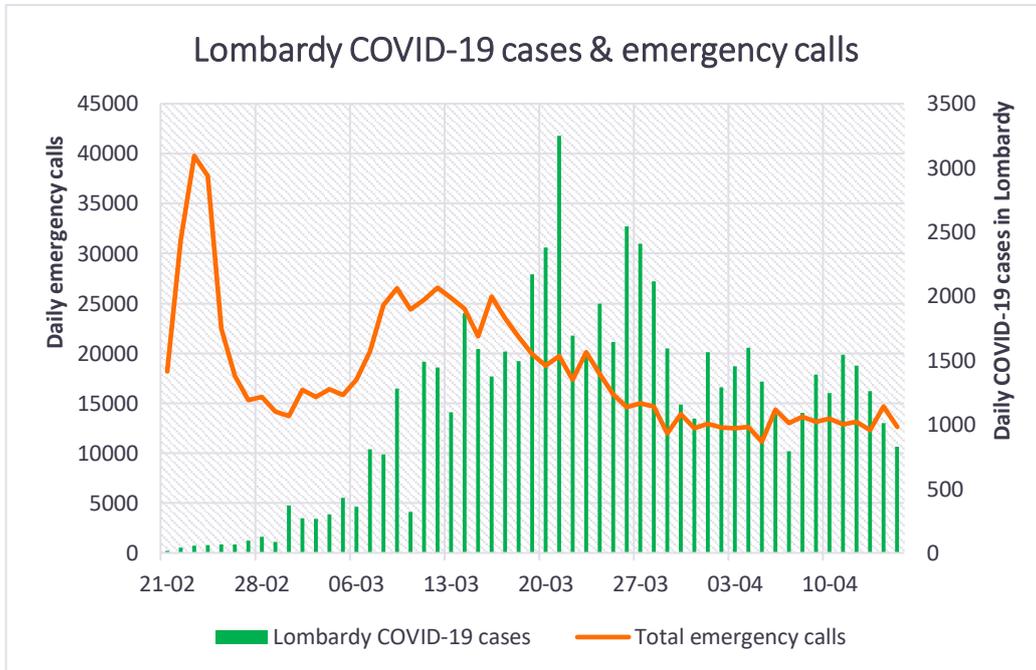
Overall, there was a lack of correlation between the number of emergency calls and the number of confirmed cases of COVID-19 in the country/region.



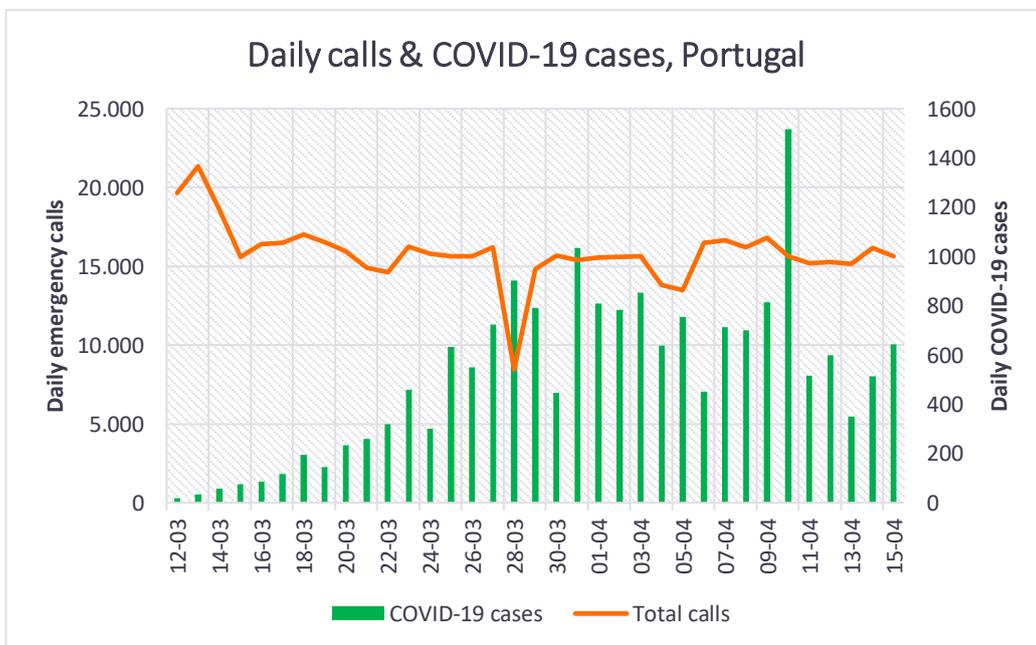
We see that the peak in the Greater Copenhagen region (Denmark) was reached one day after the first confirmed case and in Iceland on the day of the first confirmed case. In Lombardy (Italy), there is a significant increase from the first confirmed case.

However, in general, the number of emergency calls did not continue to rise as the number of COVID-19 cases in the country/region increased (see graphs below). This could suggest that the peaks in emergency calls were more related to fear and anxiety among the public or a desire for

further information regarding COVID-19 during the early stage, rather than an increase in COVID-19 cases.



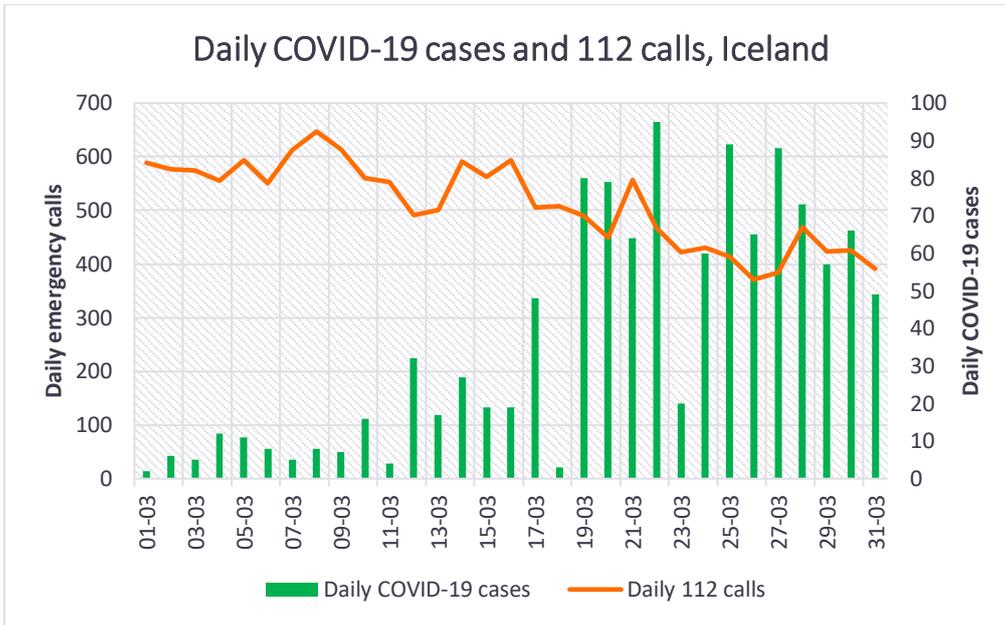
Source: Data for COVID-19 cases for all graphs above from Wikipedia¹⁸



Source: Data for COVID-19 cases for all graphs above from Worldometer¹⁹

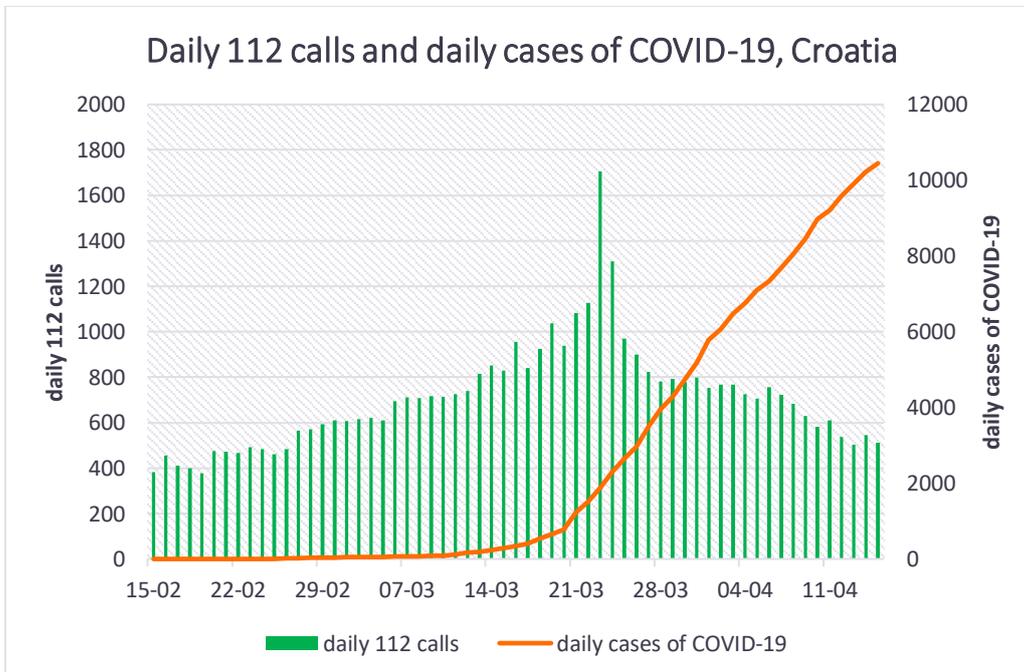
¹⁸ Wikipedia (N/A) "COVID-19 pandemic in Italy" <https://bit.ly/3iw5bF5> - Retrieved 2020-09-14

¹⁹ Worldometer (last update 2020-09-14) "World/Countries/Portugal", <https://bit.ly/2CScdUO> - Retrieved 2020-09-14



Source: Data for COVID-19 cases for all graphs above from Worldometer²⁰

In Croatia, we see that the peak in calls was reached as the number of COVID-19 cases was growing in the country, but the number of calls then reduced as the number of daily cases continued to increase.

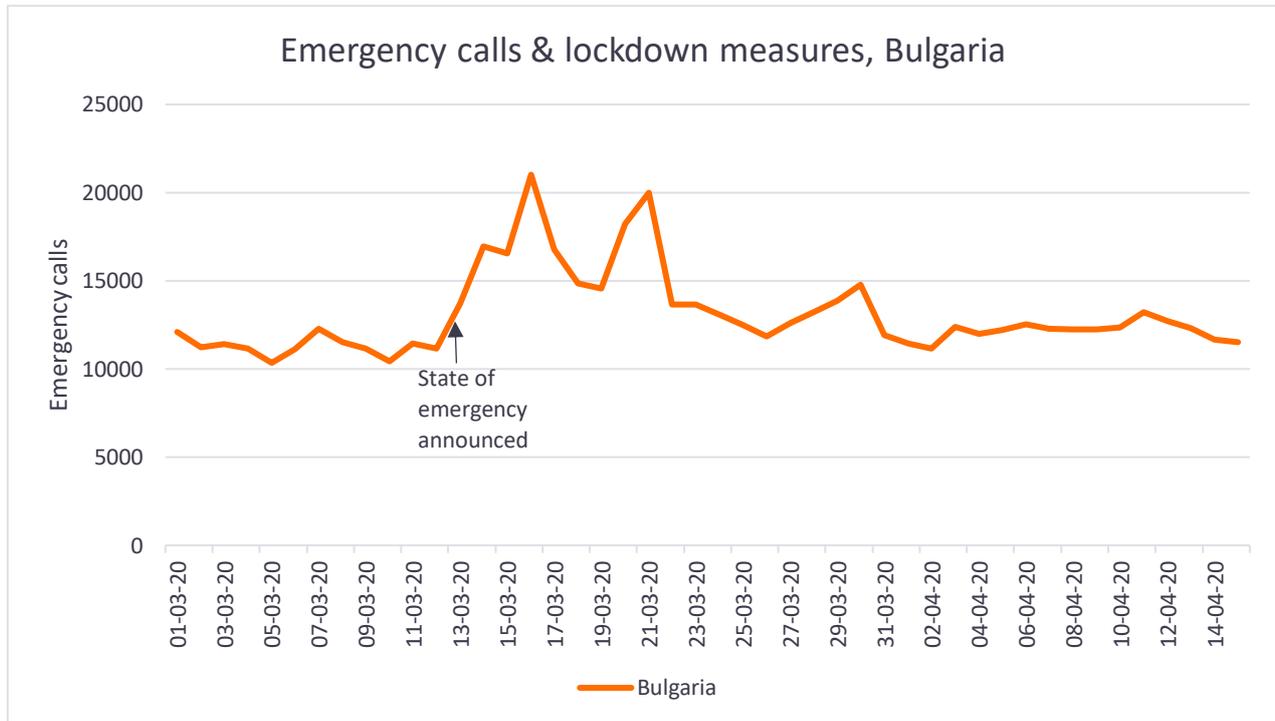


Source: Data for COVID-19 cases for all graphs above from Worldometer²¹

²⁰ Worldometer (last update 2020-09-14) "World/Countries/Iceland" <https://bit.ly/3kieHMj> - Retrieved 2020-09-14
²¹ Worldometer (last update 2020-09-14) "World/Countries/Italy", Worldometer <https://bit.ly/3mnclNZ> - Retrieved 2020-09

How did the introduction of restrictive measures impact the volume of calls?

Peaks in calls were also evident when governments announced lockdown restrictions or a state of emergency. As mentioned above, evidence of this can be seen in Lombardy (Italy) and La Rioja (Spain). In addition, we see this trend in Bulgaria.



We see above that in **Bulgaria**, calls were sharply rising in the days surrounding the announcement of the state of emergency.

1.5 | THE USE OF ALTERNATIVE NUMBERS

Some countries' procedures for handling COVID-19 calls involved the use of an alternative number for the public to call. This was also used as a strategy to avoid the congestion of emergency lines. Most European countries used specific helplines to inform and respond to citizens' concerns.

Alongside a non-emergency medical number, many countries also introduced an information hotline for COVID-19, which could answer non-medical questions.

People with specific questions about the virus, about symptoms, etc. were encouraged to call these specific helplines so that people that really needed urgent help could be assisted. The high numbers of calls to emergency centres with people concerns regarding this health crisis ran this risk of depriving people urgent help in times of emergency.

Different countries have used different strategies for consolidating these informative helplines.

How did countries use existing alternative numbers?

From our sample, countries including Portugal, the United Kingdom and Sweden chose to use existing lines to answer citizens' questions about the virus. The helplines were already well-established among the population.

Portugal asked citizens to call the existing SNS24 line (808 24 24 24), which is the contact centre of the National Health Service.

The line offers a screening service, a clinical information service and an administrative and information service. To match the needs during the pandemic, the SNS24 line changed the call options for people to choose the one that best suits their case:

- 0- If you have no fever, no cough, or any other symptoms, but you were close to a person who has COVID-19 or who has recently been tested, dial 0*
- 1- If you have a fever or cough, dial 1
- 2- If you have symptoms other than fever or cough, dial 2
- 3- If you want clarification on COVID-19, dial 3
- 4- If you want psychological counselling, dial 4
- 5- For information on sickness benefits or family assistance, contact the Social Security contact centre at 300 502 502. For administrative and informational issues, dial 5
- 9- "For English, dial 9" (clinical care in English)

Options when calling the Portuguese SNS24 helpline

Opção	Mensagem
0	Se não tem febre , nem tosse , nem qualquer outro sintoma, mas esteve perto de uma pessoa que tem COVID-19 ou que fez recentemente o teste, marque 0*
1	Se tem febre ou tosse , marque 1
2	Se apresentar outros sintomas sem ser febre ou tosse, marque 2
3	Se pretende esclarecimentos sobre COVID-19 , marque 3
4	Se pretende aconselhamento psicológico , marque 4
5	Para informações sobre subsídio de doença ou assistência à família contacte o centro de contacto da Segurança Social, através do 300 502 502. Para assuntos administrativos e informativos marque 5
9	"For english press 9" (atendimento clínico em inglês)

*Nesta opção é recolhido o número de utente para que seja possível transferir a informação para o médico da unidade de saúde e respetivo delegado de saúde. Estes farão o acompanhamento da situação clínica e só em caso de necessidade/avaliação médica contactam o utente.

Source: *Centro de Contacto, Serviço Nacional de Saúde*²²

According to information provided by the Shared Services of the Ministry of Health (SPMS) to the media, they received "more than 300 thousand calls" in the month of March. According to the media outlet, the line was answering more than 18,000 calls per day during the month of March. In 2019, they were answering approximately 5,000 calls per day.²³

²² Centro de contacto Serviço Nacional de Saúde - SNS24 (N/A) "**Temas da saúde COVID-19**" <https://bit.ly/2CKJKR0> - Retrieved 2020-08-19

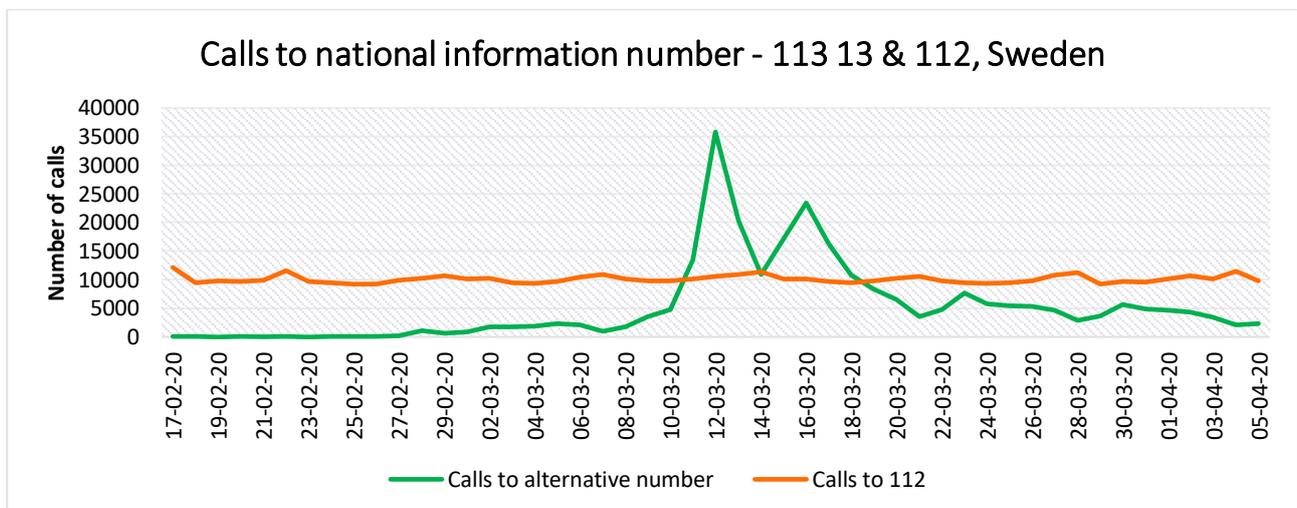
²³ Rita Rato Nunes (2020-03-31) "**Linha SNS24 atendeu mais de 300 mil chamadas em março**", Diário de Notícias (DN) <https://bit.ly/2Q7uFMj> - Retrieved 2020-08-19

During the month of March 2020, 112 in Portugal received an average of 16,672 calls per day. Therefore, on average, more calls were received by the alternative number.

In Sweden, a national information number for serious accidents or crises was already established (113 13). It was decided to use the informative line to provide answers to general questions about COVID-19 which are not health-related. For medical advice, like people presenting COVID-19 symptoms, another number was recommended (1177). The 1177 number was also already operational before the COVID-19 pandemic.

When comparing the calls received on this designated helpline 113 13 and 112, we see that there has been a tremendous increase in the number of calls to this specific line. According to SOS Alarm, from 15 February to 15 April, this crisis line received 278,733 calls, compared to 10,028 for the whole of 2019.

When comparing the calls received on this designated helpline and 112, we see that there has been a tremendous increase in the number of calls to this specific line. According to SOS Alarm, from 15 February to 15 April, this crisis line received 278,733 calls with a daily rate in average of 4645. The calls received from 15 February to 15 April is much higher than the total number of calls received during this period last year (10,028 calls). On a normal day, this national number received around 30 calls per day. At the end of March 2020, this had peaked at 35,808 incoming calls.



These countries demonstrate that an already established line known to citizens was beneficial during the pandemic. In the survey conducted by EENA, in which the results are found in part 2 of this document, the absolute majority of respondents also stated that having a well-established non-emergency number in their country before the pandemic would have been beneficial in managing this health crisis.

Was the creation of new alternative numbers impactful?

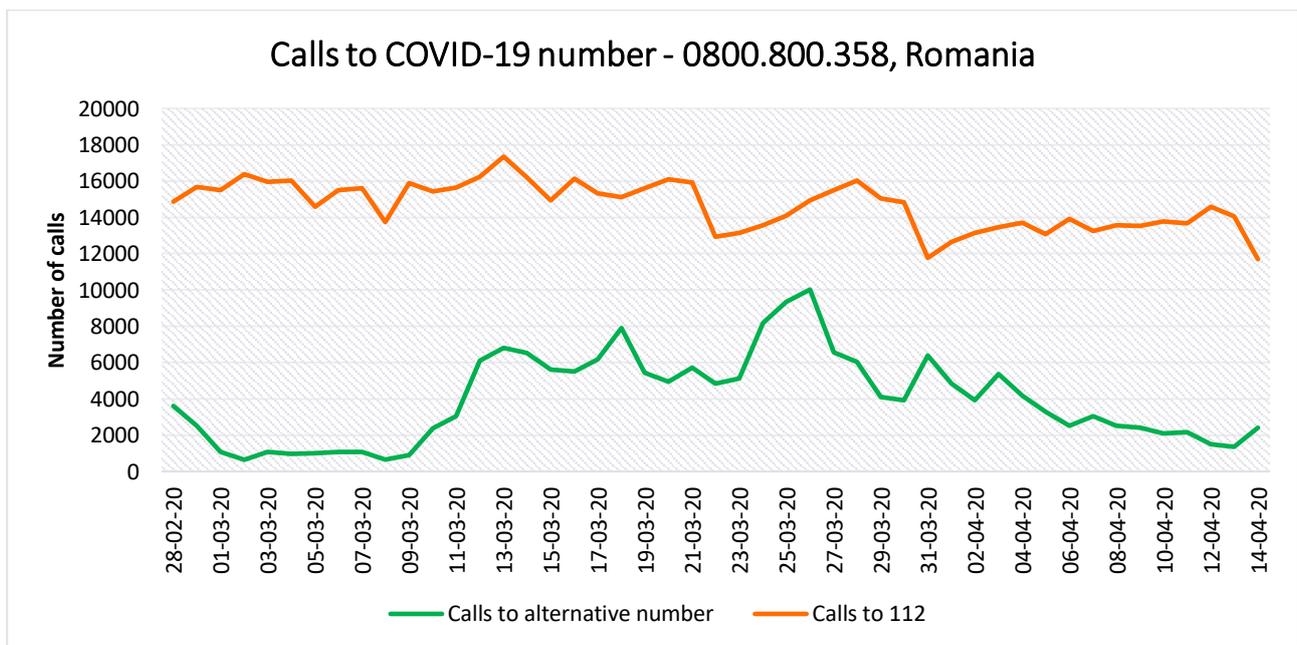
Other countries have created specific national lines during the pandemic to provide help to citizens.

On 27 February, **Romania** established a helpline (0800.800.358) for citizens who need information regarding the pandemic. The line aims to establish links between responders and the public by understanding citizens' concerns as well as providing medical health advice.

Since it was established, the helpline answered over 150 000 calls.²⁴

Since 17 March, the hotline has expanded its service to meet demand.

According to WHO, this Green Line is an excellent example of collaboration between services since it is operated by the National Institute of Public Health (NIPH) the Ministry of Health and the Special Telecommunication Service (STS). During night shifts, the Ministry of Defence staffs the lines.



Regarding the comparison between the number of calls to 112 and the alternative number, calls to the two hotlines remained constant. The peak of calls for this specific line was from 24 to 26 March. On 26 March, the line received 10,024 daily calls.

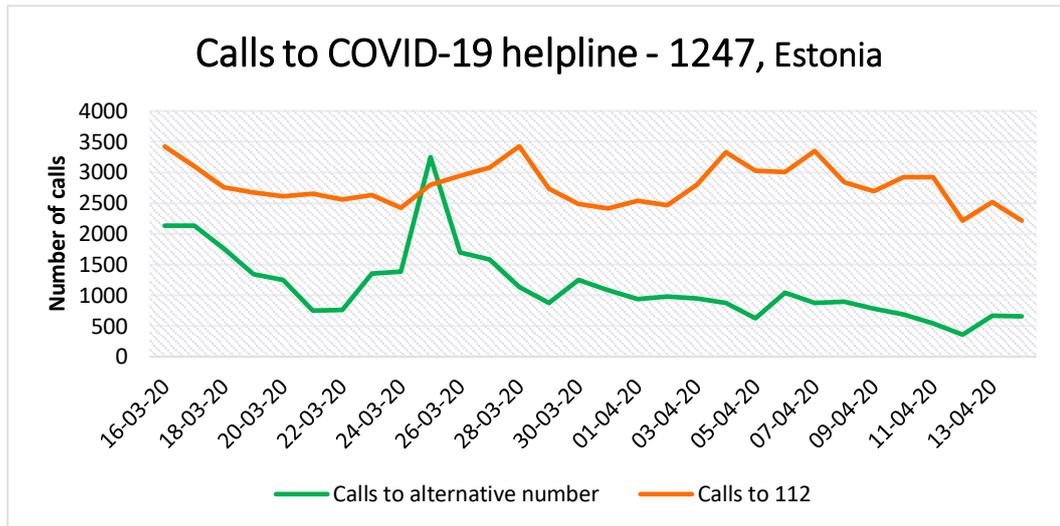
This year, 112 received fewer calls than the previous year. This reduction may be associated with the implementation of this dedicated helpline.

In **Estonia**, the information helpline (1247) was established on 16 March 2020. Over 2,000 calls were received in this line in the first 24 hours of operation.

²⁴ World Health Organisation (WHO) (2020-04-08) "COVID-19 hotline in Romania provides up-to-date public advice with WHO support" <https://bit.ly/3l4j9Qj> - Retrieved 2020-08-19

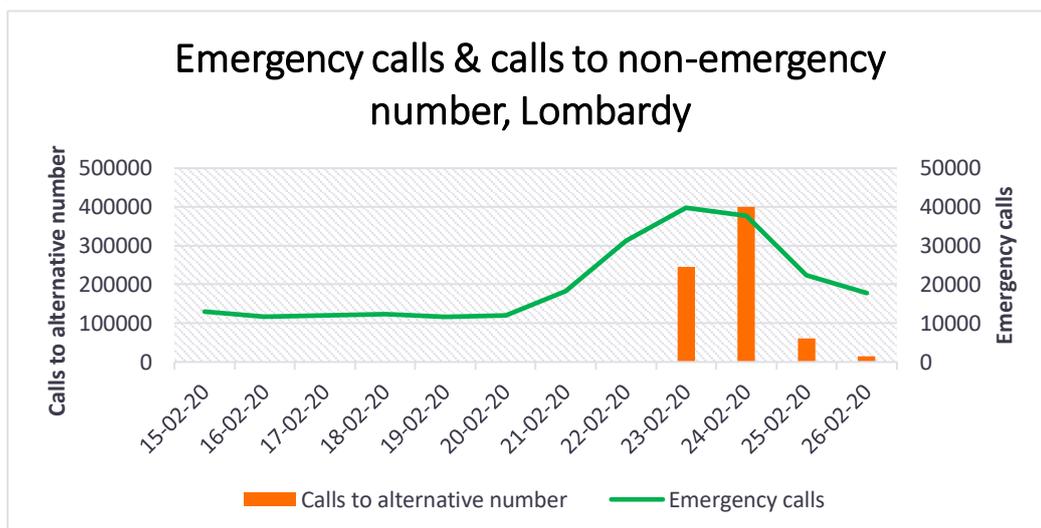
On 25 March, the number of calls to the alternative number was higher than the number of calls to 112, having received 456 more calls to this dedicated helpline.

In a statement to the Baltic Times, Helmer Hallik, head of the crisis response headquarters at the Emergency Response Centre, said that “the workload of the general emergency line 112 continues to be high, but is on a slight downward trend”.²⁵



It is noteworthy that in both countries, the volume of calls to 112 was lower when compared to the previous year. The implementation of alternative helplines during the pandemic may have contributed to preventing an increase of emergency calls in these countries.

The Italian regions have activated dedicated toll-free numbers to provide information on the novel virus.



The region of Lombardy introduced the following number: 800 89 45 45.

²⁵ The Baltic Times (2020-03-17) “Estonia’s new coronavirus helpline opens also to calls from abroad” <https://bit.ly/2Q4Ezeye> - Retrieved 2020-08-19

The reduction of emergency calls in the region of Lombardy after the second peak could be attributed to the introduction of the COVID-19 regional toll-free number for non-emergency medical enquiries, which were announced on 22 February 2020.

According to an interview carried on the 31-08-2020 with a public safety solution provider, this number was introduced to avoid an overload of non-emergency calls. People stopped calling 112 regarding information about the virus and started to call this toll-free number.

The peak in calls to the alternative number in Lombardy was reached on the second full day of operation (24 February). The impact is especially visible in the short term: from mid-March, calls to the line stabilised.

In **Spain**, different information numbers were also established per region.

Andalucía	900 400 061/ 955 545 060
Aragón	976 696 382
Asturias	900 878 232/ 984 100 400/ 112 marcando 1
Cantabria	900 612 112
Castilla La Mancha	900 122 112
Castilla y León	900 222 000
Cataluña	061
Ceuta	900 720 692
C. Madrid	900 102 112
C. Valenciana	900 300 555
Extremadura	112
Galicia	900 400 116
Islas Baleares	061
Canarias	900 112 061
La Rioja	941 298 333
Melilla	112
Murcia	900 121 212
Navarra	948 290 290
País Vasco	900 203 050

Source: Ministerio de Sanidad²⁶

²⁶ Ministerio de Sanidad, Consumo y Bienestar Social (N/A) "Teléfonos de información" <https://bit.ly/3bSd1Gq> - Retrieved 2020-09-08

Besides keeping people safe, it is also important to ensure that people are informed. During the pandemic and especially in the period under analysis, people had many doubts and questions. These helplines, in addition to helping reduce saturation of emergency centres, were also a way of reducing the spread of disinformation and misinformation. As you can see in this document, the existence of these official helplines is indispensable during crisis periods. This helps to prevent congestion of emergency lines, which can cause people to be unable to contact emergency services for vital emergencies.

The experience of Lombardy (Italy) demonstrates that the emergency lines were becoming increasingly congested just before the introduction of the alternative number. This suggests that having such a number already in place before the crisis could have impacted the number of emergency calls.

This was validated by the respondents of the survey carried out by EENA (see Section 2 of this document) - 81% of respondents that had a well-established non-emergency number in their country before the pandemic thought that this was beneficial for management of the crisis. Of those who stated that they did not have a well-established non-emergency number, 61% believed it would have been beneficial during the pandemic.

In interviews carried out by EENA, officials working in Italy (Lombardy), Croatia, Romania, and Finland also highlighted the importance of the helplines in relieving the overload of calls to 112.

Italy (Lombardy) – *"The toll-free number was created because they started to see an increase of calls with people asking questions about the COVID-19 virus. This toll-free number led to the decrease of 112 calls in the following days."*

Croatia – *"The introduction of this number (113) helped a lot to reduce the number of calls."*

Romania – *"One of the reasons for the decrease of calls to 112 was for sure the introduction of the COVID-19 number."*

1.6 | CONCLUSIONS & RECOMMENDATIONS

1. Some of the highly infected regions experienced high increases in the volume of calls, putting pressure on PSAPs. However, in other regions, there was not a significant overall increase in the total number of calls.
2. Increases in calls were often concentrated in an increase in emergency medical calls, whilst other services (fire and rescue, police) often saw a reduction in the number of calls.
 - This highlights the importance of PSAPs having the capability to transfer calls to other PSAPs (when possible) to deal with an overload of calls to one service, whilst others may be less impacted.
3. Peaks in emergency calls were mostly experienced mid-March. Some PSAPs may therefore have seen an impact on the number of calls, even if this was not over a prolonged period and thus was not reflected in the total number of calls.
4. In several countries, we see that peaks in emergency calls correlated with the announcement of the first confirmed case of COVID-19 in the territory or with the introduction of lockdown measures or a State of Emergency.
 - The number of emergency calls did not generally continue to rise as the number of COVID-19 cases rose in the territory, suggesting that the peaks could have been due to fear, anxiety and a desire for more information among the population, rather than being proportional to the level of risk of infection in the country.
5. To provide a source of information for COVID-19 related questions (medical or non-medical) and to reduce the number of non-emergency related calls being handled by emergency services, many countries used alternative numbers.
 - Alternative numbers were beneficial in managing the number of emergency calls and redirecting callers without emergencies to alternative call centres.

PRINCIPLE RECOMMENDATIONS



- ✓ The establishment of non-emergency numbers before a crisis hits would be beneficial to countries. This way, the public are already aware of the procedure and there is a reliable source of information for people with queries. This releases the pressure on emergency services and frees call-takers to deal with genuine emergencies.
- ✓ Inter-agency cooperation should be encouraged. Crises may impact the various emergency services differently, meaning that services can support each other if PSAPs are interconnected (calls can be transferred to another PSAP) or if call centres are multi-disciplinary. If the various services are not able to cooperate, PSAPs then face the challenge of increasing the capacity of their call centres, rather than relying on available resources in other services.

2 | HOW PSAPS HANDLED IMPACTS OF COVID-19

What measures and recommendations for the future can be identified?



2.1 | OBJECTIVES & METHODOLOGY

Having considered the impact of the pandemic on the general activities of PSAPs, it is also important to explore the methods used and actions taken by public safety organisations to deal with these challenges. This not only includes responding to a potential increase in emergency calls, whether for a sustained period or for a short number of days, but also the challenge of protecting call-takers and dispatchers and ensuring continuity of service.

Methodology

In this section of the document, we aim to build on the findings above and ask **'What measures were carried out by PSAPs to manage the pandemic?'**, but also **'What could be done to better manage such challenges in the future?'**

To pursue these objectives, **EENA surveyed 32 emergency services professionals** to understand the perspective of those directly involved in PSAP response. It should be noted that these professionals were not always from the same countries and organisations of those who provided the data for Section 1 (see below).

The surveys were carried out online from 27 May to 30 June 2020. The respondents were members of EENA's Emergency Services Network and **represented 25 countries**, including 15 of the EU27 countries – Australia, Austria, Czechia, France, Germany, Iceland, Israel, Italy, Kosovo, Latvia, Lithuania, Luxembourg, Malta, Moldova, The Netherlands, North Macedonia, Portugal, Romania, Slovakia, Spain, Sweden, Switzerland, Turkey, United Kingdom and United Arab Emirates. In some countries, various different regions are represented and answers may differ per region.

Respondents were distributed as follows:

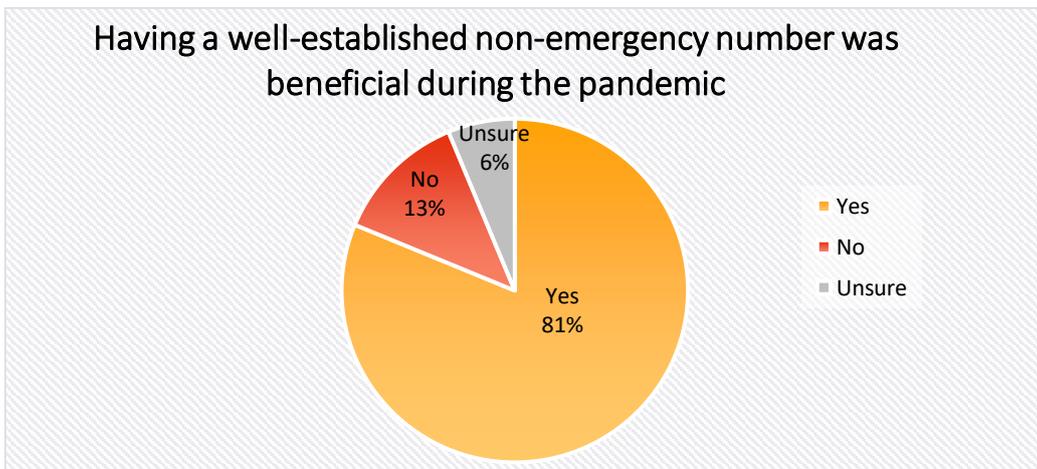
- 6% Police,
- 25% Fire and rescue services,
- 28% Emergency medical services,
- 41% 112 PSAPs /Emergency Management Agencies.

2.2 | EMERGENCY & NON-EMERGENCY NUMBERS

THOSE WHO HAD A WELL-ESTABLISHED NON-EMERGENCY NUMBER

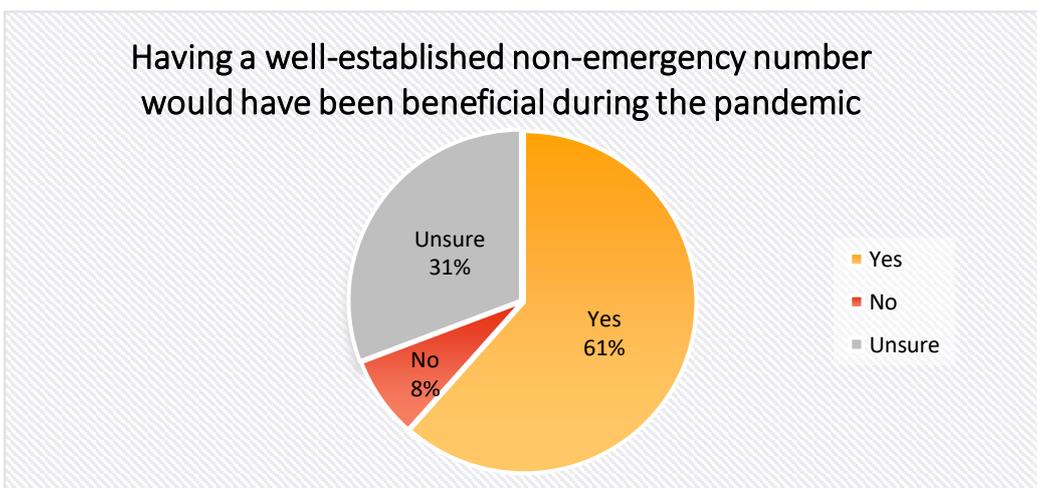
Respondents were asked if their country or region had a well-established non-emergency number before the pandemic. 14 of the countries/regions involved in the survey reported that there was a well-established non-emergency number before the pandemic.

81% of these respondents stated that they thought this was beneficial during the pandemic.²⁷



THOSE WHO DID NOT HAVE A WELL-ESTABLISHED NON-EMERGENCY NUMBER

Of those who stated that they did not have a well-established non-emergency number, **61%** believed it would have been beneficial during the pandemic.



²⁷ When a respondent did not answer the question, they are not included in the final percentages.

Among those who stated that they did not have a well-established non-emergency number previously, **58%** of the countries/regions stated that a non-emergency number was established during the pandemic (representing 7 countries/regions).

Many countries also established an information helpline for queries related to COVID-19. According to the responses of the respondents, most of these information helplines were established using new numbers (**65%** of respondents).

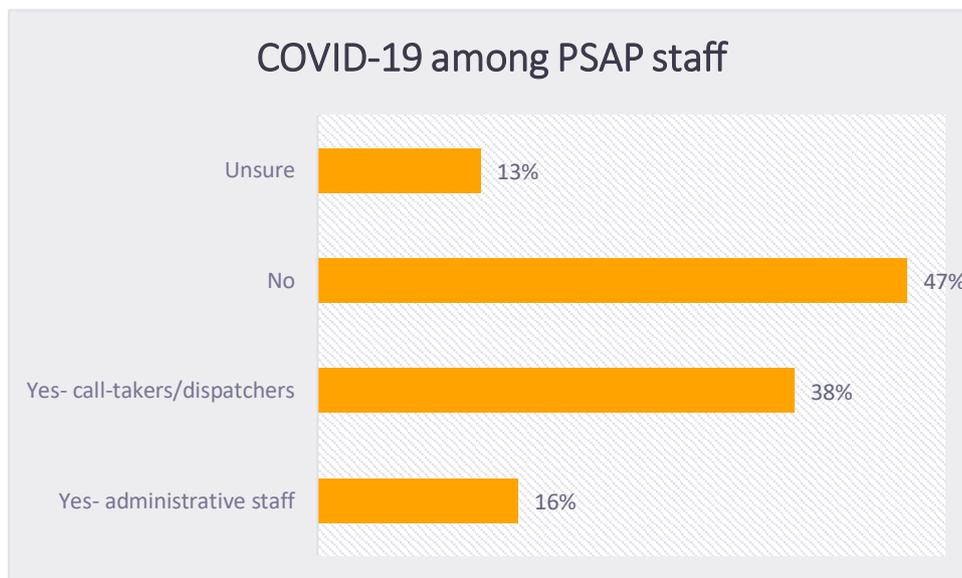
2.3 | WORKING IN A PSAP DURING THE COVID-19 OUTBREAK

How did PSAPs reduce the risk of COVID-19 among the staff?

38% of respondents **reported cases of COVID-19 in their PSAP** among their call-takers or dispatchers.

The percentage was slightly lower for administrative staff: **16%**.

47% of respondents reported no cases of COVID-19 among PSAP staff.



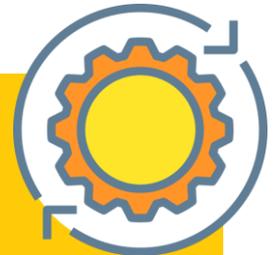
PSAPs introduced procedures to handle cases of staff who displayed potential symptoms of COVID-19. This may include some of the following:

EXAMPLES:



- ✓ Disinfection of the workplace.
- ✓ Self-isolation of the person with symptoms until several days after symptoms have gone.
- ✓ In Slovakia, Liberec region (Czechia) and the Cumbria (UK), testing of colleagues would also take place.

The responses demonstrated that several **special measures are being taken by PSAPs** to ensure the safety of PSAP staff during COVID-19.



- Regular disinfecting and cleaning of the workspaces (100%)
- Non-essential visitors no longer permitted entry (94%)
- Social distancing in the workplace (87%)
- Administrative staff working remotely (74%)
- Personal equipment used only by one person (68%)
- Regular health monitoring (55%)
- Teams divided into small groups to limit social contact (52%)

Less common measures included:

- improved ergonomics of the control room to ensure social distancing (e.g. adapting dispatching environments or workstation equipment) (36%)
- call-takers/dispatchers working remotely (23%)



Some countries also highlighted additional measures:

- **Moldova:** individual transportation was provided for call-takers so that they could avoid public transport.
- **Sweden:** an agreement with local decontamination services was made in case of need for urgent cleaning of the PSAP.
- **Asturias (Spain):** a second 'mirror' PSAP was used during the night shift to allow for full disinfection of the other PSAP.
- **Basque Country (Spain):** common areas were not used, or their capacity was reduced, and the mobility of staff was organised according to the areas of work.

ACCESS TO PERSONAL PROTECTIVE EQUIPMENT

63% of respondents reported that call-takers/dispatchers in their country, region or PSAP had **priority access to Personal Protective Equipment (PPE)** during the COVID-19 outbreak.

This included the following countries: Lower Austria & Tirol (Austria), Liberec region (Czechia), Essonne (France), Solingen & Wuppertal (Germany), Israel, Liguria & Piedmont (Italy), Kosovo, Latvia, Luxembourg, North Macedonia, Malta, Portugal (mainland), Basque Country (Spain), Vaud & Neuchâtel (Switzerland), The Netherlands, Emirate of Abu Dhabi (United Arab Emirates).

It is important to note that respondents from the different countries were not always from the same disciplines.

22% reported that call-takers/dispatchers did not have priority access to PPE, from the following countries: Iceland, Lithuania, Moldova, Romania, Spain (Asturias), Sweden and Turkey. The rest of the respondents were unsure.

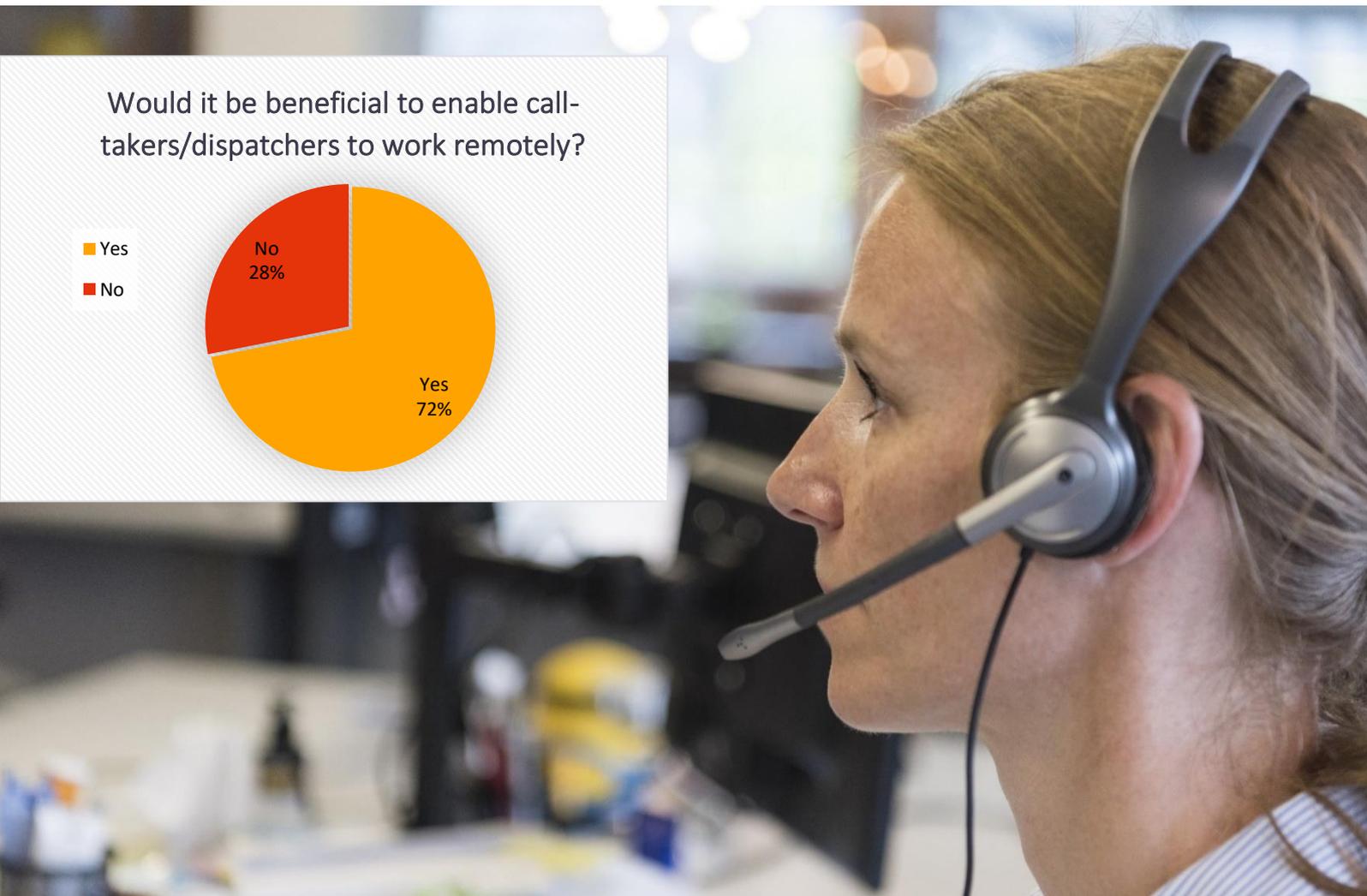
ACCESS TO COVID-19 TESTING

59% of respondents reported that call-takers/dispatchers in their country/region/PSAP had priority access to COVID-19 testing.

31% reported that their call-takers/dispatchers did not have priority access to COVID-19 testing. The rest of the respondents were unsure.

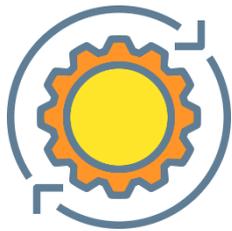
REMOTE WORKING

72% of respondents stated that they thought it would be beneficial to enable emergency call-takers and dispatchers to work remotely.



STAFF WELLBEING

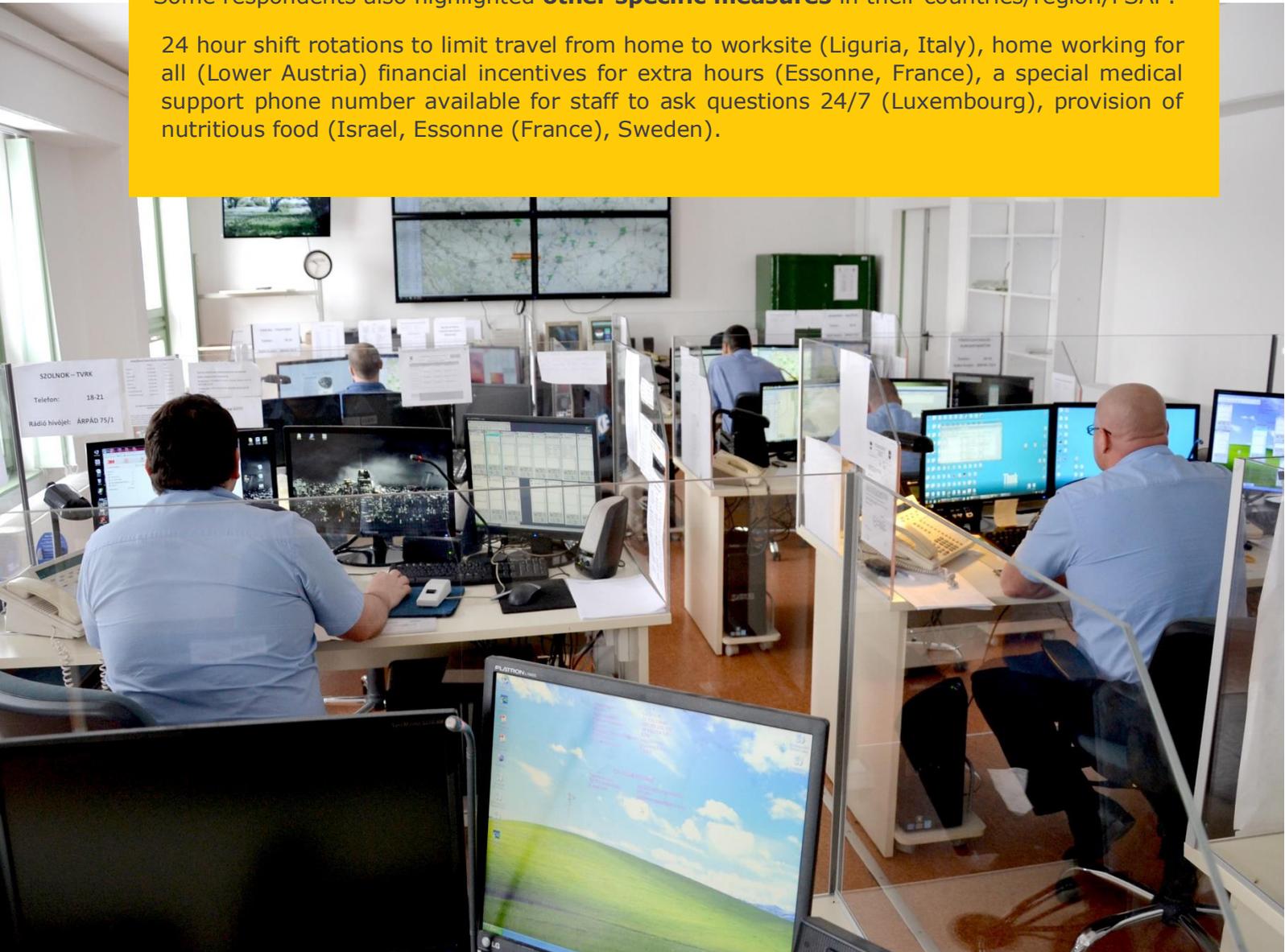
To ensure the wellbeing of staff, **several measures were taken** in different countries for both physical and mental health. The most common measures used were:



- ✓ Health check-ups/screenings of staff (59%)
- ✓ Strategy to support mental health of staff (44%)
- ✓ More flexible work schedules (44%)
- ✓ Relaxed dress code (22%)

Some respondents also highlighted **other specific measures** in their countries/region/PSAP:

24 hour shift rotations to limit travel from home to worksite (Liguria, Italy), home working for all (Lower Austria) financial incentives for extra hours (Essonne, France), a special medical support phone number available for staff to ask questions 24/7 (Luxembourg), provision of nutritious food (Israel, Essonne (France), Sweden).



How did PSAPs deal with the changing nature and volume of emergency calls?

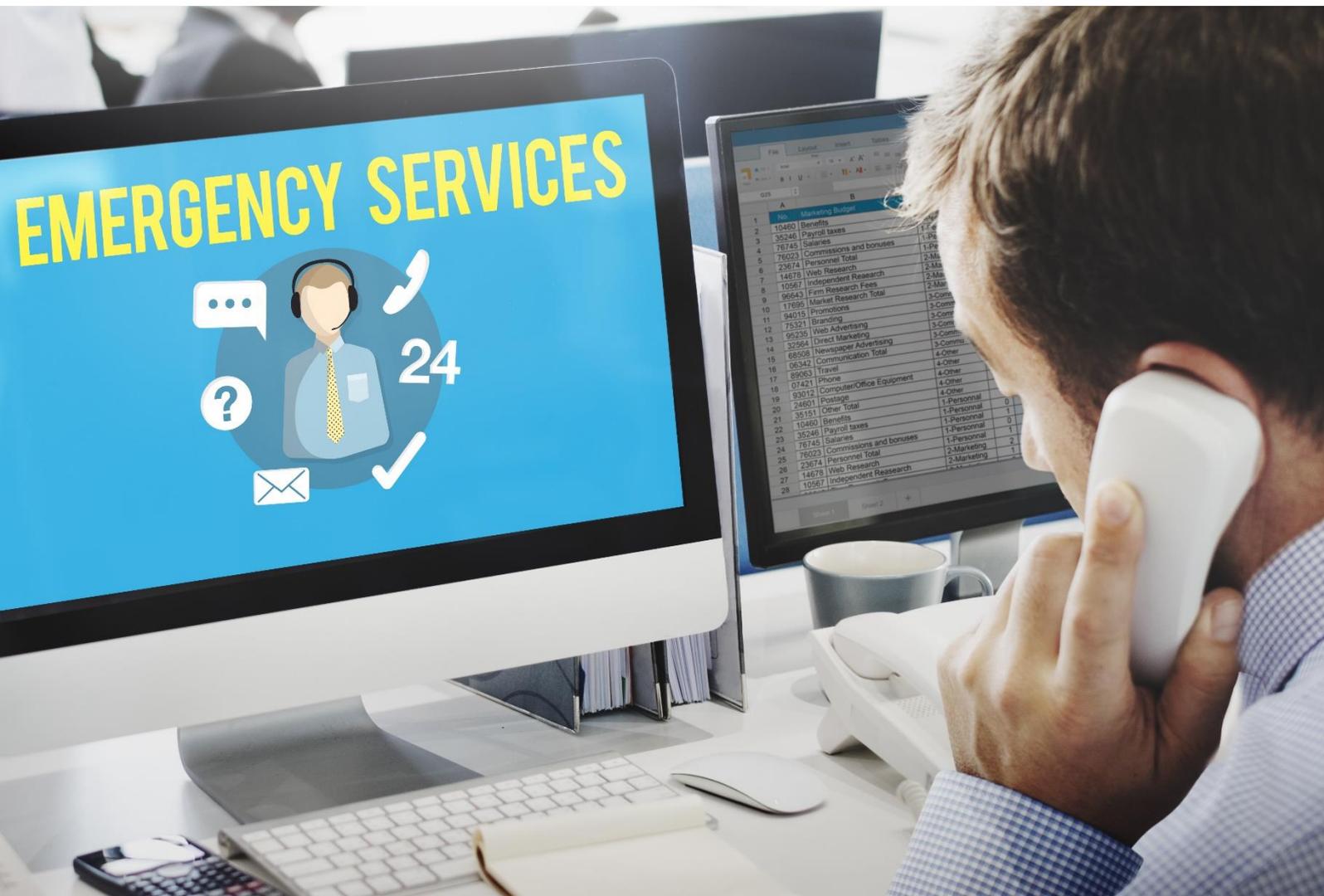
As we see in Section 1, some PSAPs experienced a high volume of calls at certain periods during the COVID-19 outbreak or an increase in calls related to emergency medical services.

ADAPTATION OF CALL-TAKING PROTOCOLS AND PROCEDURES

(77%) The majority of respondents reported that **call-taking protocols and procedures were adapted in the context of COVID-19.**

Countries/regions included in the positive answers were:

- Basque Country (Spain)
- Emirate of Abu Dhabi (United Arab Emirates)
- England (United Kingdom)
- Essonne (France)
- Iceland
- Israel
- Italy (some PSAPs)
- Izmir (Turkey)
- Latvia
- Liberec, Czechia
- Lithuania
- Lower Austria & Tirol (Austria)
- Luxembourg
- Moldova
- Romania
- Slovakia
- Solingen & Wuppertal (Germany)
- Sweden
- The Netherlands
- Vaud & Neuchâtel (Switzerland)
- Victoria (Australia)



Examples of the changes in protocol are provided below:

1. Example of new triage questions, introduced in Izmir (Turkey): If the caller replied affirmatively to two or more questions, they were evaluated as a possible case of COVID-19.
 - a. Do you have a cough?
 - b. Do you have breathing difficulties?
 - c. Do you have a fever or a history of fever?
 - d. Have any of your relatives been hospitalised for respiratory disease in the past 14 days?
 - e. Have any of your relatives been diagnosed with COVID-19 in the past 14 days?

2. In the **Emirate of Abu Dhabi (United Arab Emirates)**, preliminary triage questions were added at the operator stage of call-handing to support the dispatchers.
3. In **Romania**, the Special Telecommunications Service (STS), which receives emergency calls, introduced new index nodes and detailed interviews related to COVID-19. Callers with potential symptoms with general medical problems were transferred to ISU-SMURD agency (fire and rescue) as well, for specialised transport if needed. Non-emergency calls related to COVID-19 were redirected to the information helpline. Calls about persons that did not comply to the quarantine restrictions were forwarded to the police.
4. The fire service in the **Liguria (Italy)** introduced a procedure to ask the caller if there was someone present who was ill and for the call-taker to check the map database which contained all the addresses of people under the health monitoring system. In case of the presence of COVID-19, the CBRN (Chemical, biological, radiological, and nuclear defense) team would provide assistance (dressing and undressing operations, change of protective suits and filters to remain always operative).
5. In **Iceland**, the health authorities maintained a database of all the quarantined houses (of suspected COVID-19 cases). The 112 PSAP had access to this database and could compare the destinations of emergency services to locations in the database.
6. In **Essonne (France)**, the evaluation of COVID-19 risk influenced to which hospital a patient would be taken (also according to hospital capacities).
7. In **Israel**, a dynamic questioning system was developed and adapted according to guidelines from the Ministry of Health.
8. In **Liberec (Czechia)**, the call was evaluated and transferred to the defined telephone number.
9. In **Lithuania**, callers to 112 with a suspicion of COVID-19 were recommended to call the 1808 hotline.



INCREASE OF THE NUMBER OF STAFF IN PSAPS



44% of respondents also reported that **efforts had been made to increase the number of staff** in the PSAPs, including for the handling of information helplines.

When staff numbers were increased, this was to varying degrees:

- In **Luxembourg**, the respondent reported that the PSAP staff for handling 112 calls was increased by 10%.
- In **Essonne (France)**, the respondent reported PSAP staff for emergency medical dispatch increased threefold.
- The respondent from **Israel** reported that the call-takers on the roster increased from 30 to 550. On average, the emergency medical services PSAPs answer around 6000 emergency calls a day in Israel. By the end of February, there was a significant increase in emergency calls, with a peak of 83,000 calls per day. The answering time for emergency calls was not compromised, remaining at a response of up to 3 seconds.



53% responded that **efforts were not made** to increase the number of staff.

Countries took several different approaches to increase the number of staff:

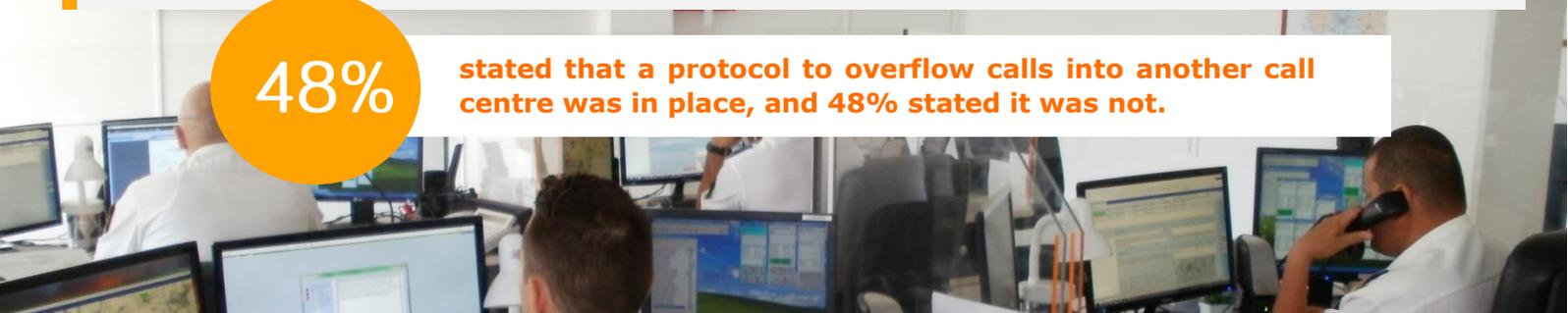


- In **Izmir (Turkey)**, support was received from the training team and from administrative staff.
- In **Iceland**, staff numbers were increased by 20% to reduce the risk of contamination between shift groups. Previous staff members were called upon to assist. Former staff members were also assisting in the Netherlands.
- In **Vaud & Neuchâtel (Switzerland)**, new dispatchers were recruited for basic activities.
- In **England (United Kingdom)**, some untrained call-takers were used to handle certain calls.

Some PSAPs also had **a protocol in place to overflow calls into another call centre** in case of high influx of calls.

48%

stated that a protocol to overflow calls into another call centre was in place, and 48% stated it was not.



How was ensuring continuity of service included in contingency plans?

The COVID-19 outbreak posed unique challenges for PSAPs, but they also continued to face challenges in other areas.

The media has reported that there was been a cyberattack on health entities *every three days during April and May 2020*. Fortunately, **no respondents reported PSAP outages due to technological failure**. One respondent reported that the use of the PSAP was temporarily unavailable due to disinfection. A back-up PSAP was used, resulting in continuation of service: there were no service outages.

Several key measures were common in the COVID-19 contingency plans of PSAPs. The most common were:

1. Quick disinfection/cleaning of PSAP (87%)
2. Ability to transfer calls to another PSAP (63%)
3. Ability to move personnel to another PSAP (47%)

Other measures identified by respondents included:

- ✓ Ability to work remotely,
 - ✓ Increasing the number of staff, modifying work shifts,
 - ✓ Expansion of workstations in the PSAP,
 - ✓ Distribution of call-takers in different rooms,
 - ✓ Plasticity of information and phone systems,
 - ✓ Trainings for administrative staff to takeover call-taking if necessary,
 - ✓ Redirection to a webpage by Stage 2 PSAP,
 - ✓ Plasticity of hierarchy (command and control).
- In **Iceland**, a back-up facility was established allowing some remote work.
 - In the **Basque Country (Spain)**, back-up workstations were implemented whilst the main workroom was being disinfected.
 - In **Liguria (Italy, fire service)**, a second control room, disinfected and closed, was ready to use if it became necessary to move from the main control room.

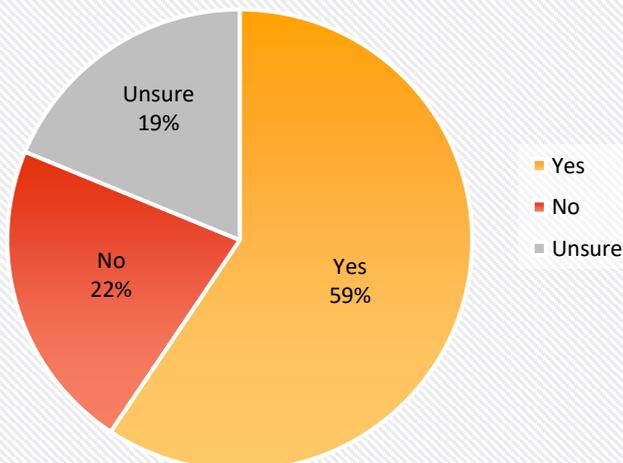
What are the key improvements for the future?

RECEIVING BASIC MEDICAL DATA

Respondents were overall supportive of introducing the opportunity for call-takers/dispatchers to **automatically receive basic medical data about callers** (on a voluntary basis by the caller). This may include, for instance, previous medical conditions.

59% of respondents stated this would have been useful during the COVID-19 outbreak.

Would it have been useful to automatically receive basic medical data?



OTHER RECOMMENDATIONS



- ✓ 69% of respondents recommended **remote working** for call-takers and dispatchers to be implemented in the future.
- ✓ 67% named having a **well-established non-emergency medical number** as an important consideration.
- ✓ 63% consider the ability **to move personnel to another PSAP** as valuable.
- ✓ 53% consider the ability **to overflow calls into another PSAP** in case of a high influx of calls as a good initiative.
- ✓ 44% consider that it would be beneficial for PSAPs **to receive multimedia communications**.

OTHER RECOMMENDATIONS FROM RESPONDENTS

1. Establishing good inter-agency and inter-authority relationships
2. Ensuring a flexible system to adapt call-handling protocols
3. Having a clear plan for internal and external communications
4. Ensuring adequate contingency planning for pandemics and other events which may impact the whole country
5. Ensuring secure and redundant channels for communicating from home
6. Using voice recognition and artificial intelligence to prioritise call-handling
7. Prioritising call-takers/dispatchers for testing and health checks
8. Reacting quickly in the primary stages

2.4 | CONCLUSIONS AND RECOMMENDATIONS

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1. Having a well-established non-emergency medical number is considered beneficial during times of medical crisis such as a pandemic.
 2. An information hotline for non-medical queries is also considered beneficial.
 3. 38% reported cases of COVID-19 among call-takers/dispatchers. PSAPs took many measures to handle cases of COVID-19 in the workplace and to reduce the risk. Only 63% of respondents reported that their call-takers and dispatchers had priority access to PPE and less than 60% had priority access to COVID-19 testing.
 4. Whilst many administrative staff could work remotely, this was often not the case for call-takers and dispatchers. However, this was highlighted as important: 72% considered that this would be beneficial.
 5. Countries took different measures to deal with a high volume of calls related to COVID-19:
 - a. Most respondents highlighted changes in protocols and procedures for the handling of calls during the pandemic. This often involved introducing new triage questions, helping to ensure the safety of first responders or transferring calls to dedicated numbers.
 - b. 44% of respondents reported that efforts had been made to increase the number of staff in the PSAPs. This may include calling on former employees to assist or training new staff.
 - c. 48% of respondents highlighted that a protocol was in place to transfer calls to another PSAP in case of a high influx of calls.
 6. When asked about improvements for the future, 59% of respondents believed that receiving basic medical data automatically with the emergency call would have been beneficial.
 7. The top four recommendations for the future were: enabling remote working for call-takers/dispatchers, having a well-established non-emergency number, having the ability to move personnel to another PSAP and having the ability to overflow calls into another PSAP in case of influx of calls.

3 | KEY RECOMMENDATIONS

1. Countries should implement a non-emergency number. This should be established before a crisis, always active and adequately communicated on, so that the population understands which number is appropriate to call in emergency and non-emergency situations.
2. Emergency call-takers and dispatchers should be considered essential workers. They should have priority access to Personal Protective Equipment and medical testing.
3. Emergency call centres should implement the necessary technology and internal processes so that call-takers and dispatchers can work remotely.
4. Collaborative and multi-agency work is essential, ensuring that an overflow of calls from one service can be re-directed to another.
5. Emergency call centres should ensure that it is possible to transfer calls to another centre and re-locate personnel to another centre. These should be included in contingency plans.
6. Countries should consider including the possibility for basic medical data to be transferred with emergency calls on a voluntary basis, to assist call-takers and dispatchers with classifying the severity of the call.
7. Emergency services must guarantee that they take advantage of multimedia communications (NG112) to adequately respond to a crisis.
8. When needed, it is important that PSAPs adapt quickly and modify caller queries and protocols.
9. A solid internal contingency plan must be considered (e.g. addressing exposure among emergency medical service professionals).

