KEY DATA IN HEALTHCARE

Emergency medical and psychosocial services

Edition 2021

.be

Colophon

SUBJECT

This report provides an **overview of the functioning of emergency, medical and psychosocial services** based on a number of key figures. In four chapters on 'Organisation', 'Activity', 'Funding' and 'Quality', some trends regarding the operation in this sector of healthcare are highlighted.

EDITORIAL COMMITTEE

The members of the Directorate-General for Healthcare, in particular the 'Data & policy information' unit and the 'Emergency care' unit .

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and **www.healthybelgium.be**

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PREFACE

Dear reader,

In this third edition of Key Data, we invite you into the world of emergency, medical and psychosocial aid. As usual, we present this sector's activities through some key figures.

Every year 1.7 million people in Belgium dial 112 to ask for assistance[1]. In Belgium, it is a given fact that in the event of illness, accident or disaster, assistance is provided as soon as possible. In order to ensure said assistance, an entire set of services and regulations are put in place.

Means for urgent medical care are being activated, not just in the case of an individual call for help, but also in the event of major crises. A large group of aid workers are permanently ready with one single mission: to provide accurate help, as soon as possible.

In Antwerp, a construction site collapses. There are multiple casualties on site. A collaboration is being set up between the fire brigade, the police and the Emergency Medical Services. The victims' families are being taken care of. The federal health inspectors keep the overview.

A mini-tornado hits Beauraing, in the province of Namur, leaving seventeen persons injured. The federal health inspector activates a medical contingency plan.

In Brussels, about a hundred undocumented persons decide to organise a hunger strike. Their medical condition is being monitored by 'Doctors of the World'. On a daily basis, Red Cross volunteers support those doctors in their mission. The federal health inspectors are following up on this process.

The Department of Urgent Aid has also a preventive role, being present in various situations: a cycling race in Renaix, the Agricultural Foire of Libramont, the Brussels marathon, … At each event, a first aid post is present as a preventive measure, under the supervision of the federal health inspectorate.

One of the aims of the Directorate-General Healthcare (DGHC) is to present the large amount of data and information we have at our disposal in an intelligible format to the reader.

1 Source: FPS Home Affairs

However, urgent medical and psychosocial care rests on many shoulders. For this publication we chose to focus on the missions in which the Department of Urgent Aid, as part of the DGHC at the FPS Health, Food Chain Safety and Environment, is actively involved. We want to show you the back office of the system. We mention some key figures and point out trends. These can and may trigger further interpretation and debate.

We hope you enjoy reading it and look forward to your comments..

Annick Poncé,
Acting Director-General, DG Healthcare

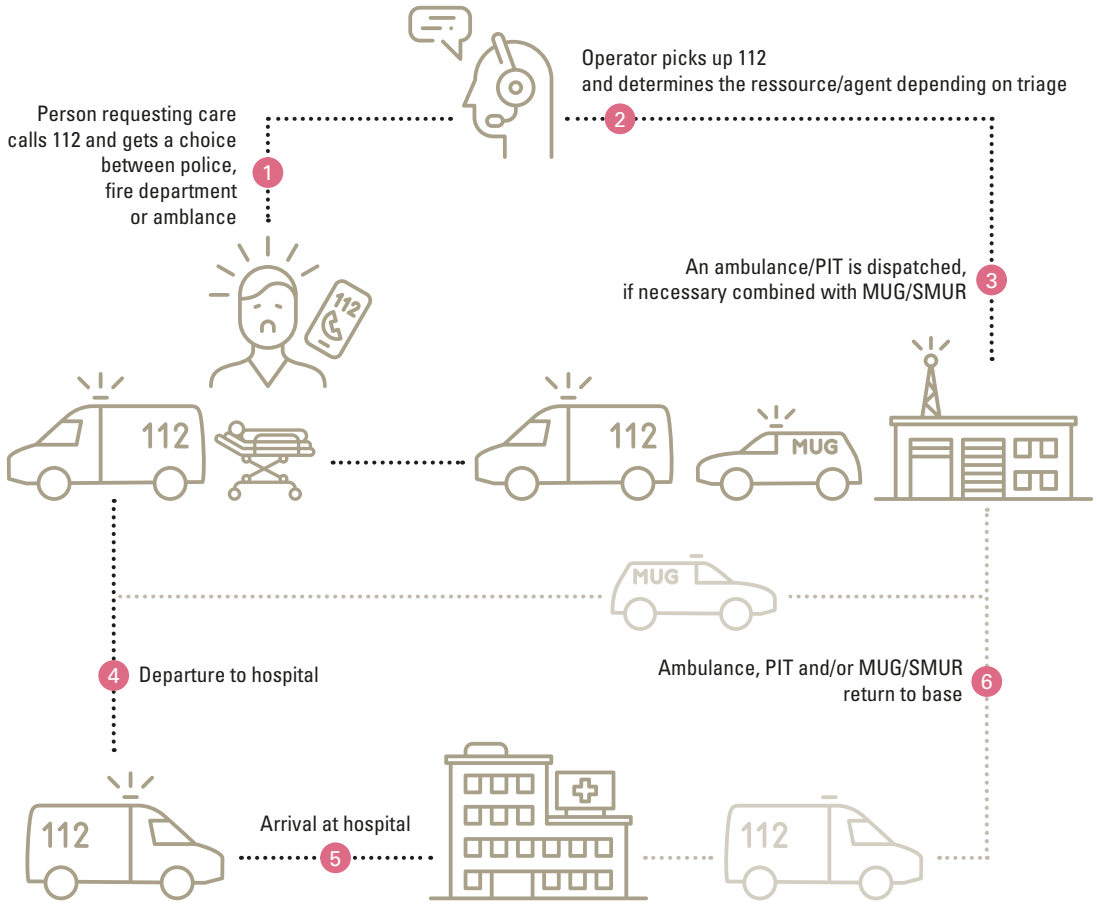
ORGANISATION

The legal basis for organising Emergency Medical Services is **the 1964 Emergency Medical Services Act**. Along with its implementing decrees, it organises emergency medical care for people who are at home, on the public road or in a public place and whose condition requires immediate care as a result of an accident or illness.

Both the organisation and management of the emergency centres fall under the competence of the FPS Home Affairs (FPS HA). The emergency centre in the Brussels Capital Region forms an exception to this and is operated by the Firefighting and Emergency Medical Assistance service of the Brussels Capital Region. The Federal Public Service for Health, Food Chain Safety and Environment (FPS HFCSE) takes over their responsibility from the moment an operator dispatches an ambulance to the victim. The FPS HFCSE is therefore responsible for organising, maintaining and financing the various resources used by a victim.

1. Via a 112 call to a hospital: care process for an individual

When a citizen calls **112**, a process is initiated in which several actors play a role. These are discussed in detail later on.



1.1. Emergency centre

There are 10 emergency centres in Belgium: one in each provincial capital, with the exception of Walloon Brabant, and one in the Brussels-Capital Region. The calls from Walloon Brabant are handled by the Hainaut emergency centre.

Belgium has
10 emergency centres where calls to **112** are handled.

Via the emergency number 112, a person requesting emergency care in Belgium is referred to one of the 10 emergency centres. The centres are manned by 482 operators[2]. An **operator** at the emergency centre will answer the call and analyse the request for help. Using the **Belgian Medical Regulation Manual**, which consists of established protocols, the emergency centre classifies the request for help into a severity level. The most appropriate resource (an ambulance, a Paramedical Intervention Team (PIT) or a Mobile Emergency Group (MUG/SMUR)) is then dispatched (see the chapter entitled 'The various emergency services for emergency assistance').

The operators are assisted by a medical director[3], a deputy medical director[4] and nurse regulators. They are seconded from the FPS HFCSE.

- The **medical director** is responsible for supervising the medical quality of the emergency care. He/she must have a diploma as an emergency physician. He/she is the link with the provincial committee for emergency medical services (see 'Quality' section).

- The **deputy medical director** holds the special professional title of emergency nurse. Under the coordination of the medical director, he/she performs tasks at the emergency centre as a functional medical authority, as a project officer, and act as a link between the various partners of the 112 centre.

- The **nurse regulator**[5] supports and coaches the operators by offering them, among other things, adequate medical training. The nurse holds a special professional title of emergency nurse. In addition, he/she should have specific training in crisis management and contingency planning.

2 Source: FPS Home Affairs and Firefighting and Emergency Medical Assistance service of the Brussels Capital Region

3 The duties of the medical director are laid down in the Royal Decree defining the function, tasks and competence profile of the medical director of 112 centres

4 The duties of the deputy medical director are laid down in the Royal Decree defining the function, tasks and competence profile of the deputy medical director of 112 centres

5 The duties of the nurse regulator are laid down in the Royal Decree defining the function, tasks and competence profile of the nurse regulator

1.2. Ambulance services and on-call rotations

In Belgium, 106 organisations concluded an 'Ambulance service for emergency medical services' agreement with the FPS HFCSE on 18/05/2021[6]. In this agreement, services commit to being available at agreed times..

106 organisations have an **agreement** with the FPS HFCSE for providing emergency medical services.

Only services that have concluded an agreement can be dispatched by an emergency centre. Having such an agreement is also a condition for obtaining a grant from the FPS HFCSE. Non-urgent patient transport is provided by services without an agreement or their ambulances can be used as reserve vehicles.

The following organisations are involved in providing Emergency Medical Services:

- A fire department
- An organisation/company approved by the FPS HFCSE
- Hospital
- Cross associations (e.g. Red Cross, Flemish Cross, etc.)
- Others (Public Social Welfare Centres, Airports)

Based on the agreement, one or more on-call rotations are manned by two paramedics, who can drive out to a patient at the emergency centre's request. In Belgium, there were 417 on-call staff for both an ambulance (393) and a Paramedical Intervention Team (24) (see further) on 01/01/2021[7],[8].

- Most on-call rotations have an on-call service where the paramedics are on duty at the departure point. These on-call services have a rest area. This is also known as an **'accommodated' on-call rotation**.

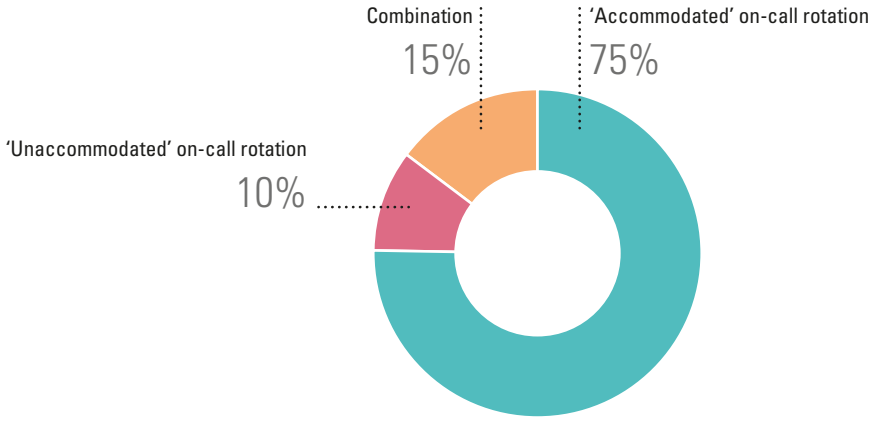
- A number of on-call rotations have an on-call service where the paramedics are on duty at home and go to the departure point in the event of a call. This is known as an **'unaccommodated' on-call rotation**.

6 Source: Department of Urgent Aid, FPS HFCSE

7 Source: Department of Urgent Aid, FPS HFCSE

8 On-call rotations as discussed above are only organised for ambulances and Paramedical Intervention Teams. For this reason, no data on the MUG/SMUR functions has been incorporated here.

NUMBER ON-CALL ROTATIONS FOR AMBULANCES AND PIT FUNCTIONS BY TYPE (01/01/2021)



Learn more about ambulance services:

www.health.belgium.be

1.3. The various emergency services for emergency assistance

In a situation where there is a need for emergency medical services, various resources can be dispatched to the location of the emergency, i.e. an **ambulance**, a **Paramedical Intervention Team (PIT)** or a **Mobile Emergency Group** (MUG/SMUR). On the basis of protocols established in the Belgian Medical Regulation Manual, the operator from the emergency centre determines which resource will be activated. In addition, based on the above protocols, an operator may refer the caller to an on-call general practitioner.

AMBULANCE

393 on-call rotations

An **ambulance** is a vehicle that has been specially adapted, furnished and equipped to provide basic life support at an intervention site on the one hand, and on the other hand to safely transport a patient to the hospital. An ambulance has the necessary equipment for monitoring and providing first aid. There are at least two paramedics in each ambulance. They are usually the first health workers to arrive at the intervention site. In Belgium, there are 393 on-call rotations for the dispatching of recognised ambulances. Of these, 31 are located in the Brussels-Capital Region, 210 in the Flemish Region and 152 in the Walloon Region.

PARAMEDICAL INTERVENTION TEAM (PIT)

24 PIT-functions

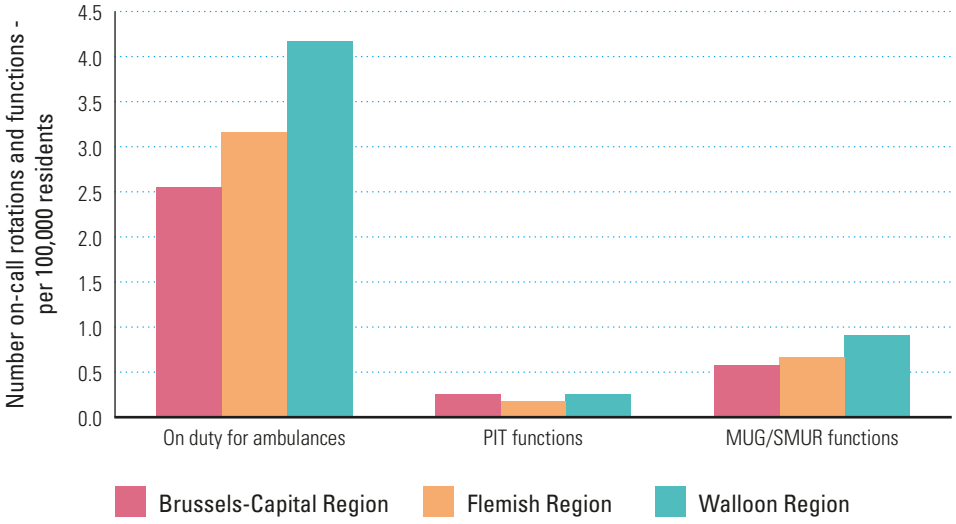
The **Paramedical Intervention Team (PIT)** is a team that intervenes in more serious cases[9]. The team consists of at least one paramedic and one nurse who holds the special title of emergency nurse. A PIT can be dispatched for interventions where the care can be entrusted to a nurse. In addition, a PIT is sent in some cases when no MUG/SMUR is available.

In addition to the basic equipment for an ambulance, a PIT ambulance must have the necessary equipment to carry out all its missions. After all, more tasks are entrusted to the nurse than to the paramedic via standing orders (see Quality chapter). This allows the nurse to perform some medical acts on the spot. Furthermore, the PIT team has the necessary communication tools to be able to contact a referring doctor if necessary. This is a doctor who remotely advises and coaches the nurse in the use of standing orders.

The PIT function is currently a pilot project whose added value is being evaluated. On 01/01/2021, 24 recognised pilot projects in the framework of a PIT function were started in Belgium, 12 of which in the Flemish Region, 9 in the Walloon Region and 3 in the Brussels-Capital Region[10]. However, when we look at the number of PIT functions per 100,000 residents, we see that there are as many PIT functions in the Walloon Region and the Brussels-Capital Region per 100,000 inhabitants, namely 0.25, and that there are 0.18 PIT functions per 100,000 residents in the Flemish Region.

Currently, no new services are being started up within the pilot project, but several hospitals are taking the initiative to upgrade an existing, recognised ambulance service to a PIT function themselves. Their number is limited, but is slowly increasing.

NUMBER ON-CALL ROTATIONS FOR RECOGNISED AMBULANCES, PIT FUNCTIONS AND MUG/SMUR FUNCTIONS PER 100,000 RESIDENTS



9 https://www.health.belgium.be/fr/pit-paramedical-intervention-team

10 Source: Data and Policy Information Service, FPS HFCSE

MOBILE EMERGENCY GROUP (MUG/SMUR)

84 MUG/SMUR functions

A **Mobile Emergency Group (MUG/SMUR)** is a mobile medical team that provides advanced life support during an intervention in the context of an emergency situation[11]. The team consists of at least one emergency doctor and one nurse who holds the special title of emergency nurse. The MUG/SMUR station is located near a hospital.

The MUG/SMUR team is always accompanied by an ambulance at the intervention site and can be dispatched at the request of the operator at the 112 emergency centres or at the request of the on-site ambulance crews if they feel that a doctor is required.

On 01/01/2021, there were 84 MUG/SMUR functions in Belgium, 44 of which in the Flemish Region, 33 in the Walloon Region and 8 in the Brussels-Capital Region[12]. Two of these 84 MUG/SMUR functions concern MUG/SMUR helicopters based in Liège and Bruges, which are currently being evaluated as a pilot project. Looking at the number of MUG/SMUR functions per 100,000 residents, there is a greater presence of MUG/SMUR functions in the Walloon Region (0.91 per 100,000 residents), compared to 0.66 and 0.65 per 100,000 residents in the Flemish and Brussels-Capital Regions respectively. The greater presence in the Walloon Region can be explained by the more sparsely populated areas, which require a greater presence of MUG/SMUR functions to ensure rapid care. The aim is to achieve equal access to emergency assistance in the various regions of the country. To this end, the number of MUG/SMURs is determined by programming criteria based on population density and the population of each province, among other things. These were defined in a Royal Decree[13].

Learn more about the location of the recognised MUG/SMUR and PIT functions:

www.health.belgium.be

1.4. Emergency services

Typically, an ambulance will transport the patient to the nearest hospital with a specialist emergency care service, as determined by the 112 emergency call centre.

The nearest hospital is calculated in line with the journey time and not in line with the number of kilometres: e.g. the distance from Egenhoven via N264 to UZ Leuven campus Gasthuisberg is 5km, but the journey time is 9 minutes. The distance from Egenhoven to Heilig Hart Regional Hospital is 4.2km, but the journey time is 10 minutes. In this case, then, the patient will be taken to UZ Leuven campus Gasthuisberg even though the Heilig Hart Regional Hospital is closer, because the journey time is shorter. When a MUG/SMUR intervenes, it is also possible to deviate from the fastest journey time based on diagnosis or need for a therapeutic platform.

11 https://www.health.belgium.be/fr/smur

12 Source: CIC, Data and Policy Information Service, FPS HFCSE

13 RD 20 September 2002. - Royal Decree determining the details of the maximum number and the programming criteria applicable to the "Mobile Emergency Group" function

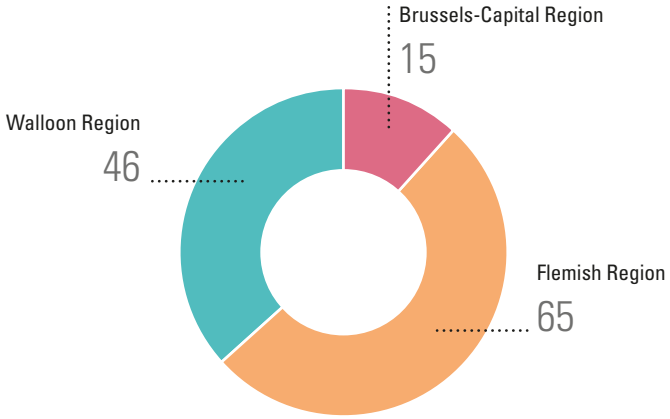
In Belgium, we have two types of emergency services:

- A service for **specialist emergency care**: this service must be permanently staffed by an emergency doctor and a minimum of 2 nurses, at least one of whom must have obtained the special professional title in intensive care and emergency care. This service must be able to stabilise and restore a patient's vital signs.

- An **emergency first responder** service: each critical hospital that does not have a specialist emergency care service must have an emergency first responder service. One nurse and one doctor on duty for the entire hospital are sufficient.

On 01/01/2021, there were 126 emergency departments in Belgium, spread across several hospital campuses[14]. Of these, 3 campuses in the Flemish Region and 1 in the Brussels-Capital Region only have an emergency first responder service. The others are specialist emergency care services.

NUMBER OF EMERGENCY SERVICES PER REGION (01/01/2021)



To find out more about the criteria that a specialist emergency care service or an emergency first responder service must meet:

Criteria for emergency first responder services

Criteria for specialist emergency care services

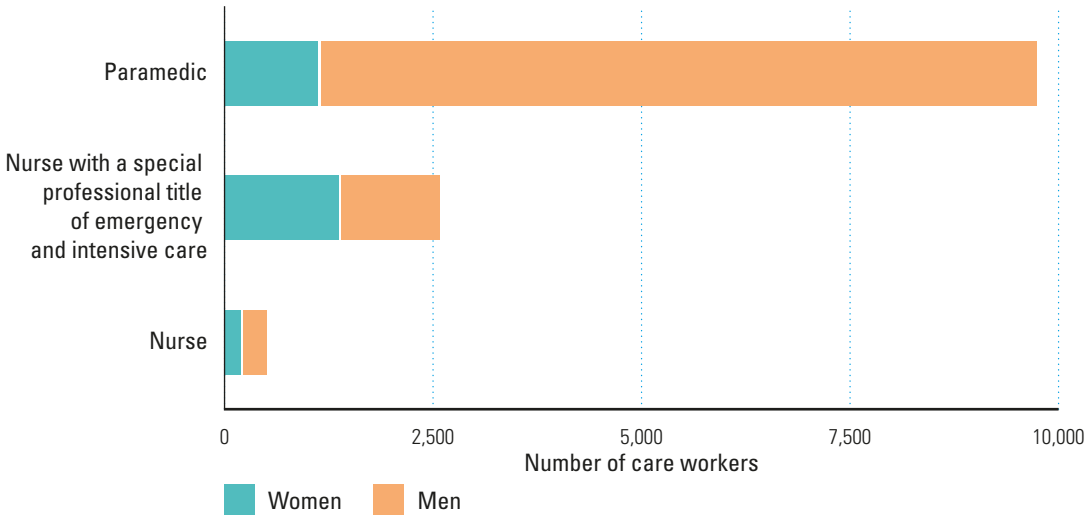
14 Source: CIC, Data & Policy Information Service, FPS HFCSE

1.5. Staff at the various emergency services for emergency assistance

Nurses and paramedics need a badge to identify them when they go out in a regular ambulance or a PIT ambulance. This allows them to be easily identified in the performance of their duties. The badge can be obtained by holding a valid licence.

- Paramedics can obtain this licence by taking training at the provincial training centres, passing the exams and having a positive internship report.
- Nurses can also obtain a licence, but are exempted from part of the training at the provincial training centres. Nurses with a special professional title of emergency and intensive care don't need to take any additional training in order to obtain a badge.
- No badge and therefore no licence are required to perform the MUG/SMUR function.

NUMBER OF CARE WORKERS BY TYPE WITH LICENCE AND BADGE (31/12/2020) [15]



15 Source: E-CAD, Department of Health Care Professions, FPS HFCSE

2. What if everyone needs help at the same time: care process in the event of a disaster

The relief operation for a major federal disaster or crisis is coordinated from the National Crisis Centre, which is part of the FPS HA. However, the principles of management developed at a federal level are also applied at a provincial and municipal level for smaller incidents.

2.1. The five disciplines

A disaster or emergency situation is tackled by various intervention services, whereby each discipline has a mono-disciplinary intervention plan that describes its own operation. Where multiple disciplines are deployed simultaneously, joint coordination is required and this is referred to as a multi-disciplinary deployment[16].

5 disciplines or intervention services can be called upon in the event of a **disaster or crisis**.

DISCIPLINE 1: **THE MEDICAL AID OPERATIONS**

Discipline 1 missions are carried out by fire brigades, which may be assisted by operational units from civil protection. Their duties include:

- Managing the emergency situation and eliminate the associated risks;
- Locating, freeing and rescuing people and protecting their property;
- Recovering people and property.

DISCIPLINE 2: **THE MEDICAL, SANITARY AND PSYCHOSOCIAL ASSISTANCE**

Discipline 2 missions are performed by medical and psychosocial services (e.g. ambulance services, MUG/SMUR services, the Red Cross, psychosocial workers, the Federal Health Inspectorate, etc.). The most important missions in this discipline are discussed later on in this report.

16 Source: https://crisiscenter.be/en/what-do-authorities-do/crisis-management/organisation-emergency

DISCIPLINE 3: **THE POLICE AT THE EMERGENCY SITE**

Discipline 3 missions are performed by federal and local police and are as follows:

- Maintaining and restoring public order;
- Keeping access and evacuation routes clear;
- Setting perimeters, physically defining them, signalling and monitoring access control to the intervention area;
- Conducting evacuations of the population and overseeing shelter;
- Identifying fatalities;
- Assisting in the judicial investigation.

DISCIPLINE 4: **LOGISTICAL SUPPORT**

Discipline 4 missions are performed by civil protection, the fire brigade and the army. Their duties include:

- Ensuring reinforcement of personnel and equipment, as well as providing special rescue and relief equipment;
- Organising the technical means for communication between the disciplines, the operational command post and the coordination committee;
- Organising the supply of food and drinking water for the emergency services and the people affected.

DISCIPLINE 5: **INFORMATION**

Discipline 5 missions are carried out by a communications manager and consist of:

- Providing information and guidance to the public;
- Providing information on measures for returning to normal.

2.2. Contingency plans

The purpose of contingency planning is to anticipate a disaster or crisis. A whole range of measures, procedures, tools and coordination mechanisms are put in place. This way, resources (both human and equipment) necessary to manage the situation can be deployed quickly and efficiently. Depending on the nature of the incident, there are several different contingency plans.

- The **multi-disciplinary contingency plans** are developed by different authorities. These contingency plans are intended for crisis management at a national level. For example, this type of contingency plan was used during the bus disaster in Sierre, the terrorist attacks in Zaventem or the COVID-19 crisis;

- **Mono-disciplinary intervention plans**: This plan aims to develop the missions per discipline, so a discipline can start independently and act quickly. In addition, an intervention plan makes it possible to collaborate with other disciplines;

- **Internal emergency plans**: These are plans drawn up at the level of an institution, e.g. a hospital.

To find out more about emergency plans:

www.crisiscentrum.be

Below, we will examine the mono-disciplinary intervention plan for medical, sanitary and psychosocial assistance (discipline 2), for which the FPS HFCSE is responsible in an emergency situation.

This intervention plan describes the following missions:

- Initiating the medical chain;
- Administering medical and psychosocial care to victims and people involved in the emergency situation;
- Organising the transportation of victims;
- Taking measures to protect public health.

3 specific sub-plans that were developed as part of the above missions will now be discussed.

MEDICAL CARE	PSYCHOLOGICAL CARE	PUBLIC HEALTH
Medical Contingency Plan **MIP**	Psychosocial Intervention Plan **PSIP**	Risks and Demonstrations Plan **RDP**

THE MEDICAL CONTINGENCY PLAN (MIP)

The first aid groups (police, ambulance service or fire brigade) on the scene can request the activation of a medical contingency plan (MIP)[17]. Only a few professionals are positioned to activate a MIP, namely:

- the (deputy) director of medical assistance[18];
- the first MUG/SMUR doctor at the scene;
- a federal health inspector;
- an 'Incident and Crisis Management' (ICM) expert;
- the (deputy) department head for emergency assistance from the FPS HFCSE.

Ultimately, the emergency centre, which has territorial jurisdiction, will formally declare the MIP.

17 The structure of the MIP is defined in a ministerial circular.

18 This is a position in the MIP where a physician is in operational charge of all medical, sanitary, and psychosocial support services at the site. This doctor works under the administrative authority of the federal health inspector.

A MIP has different levels, with an increasing deployment of resources depending on the phase the MIP has reached. The (deputy) health inspector ((DEP)HI), (deputy) director of medical assistance ((DEP)DIRMED) and psychosocial manager (PSM) are always called. Depending on the phase, the Medical Emergency Group (MUG/SMUR), ambulances (ZW112) and rapid intervention resources (RIR) are deployed.

	ALERTING						
	(DEP) HI	(DEP) DIRMED	PSM	MUG/SMUR	ZW112	RIR	
PRE-ALERT	+	+	+				• Potentially dangerous situation
ALERT	+	+	+	3	5	+	• 5 seriously injured people • 10 injured people - nature unknown • > 20 potentially in danger (except for evacuation due to law enforcement)
EXTENDED MIP	+	+	+	10	20	+	• 20 seriously injured people • 40 injured people - nature unknown
MAXI MIP	+	+	all	20	40	+	• 50 seriously injured people • 100 injured people - nature unknown

The scaling up and down of plans is carried out by the emergency centre on the basis of the information obtained from the people referred to above. When a MIP is scaled up, the affected province can call upon the resources of neighbouring provinces.

The federal Minister of Public Health has an agreement with the Belgian Red Cross to provide support in the event of a (medical) emergency. This includes, among other things, providing for the following:

- Ambulances and paramedics
- Rapid Intervention Resources (RIR) for the establishment of the advanced medical post
- Liaison officers: these are people who establish contact during an emergency and ensure communication between the various partners involved.
- Logistical support (sanitary kits, camp beds, blankets, etc.)
- A roll-out in 'Emergency Social Intervention': these are volunteers who provide emergency psychosocial support in large-scale relief operations during disasters or severe cases.

The (deputy) director of medical assistance, the federal health inspectors and the 'Incident and Crisis Management' expert coordinate medical assistance during a crisis. When the crisis is of such a magnitude that major socio-economic consequences are feared, the administrative management (mayor, governor) is also called upon.

FOR EXAMPLE

During a large industrial fire, a toxic cloud moves towards surrounding businesses. At that point, a decision must be made as to whether the factory must be evacuated for health reasons. This decision is made by the director of the operations command post or, in the administrative phase, by the mayor or governor. This decision has financial implications. Compensation may also need to be paid. The various disciplines have an advisory role at the municipal or provincial coordination centre (CC) at that point.

THE PSYCHOSOCIAL INTERVENTION PLAN (PSIP),

A collective emergency could cause serious psychosocial damage to a large number of people. As a result, there may be a need for adequate assistance for those directly involved and their loved ones. In order to address this need, a Psychosocial Manager (PSM) works alongside the Federal Health Inspector (FHI). The actions within psychosocial support are aimed at stimulating the resilience of those affected and are targeted at both the direct and indirect victims of the emergency situation. The federal government is responsible for psychosocial assistance in the acute phase. The psychosocial assistance in the aftermath is a task for the communities.

The following basic tasks of a psychosocial manager are to be carried out in the acute phase of an emergency situation:

- grouping the uninjured at or in the vicinity of the disaster area;
- transporting the uninjured to a reception centre;
- installing and developing a reception centre (RC) where psychosocial support and information can be provided to those involved;
- installing and developing a Telephone Information Centre (TIC) for those directly affected and their relatives;
- uniform registration: the accurate collection of information about those affected and its safe management;
- processing the data to create victim lists at one central point (Central Information Point – CIP).

EXAMPLE

During a fire at an assisted living facility, the family needs information about their family member. The PSM concerned will organise an information point at a nearby sports hall.

To find out more about PSIP:

www.health.belgium.be

RISKS AND DEMONSTRATIONS PLAN (RDP)

When a large-scale activity is organised, it may be necessary to provide a medical aid station as a precautionary measure. Using the RDP questionnaire (Risks and Demonstrations Plan), the health inspectors give advice based on a risk analysis. The competent authority (the mayor or governor concerned) is advised on the necessary medical resources.

To find out more about RDP:

besafe.jdbi.eu

3. The number 1733

As of 01/06/2021, 503 municipalities will already have the possibility to reach an on-call GP by calling 1733[19]. 1733 is a central number intended for non-urgent medical services on weekends or holidays. This number is linked to the local on-call services.

In 270 of the 503 municipalities, 1733 is already handled by the 112 centre in either Bruges, Leuven, Mons or Arlon. This depends on the municipality from which you are calling 1733. This call is organised in a similar way, complementary and in synergy with the 112 call system. Trained operators refer the person requesting care, on the basis of the Belgian Medical Regulation Manual (see below), to the most suitable care offer.

In the 233 other municipalities, people are currently transferred to an on-call staff member or an on-call GP. After all, because of the acute shortage of operators, it is not possible to have the emergency centre answering calls in all the municipalities.

The **number 1733** can already be used in 503 municipalities to reach an **on-call GP**.

The FPS HFCSE is currently evaluating, along with the FPS HA, whether it is possible to have 1733 answered at all the centres in Belgium. This has the advantage that the 1733 calls will be spread more widely over the various centres. However, before this last step can be taken, it is necessary to consider the actual workload at each centre and the added value of the 1733 system to health and the economy.

To find out more about the number 1733:

www.1733.be

19 In other municipalities, the on-call GP can be reached through a local phone number.

ACTIVITY

This section gives some key figures regarding the number of interventions with an ambulance and a MUG/SMUR.

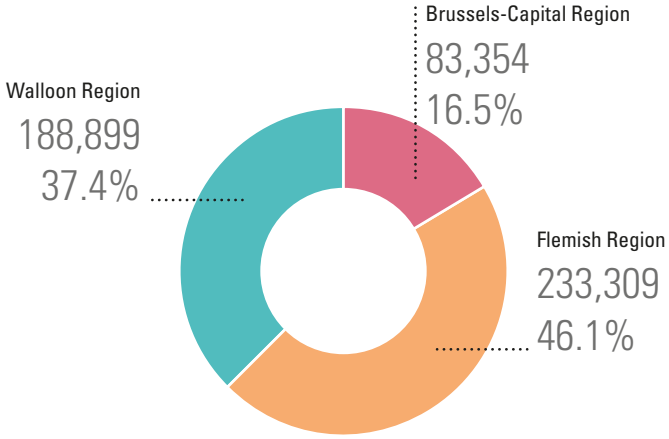
total number of **ambulance** interventions
610,952

total number of **MUG/SMUR** interventions
140,002

1. Interventions with an ambulance

In 2020, 603,433 primary interventions and 7,519 inter-hospital transport interventions were recorded using a recognised ambulance[20]. Looking at the number of interventions per region, we see that there were 233,309 interventions in the Flemish Region, 188,899 in the Walloon Region and 83,354 in the Brussels-Capital Region in 2020.

NUMBER OF PRIMARY INTERVENTIONS WITH A RECOGNISED AMBULANCE BY REGION IN 2020

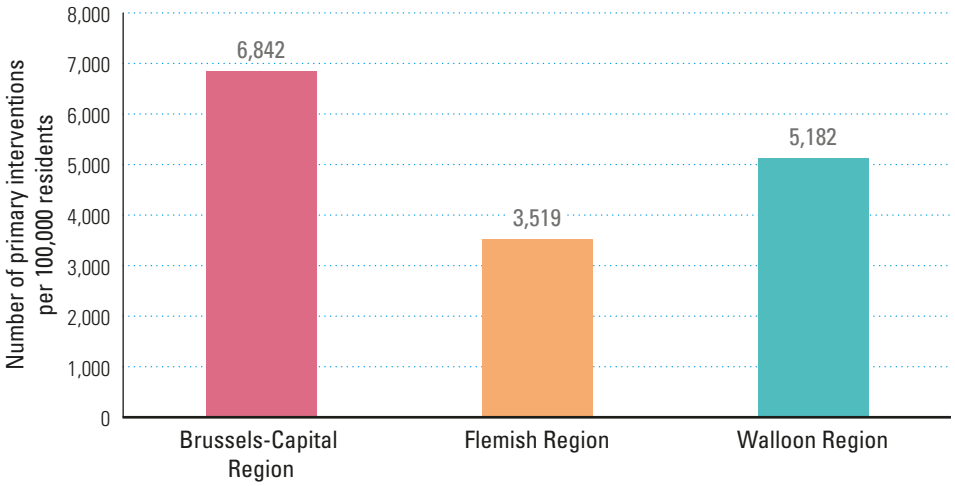


However, if we look at the number of interventions per 100,000 residents, we observe that the highest number of interventions per 100,000 residents took place in the Brussels-Capital Region, i.e. 6,842. In the Flemish Region, there were 3,519 interventions per 100,000 residents and, in the Walloon Region, 5,182 per 100,000 residents.

The highest number of interventions per 100,000 residents is observed in the **Brussels-Capital Region**.

20 Source: AMBUREG registration, Data and Policy Information Service, FPS HFCSE; figures for a full year of records are only available for the year 2020. For this reason, no figures for previous years can be shown. The recording rate for the year 2020 is 89.31%.

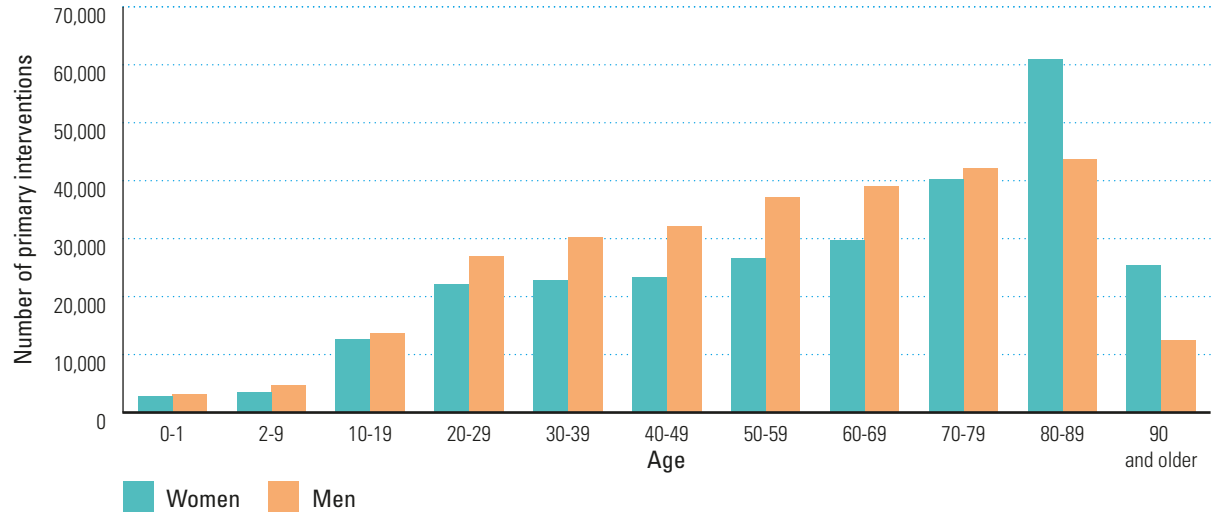
NUMBER OF PRIMARY INTERVENTIONS WITH A RECOGNISED AMBULANCE BY REGION AND PER 100,000 RESIDENTS IN 2020



It is observed that more interventions are performed for older patients[21]. The proportion of male patients is greater than the proportion of female patients up to the age of 79 years. From the age of 80 onwards, considerably more ambulances are dispatched for the assistance of female patients, which could be explained by the greater presence of women in these age categories.

The number of interventions with a recognised ambulance **increases** with **age**.

NUMBER OF PRIMARY INTERVENTIONS WITH A RECOGNISED AMBULANCE BY GENDER AND AGE (2020) [22]



21 There are probably fewer interventions for the 90 years and older age group because of a lower population in this group.

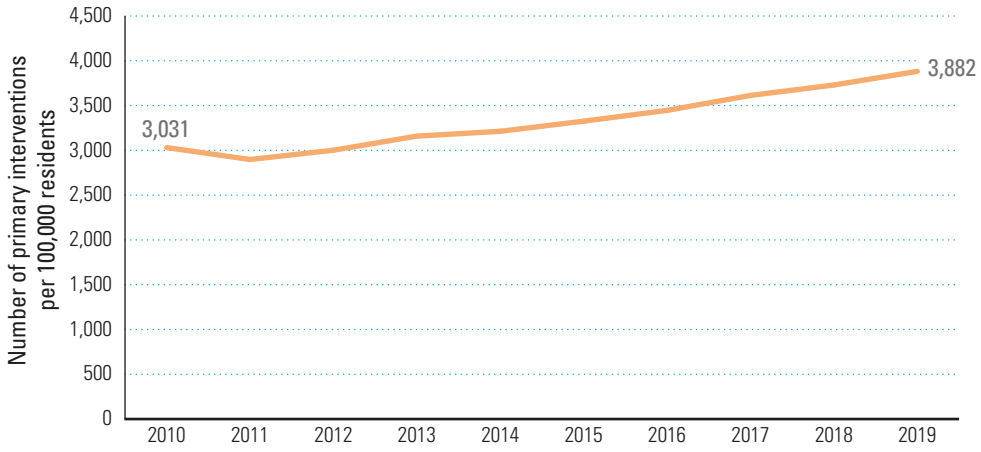
22 For 8.36% of patients, either gender or age was not recorded. These patients were therefore not included in the graph concerned. It should also be noted that the number of patients does not necessarily equal the number of interventions.

2. Interventions involving a MUG/SMUR

If the patient's condition requires it, a MUG/SMUR is sent to the scene of the intervention or a MUG/SMUR is used for transport between hospitals. In 2019, there were 135,880 primary interventions and 4,122 inter-hospital transport interventions[23].

The number of MUG/SMUR interventions increased from 96,956 interventions in 2010 to 132,790 interventions in 2019 (37%). When we look at the change per 100,000 residents, we see a percentage increase of 28%..

EVOLUTION IN NUMBER OF PRIMARY MUG/SMUREG INTERVENTIONS PER 100,000 RESIDENTS

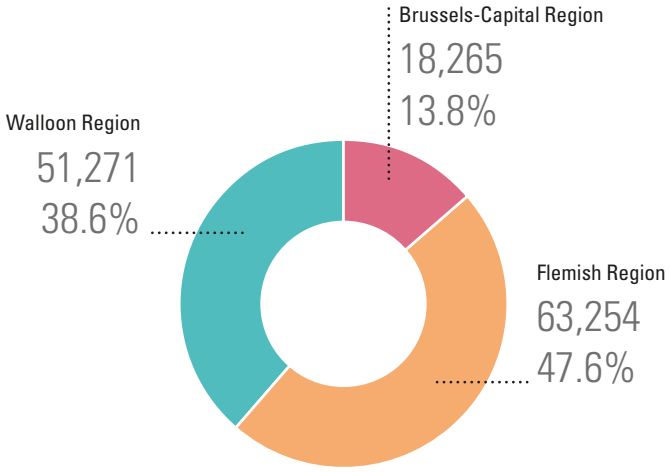


The number of
MUG/SMUR interventions
increased by 28% between 2010 and 2019.

Almost half of the MUG/SMUR interventions in 2019 took place in the Flemish Region (48%). We also note that only 14% of the MUG/SMUR interventions in Belgium took place in the Brussels-Capital Region and 38% in the Walloon Region.

23 Source: MUG/SMUR records, Data and Policy Information Service, FPS HFCSE. The data for the recording year 2019 is the most recent data available at the time of editing this publication. After all, records have been suspended since 1/03/2020 to reduce the workload of healthcare providers during the COVID-19 pandemic.

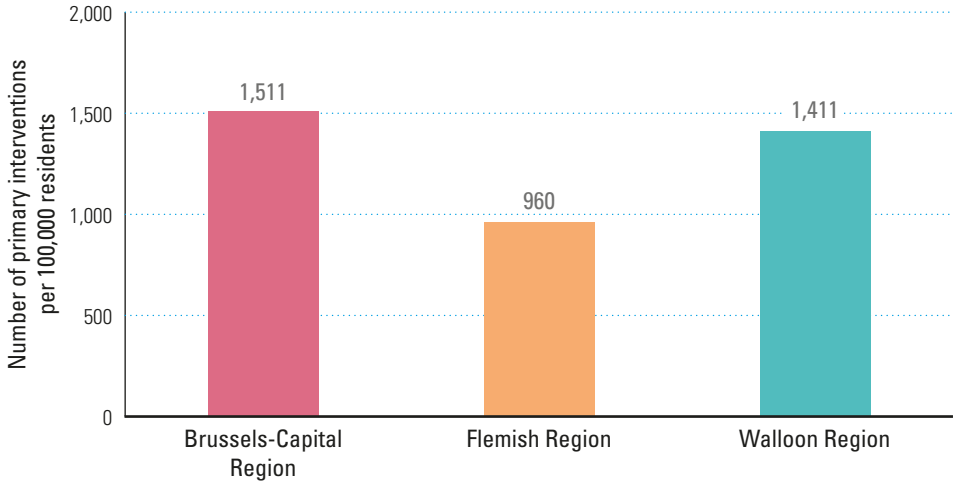
NUMBER OF PRIMARY MUG/SMUREG INTERVENTIONS
BY REGION PER 100,000 RESIDENTS (2019)



The absolute number of interventions is highest in the **Flemish Region**, but number of interventions **per 100,000 residents** is significantly **lower**.

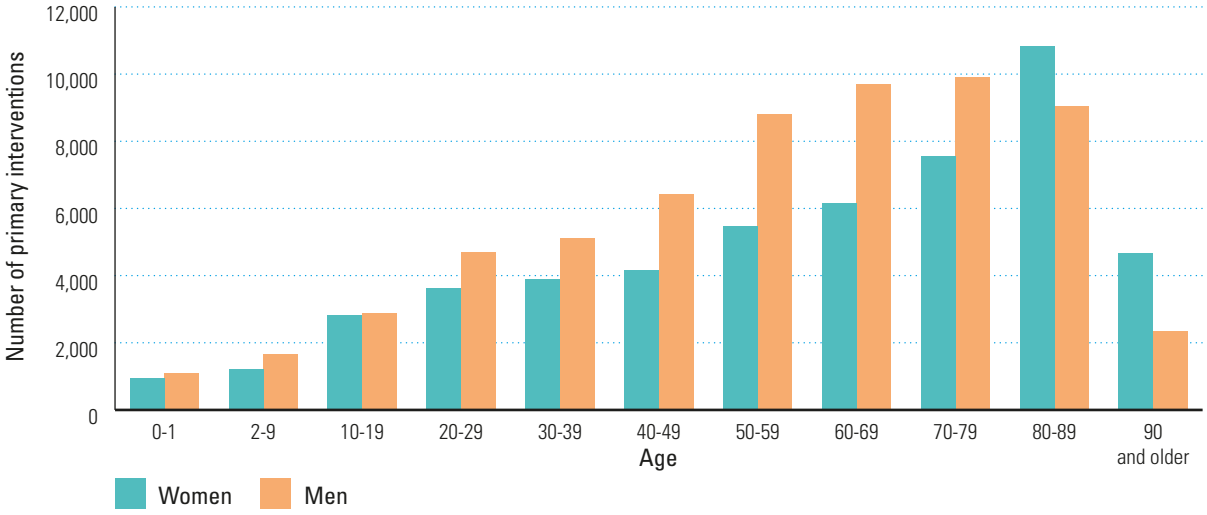
When studying the number of MUG/SMUR interventions per 100,000 residents, we observe a different proportion between the different regions in Belgium. The number of MUG/SMUR interventions per 100,000 residents is similar in the Brussels-Capital Region and the Walloon Region, namely 1,511 and 1,411 interventions respectively. The number of interventions per 100,000 in the Flemish Region is significantly lower and amounts to 960 interventions per 100,000 residents.

NUMBER OF PRIMARY MUG/SMUREG INTERVENTIONS
BY REGION PER 100,000 RESIDENTS (2019)



When we analyse the number of interventions with a MUG/SMUR function by age and gender, we see the same picture as with the interventions with an ambulance. More interventions are performed for patients in an older age group and, until the age of 80 years, the proportion of interventions with a MUG/SMUR function is significantly higher for men than for women[24].

NUMBER OF PRIMARY INTERVENTIONS WITH AN MUG/SMUR ROLE BY GENDER AND AGE (2019) [25]



24 There are probably fewer interventions for the 90 years and older age group because of a lower population in this group.

25 For 12.90% of patients, either gender or age was not recorded. These patients were therefore not included in the graph concerned. It should also be noted that the number of patients does not necessarily equal the number of interventions.

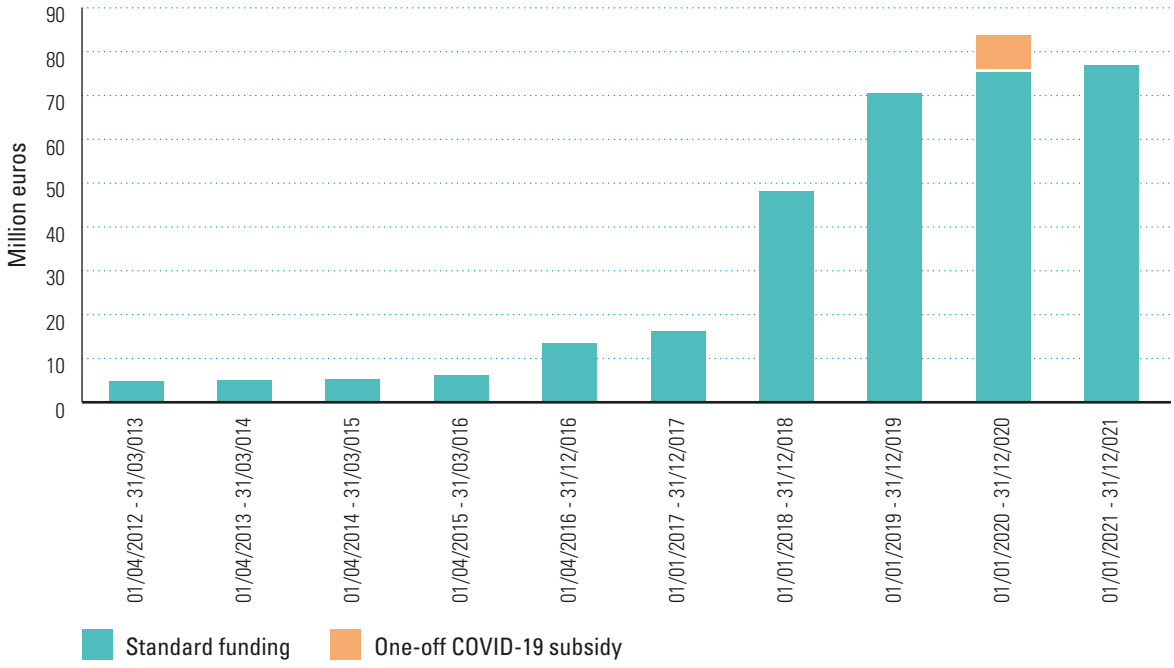
FUNDING

In 2018, the way ambulance service grants are allocated was reformed.[26] Prior to 2018, ambulance services received a flat fee for each duty shift they operated. However, since the reform, the allowance for an ambulance service consists of 2 (or 3) parts:

- **Activation premium:** allowance for the journeys made. This is calculated on the basis of the number of journeys made and total number of kilometres travelled in the past year.
- **On-call bonus:** allowance for operating their on-call rotation(s). The ambulance services are remunerated on the basis of a points system, depending on the number of duty shifts they operate, their opening hours (day, night, Sundays and public holidays, etc.), accommodated or unaccommodated duty shift.
- **Possible compensation premium:** a compensation premium was provided for the period 2019-2020-2021. For any ambulance service that receives a lower average subsidy per journey in the years 2019-2020-2021 compared to 2017, that difference will be adjusted to the 2017 level. In 2021, this kind of compensation premium was paid out for the last time.

The above relates to the funding of regular ambulance services and PIT functions.

FUNDING FOR AMBULANCE SERVICES



Since the reform, subsidies for ambulance services have been significantly increased. This is the result of the introduction of a fixed invoice price, which ambulance services can charge to the patient[27]. This fixed invoice price was in many cases lower than what the ambulance services previously charged their patients. To compensate for this loss of resources through the patient,

26 The legal basis for this reform is the funding RD of 6 December 2018 – Royal Decree establishing the terms and conditions for granting the allowance referred to in Article 3ter of the Act of 8 July 1964 on emergency medical assistance.

27 This was laid down in the Royal Decree of 28 November 2018 on invoicing following the provision of emergency medical assistance by an ambulance service

the allowance from the government was substantially increased. Moreover, in 2020, an extra one-off grant of 8 million euros was provided for the ambulance services because of the COVID-19 pandemic.

Since the **reform of funding** to ambulance services and the introduction of the **fixed invoice price** to the patient, subsidy has **increased significantly**.

The Medical Emergency Group (MUG/SMUR) function is funded on the one hand via the Financial Resources Budget (FRB)[28] for hospital funding. The MUG/SMUR function is financed on a flat-rate basis here, with a single amount being granted for each accreditation. This means that no account is taken of the real cost and that no contribution for the MUG/SMUR can be charged to the patient. On 1/1/2021, this flat-rate funding amounted to 318,100.20 euros per recognised MUG/SMUR function. For Belgium, this means a total amount of more than 26 million euros[29]. On the other hand, the MUG/SMUR function is funded through the charging of specific fee codes to the patient and the health insurance. In this context, the National Institute for Health and Disability Insurance (NIHDI) paid out an amount of over 8 million euros in 2020.[30]

28 See Key Data for General Hospitals for more information on the Financial Resources Budget.

29 The funding for the MUG/SMUR function is described in the Royal Decree of 25 April 2002 on the establishment and settlement of the financial resources budget for hospitals in article 68.

30 Source: Medical Care Service, Directorate of Research, Development and Quality Promotion, NIHDI

QUALITY

Within the provision of emergency medical services, various initiatives are being taken to guarantee the quality of emergency interventions at all times. In this section, we provide a non-exhaustive list of initiatives, activities and facilities to promote quality in emergency assistance.

1. Protocols and guidelines

1.1. Belgian Medical Regulation Manual

The Belgian Medical Regulation Manual (BMRM) is a manual/guide for operators at the 112 emergency centre. The level of severity of the caller's situation is determined with the aid of flow charts specifically drawn up for each medical protocol. Based on the level of severity, the most appropriate resource is then chosen (MUG/SMUR, PIT, ambulance, on-call station or GP).

Level	Resources	Colour code
Critical • Immediately life-threatening • Immediate treatment required	MUG/SMUR and ambulance	
Severe • Life-threatening situation (short-term evolution)	PIT	
Serious • Rapid admission to hospital is required for treatment, observation or technical examinations	Ambulance	
Moderate • No life-threatening situation but rapid treatment is required	GP urgent < 2h.	
Minor • Situation is not immediately life-threatening but care is required	GP scheduled appointment < 12h. and during out-of-hours service	
Non-urgent • Referral to own GP practice during office hours, or new call if worsened complaints	Schedulable care > 12h. and during office hours	

To find out more about the Belgian Medical Regulation Manual:

www.health.belgium.be

1.2. Standing orders

The actions that the paramedic may perform have been regulated by law. Based on this, the National Emergency Assistance Council worked on a national standing order template where specific examples of procedures are given. The bundle of standing orders offers a helping hand to the paramedic when they need to carry out actions entrusted to them.

FOR EXAMPLE

The bundle describes the care that a paramedic may perform for a patient who has suffered thermal, electrical or chemical burns. Here, they may measure respiratory rate and blood pressure, disrobe the patient and cool burns, among other things.

The standing orders also focus on collaboration with the PIT nurse and/or the MUG/SMUR doctor. For example, the above example describes how a paramedic can assist with such things as preparing medication and fitting an intravenous catheter.

To find out more about the standing orders for paramedics:

www.health.belgium.be

The nurse staffing a PIT also works in accordance with standing orders that were agreed upon with a physician from the emergency service to which the nurse is attached. These actions belong to the list of technical provisions drawn up by the Technical Commission for Nursing, known as B1, B2 and C actions[31].

2. Advisory bodies within emergency assistance

2.1. Provincial Commission for Emergency Medical Services (PCDGH/COAMU)

The Provincial Commission for Emergency Medical Assistance (PCDGH/COAMU) promotes collaboration between the services and people working in emergency medical assistance. It also oversees training for paramedics, among other things. The provincial commissions are composed of several representatives from the sector and are chaired by the relevant federal health inspector (see below).

31 More information about these specific actions can be found here.

To find out more about this commission:

www.health.belgium.be

2.2. National Council for Emergency Medical Assistance (NRDGH/CNSMU)

The National Council for Emergency Medical Assistance is a body that gives advice to the Federal Minister for Public Health on the organisation and functioning of Emergency Assistance[32]. The advice given by the body relates to the functioning of the services and the training of people involved in emergency medical assistance. The Council should evaluate the quality of practice based on scientifically sound criteria. Moreover, the NRDGH/CNSMU has an important role in shaping the accreditation standards for ambulance services and the criteria applicable to scheduling these services.

The Council is composed of representatives from the organisations concerned:

- The scientific associations of general practitioners
- The associations of emergency medicine and disaster medicine
- The associations of assistance institutions
- The scientific associations of nurses
- The professional associations of paramedics
- The 100/112 call centres
- The Belgian Red Cross
- The army's medical service

The Council sets up working groups with a well-defined remit and seeks the advice of experts of its choice.

To find out more about this advisory body:

consultativebodies.health.belgium.be

3. Mandatory features of ambulances and intervention clothing

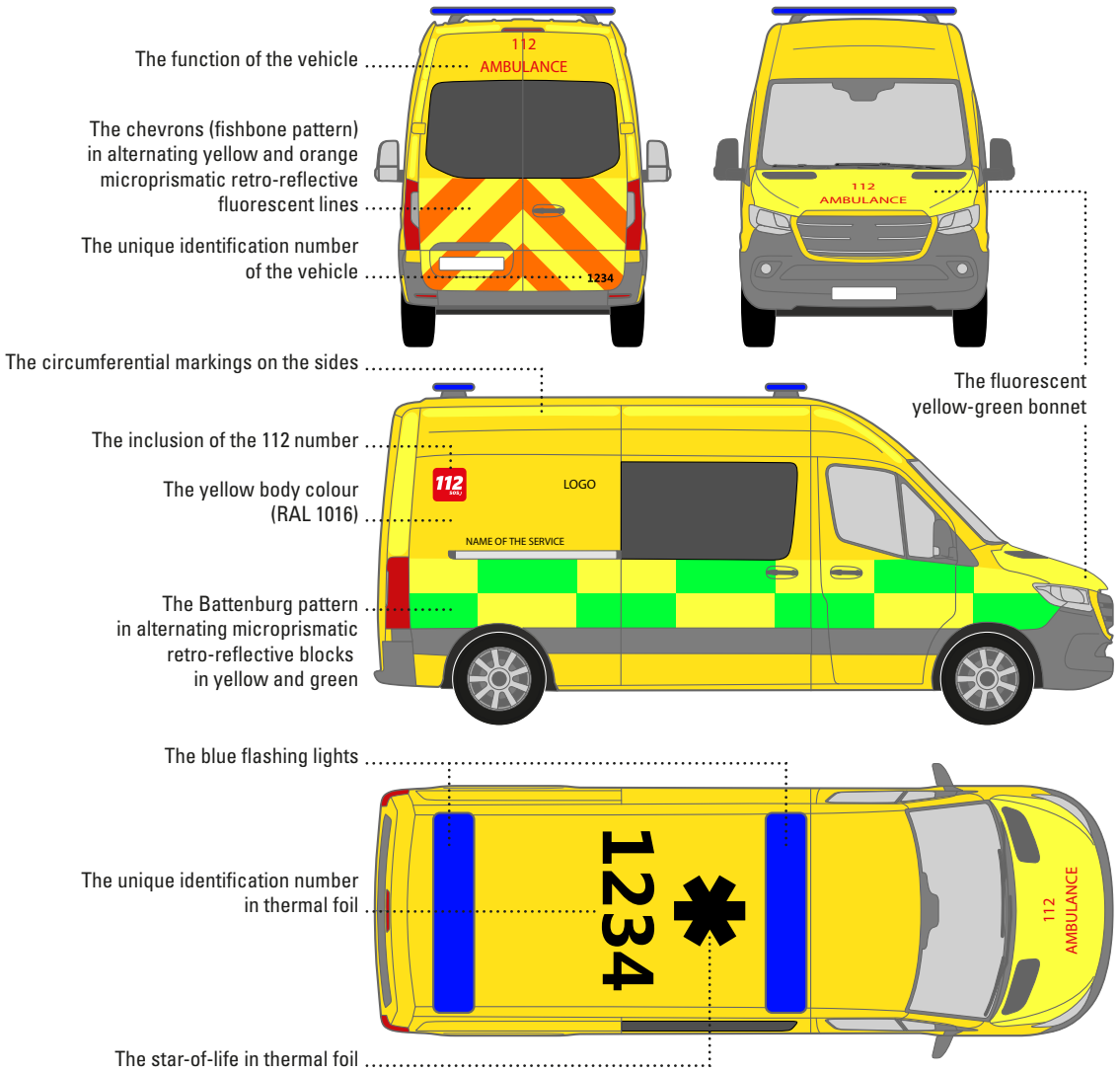
On 27 March 2017, a protocol agreement was concluded between the Federal Government and the Communities and Regions regarding the external features for medical intervention equipment and staff, in both emergency and non-emergency transport.

32 The tasks of the National Council were laid down in the Royal Decree of 4 July 2004.

3.1. Mandatory external features for ambulances

Vehicles that are permanently used for Emergency Assistance must comply with specific external features. These characteristics are laid down in the Royal Decree of 12 November 2017 determining the external features of vehicles used in emergency medical assistance[33].

MOST NOTABLE EXTERNAL FEATURES OF VEHICLES
DEPLOYED FOR URGENT MEDICAL CARE



To find out more about the mandatory features for ambulances:

health.belgium.be

33 The Royal Decree concerns the implementation of the Protocol Agreement of 27 March 2017 as regards the external features of emergency transport permanently deployed within the emergency medical assistance chain.

The main difference in the external features of non-emergency and intermediary transport compared to emergency transport is the body colour (white instead of yellow), the different pattern on the side and the absence of the 112 number. The regulations on non-urgent transport have already been drawn up by the federal states. The Royal Decree on the external features of intermediary transport is in the preparatory stage.

3.2. Mandatory equipment in ambulances

The contents of an ambulance were determined by a circular letter in order to standardise, at a federal level, the equipment available to meet the needs of staff working in emergency assistance.

Some examples of mandatory equipment can be found below:

- Stretcher
- Portable oxygen cylinder, minimum 400 litres
- Stethoscope
- Glucometer with strips
- Suction probes
- Immobilisation equipment for fractures

To find out more about the mandatory contents of an ambulance:

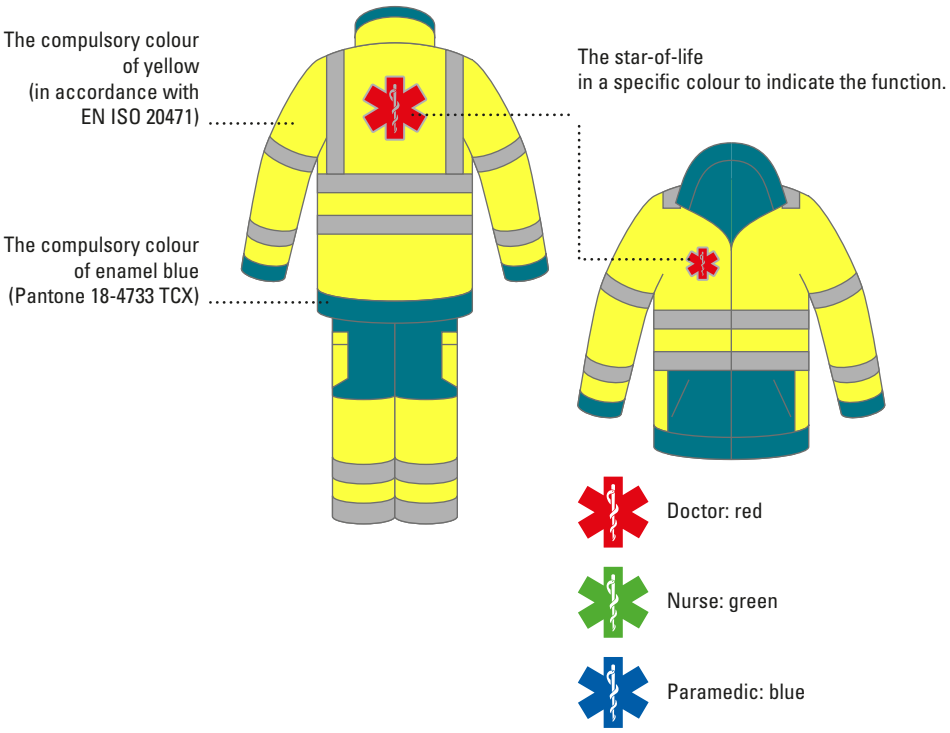
ejustice.just.fgov.be

3.3. Mandatory features of intervention clothing

The intervention clothing used by emergency services workers in emergency and intermediary transport was determined by the Royal Decree of 26 January 2018 establishing the characteristics for the intervention clothing used by emergency services workers active in emergency medical assistance.

The intervention clothing consists of the following components: an anorak with summer jacket, trousers, a T-shirt or polo shirt, a chasuble and possibly a helmet. The wearer of the clothing may decide which combination to wear, as long as visibility class 3, as described in EN ISO 20471 concerning high-visibility clothing, is met. The components are considered personal protective equipment and must therefore comply with the relevant European regulations.

KEY FEATURES OF INTERVENTION TEAM UNIFORMS



To find out more about the features of intervention clothing:

www.health.belgium.be

The only difference from the non-emergency transport intervention clothing is the addition of a star-of-life for the function of a paramedic in a silver-grey colour. However, the federal states elaborate upon these regulations further.

4. Activity and quality monitoring

4.1. Federal health inspector

The federal health inspector acts as the local representative of the FPS HFCSE for emergency medical assistance. He/she is in direct contact with the governor, the mayor, the health professionals and the citizens. The federal inspector is assisted by an expert incident and crisis manager (ICM), a psychosocial manager (PSM) and a 112 medical directorate team. This team consists of a medical director, a deputy medical director and nurse regulators (see 'Organisation' section). Together, they form a 'Federal Health Inspectorate Cluster'. The clusters are tasked with the following:

- supervising the proper organisation of 'Emergency Medical Assistance', whereby the quality of the activities is checked;
- coordinating the medical component of emergency and intervention plans at a provincial and municipal level;
- local implementation of federal disaster plans (nuclear plan, health plan, heat wave plan, etc.)

To find out more about the work of federal health inspectors:

www.health.belgium.be

4.2. AMBUREG

AMBUREG is a compulsory record of data concerning the interventions of all recognised ambulances in Belgium. This record includes various data concerning each intervention for which an ambulance team from a recognised ambulance service was dispatched. This record has been mandatory since January 2019 and is regulated by the Royal Decree of 14 December 2018.

AMBUREG's aim is to improve the functioning of emergency medical assistance and to contribute to the management of the healthcare system.

To find out more about AMBUREG:

www.health.belgium.be

4.3. Service Level Agreement

Within the scientific literature on Emergency Medicine, numerous indicators have already been determined for measuring the quality of emergency assistance. The NRDGH/CNSMU determined a Service Level Agreement (SLA) on this basis. This is an agreement between the federal government and the ambulance services, whereby performance indicators and quality requirements are agreed upon. After all, various conditions require a quick response. For this reason, it was agreed in the relevant SLA that a timespan of fifteen minutes between a call to 112 and the arrival of an ambulance team at the scene should be guaranteed, on average, in 90% of cases.

The introduction of AMBUREG recording enables the monitoring of ambulance activity and response times, which makes it possible to check whether the SLA is being complied with in Belgium.

federal public service
HEALTH, FOOD CHAIN SAFETY
AND ENVIRONMENT