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Emergency Medical Services in Denmark



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Foreword

Over the last decades, Denmark has made significant efforts to improve emergency patient care by centralizing acute hospital functions and strengthening pre-hospital care. Advanced training, education, and state-of-the-art equipment have enabled faster on-site treatment, reducing the criticality of the distance between the scene of an emergency and the nearest hospital.

Initiatives such as mandatory resuscitation training programs, volunteer heart runners, and a nationwide network of generally accessible defibrillators have more than doubled survival rates for out-of-hospital cardiac arrest patients over the past two decades. Moreover, helicopter emergency medical services now cover all of Denmark, providing access to specialized healthcare in remote areas.

Despite these advances, the continually rising demands on healthcare services, the increasing number of elderly people living with chronic diseases, and healthcare staff shortages necessitate continuous improvement and innovation of our emergency patient care.

To address these challenges, the Danish regions are introducing advanced technologies and enhancing pre-hospital care by strengthening education and embracing innovative ideas and solutions – often through close co-development and collaboration with both public and private stakeholders.



In recent years the Emergency Medical Services (EMS) system has become a crucial link between the different parts of the healthcare system, ensuring that patients receive the right treatment at the right time and are not hospitalized unnecessarily. Facing a new structural reform of the Danish health care system, the EMS system is set to play an even more important role in this regard in the years to come.

This description of the EMS system provides a status of Denmark's efforts for acute patients, with a focus on cases of collaboration between public and private stakeholders. We hope the Danish approach to emergency medical services serves as an inspiration to you.

Anders Kühnau
President of Danish Regions

Introduction

The emergency medical services (EMS) in Denmark have undergone a significant transformation over the last decades. Traditionally focusing on providing safe and comfortable transport to the nearest hospital, the EMS now offer highly specialized pre-hospital care as an integral part of healthcare services.

These changes reflect a broader shift in healthcare delivery across the country, with fewer, highly specialized hospitals and emergency departments while emphasizing continuous development and improvement of services and pre-hospital care through a data-driven and evidence-based approach. Coordinated by Denmark's five regional authorities, the entire health system has reorganized its services to meet the challenges posed by the growing number of elderly and chronic patients as well as healthcare staff shortages.

Political agreement has provided funding for several initiatives to enhance the acute care services, including a significant strengthening of emergency helicopter services and introducing emergency medicine as a medical specialty in Denmark.

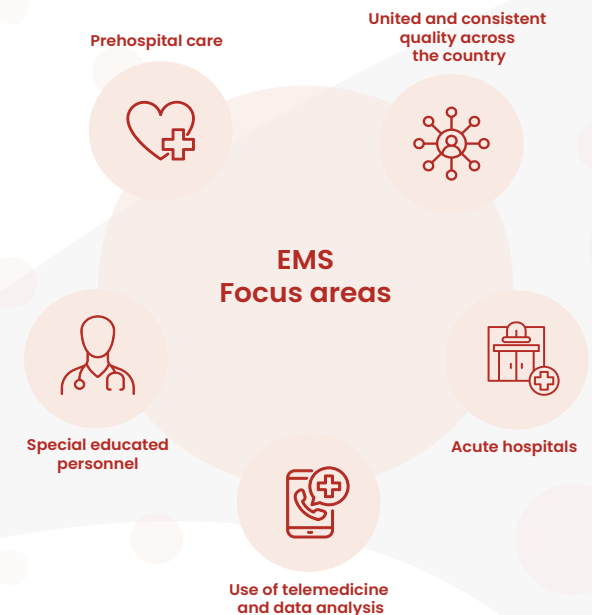
To strengthen the clinical aspects of emergency and pre-hospital care, the five regions have streamlined the emergency system and further trained and enhanced the competencies of staff. Further initiatives focus on improving pre-hospital care through innovative digital solutions to facilitate easier access for patients and ensure that healthcare staff have access to timely and relevant information.

The continuous development of the Danish EMS is supported by recommendations from the Danish Health Authority, with contributions from professionals, other stakeholders and the new healthcare reform from November 2024 focusing on strengthening the regions' role in bringing healthcare services closer to the citizens. The implementation of the reform over the next decade will take a holistic approach to emergency care by focusing on further cooperation and integration across the entire health system.

This updated publication builds upon the 2019 version of Healthcare Denmark's publication on Emergency Medical Services (EMS), incorporating the latest advancements and innovative solutions in emergency response.

It reflects the evolution of EMS, emphasizing Denmark's ongoing commitment to improve pre-hospital care through new technologies and structural enhancements to improve the emergency response and to meet the demographic and other challenges in the healthcare sector.

The EMS are constantly exploring new ways to further improve emergency care — in close collaboration with hospitals, municipalities, and private companies, as well as the patients, their families, and community volunteers.



Emergency Medical Services structure

Denmark's five regions are responsible for the planning and delivery of hospital services, including pre-hospital care, emergency care, somatic care, and psychiatric care. **The responsibilities of the emergency medical services include pre-hospital care, ambulance and helicopter services, delivered free of charge at the point of use.**

The organization of pre-hospital care, ambulance and helicopter services exemplifies in some cases the successful cooperation between private contractors and the public health system in Denmark.

Emergency Medical Services in Denmark

Emergency medical services (EMS) provide immediate assistance in case of injury, accident, or illness. Details on the various competencies and units involved are outlined below.

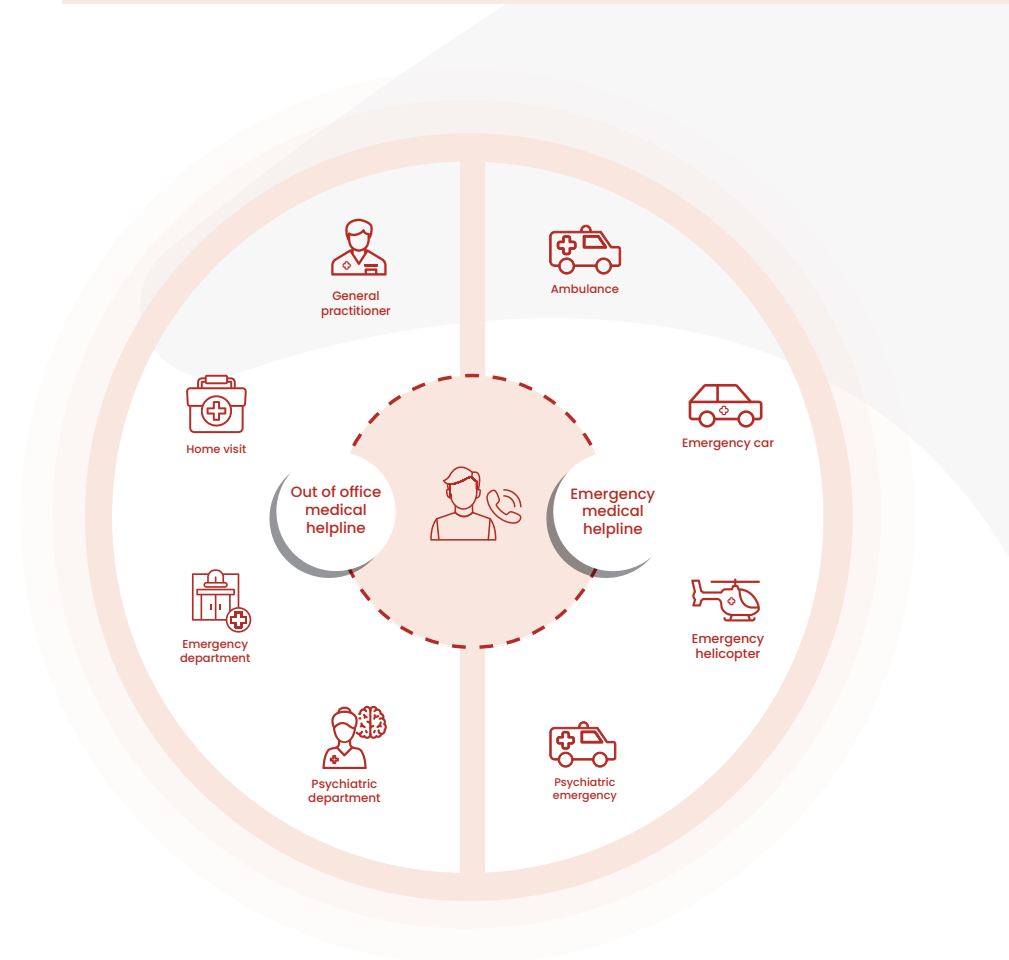
The EMS were traditionally regarded as a support function focused on ensuring safe and reliable transfer from the scene of an emergency to the nearest hospital, but Denmark has over the last 20 years established and centralized emergency care competencies across 21 acute hospitals, led by specialists who receive and treat all acute patients.

Additionally, technological advances and the emergency staff's increased education and competences enable specialized treatment to start at the emergency site and continue during transport. Using telemedicine, data analysis, and point-of-care technologies, emergency medical staff can now administer treatments traditionally given in hospitals. The ambulance services are supported by various specialized units, including a physician-staffed mobile emergency care unit for life-threatening emergencies.



Emergency medical services

Emergency medical services and pre-hospital services, encompass several cross-disciplinary emergency functions such as emergency medical dispatch centres (1-1-2), dispatch and control centres for ambulances and helicopter emergency medical services, and mobile emergency care units.



Emergency Medical Dispatch Centres

A call to the national emergency telephone at 1-1-2 reaches the police, who forwards the call to the relevant regional emergency medical dispatch centre. As a critical component of EMS, the dispatch centre serves as the operational hub where calls are evaluated and managed to ensure a timely and efficient response in each region.

A healthcare professional assesses the situation reported in the call and provides immediate guidance to the citizens if needed and they assess the need for ambulance or competences and the priority of the dispatching.

A physician-staffed helicopter is also available when a quick response is essential for stabilizing and life-saving treatment and ensuring hospital transport.

In an effort to enhance the assessment of the appropriate response, all Danish regions now utilize video technology in 1-1-2 emergency calls when deemed necessary. To secure a healthy work environment, a national survey conducted among healthcare dispatchers assesses, among other things, the potential risk of increased psychological strain associated with video use in emergency calls.



CASE Artificial intelligence (AI) improves stroke detection

In close collaboration between AI company Corti, and some of the regional EMS centres, an AI tool has been developed to assist emergency dispatchers in detecting otherwise unrecognized cases of stroke for callers to 1-1-2 or the emergency helpline.

Training an AI model to transcribe the call audio, stroke and emergency, call data is used to predict the risk of stroke based on the transcribed text.

The model was able to detect 63% of stroke cases compared to 52.7% among emergency dispatchers¹.

The use of AI has proved valuable in supporting emergency dispatchers and improving stroke detection, thus optimizing patient outcomes by facilitating effective and timely treatment. The solution is now in use in the Capital Region of Denmark.



CASE Big data boosts emergency response efficiency

In the Region of Southern Denmark, a business intelligence solution provides real-time resource overviews to ensure rapid response. By analysing data gleaned from ambulances, dispatch centres, and hospitals, the system optimizes planning and prioritization, significantly reducing average response times.

The solution allows for optimal use of resources by providing an overview of operations. By optimizing emergency station placement, adjusting ambulance numbers, and setting performance targets, the solution also enhances coordination and long-term decision making.

Pre-hospital services

The highly specialized pre-hospital services begin before the patient reaches the hospital.

Pre-hospital care involves ambulances, helicopters, acute vehicles/paramedic vehicles, and physician-staffed emergency vehicles, all equipped to provide lifesaving first aid and stabilize patients at the scene and/or during transportation. All professional groups involved in pre-hospital care receive extensive training in emergency medicine.

In recent years, a key priority for pre-hospital organizations across the five regions has been to develop pre-hospital services focused on treating patients in the right setting and reducing unnecessary hospital admissions. Solutions such as acute vehicles/paramedic units and enhanced staff training now play a central role in ensuring that patients receive appropriate care - especially by treating them at the scene or in their home when this is the most beneficial approach.



Ambulance services

Ambulances have evolved into key elements of the Danish pre-hospital emergency care with specialized staff and advanced equipment.

Beginning at the incident scene, treatment continues during transport, where communication technology ensures continuous contact between ambulances and hospitals.

The development of telemedicine and advanced diagnostic tools in ambulances enables immediate, high-quality medical interventions that were traditionally provided only in hospitals.

This transformation enables paramedics to perform initial screenings and assessments, instantly linking patients with the appropriate specialized care.

Timely pre-hospital care documentation is vital in serious emergencies. The Danish emergency medical services' advanced system secures the integration of crucial data with hospital electronic records, providing immediate access to a patient's past medical history. In the ambulance touchscreen computers enable real-time data transfer via mobile networks.

Data sharing between ambulances and hospitals

All Danish ambulances store data in a central database, enhancing cooperation with hospitals. The pre-hospital record system automatically transfers data, enabling medical staff at the hospital to prepare for treatment before arrival.

Key indicators of prehospital care are continuously updated to the national quality database (RKKP) which includes a specific database on all prehospital care in Denmark across regions.



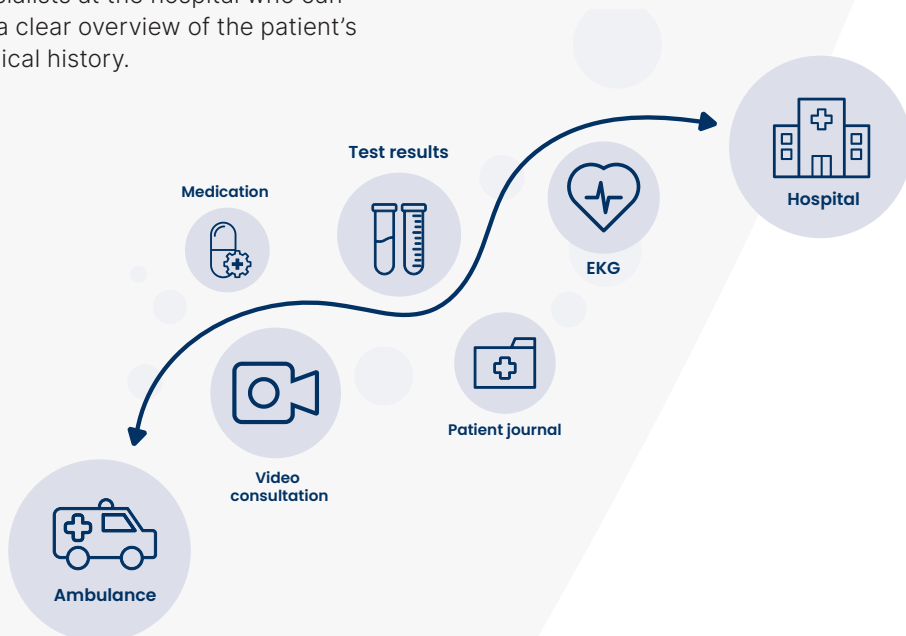
CASE Saving lives with timely communication

To ensure timely exchange of information in emergency situations, IT suppliers Systematic and Bliksund are developing an integrated digital solution to enhance patient flow and communication, ensuring that patient data is shared in the critical phase of pre-hospital care from the moment the assistance arrive at the incident site and during transit. The solution is being developed in close collaboration with relevant stakeholders in the Danish health system.

Before arrival at the acute hospital, the paramedics' efforts will benefit from online video consultation with medical specialists at the hospital who can get a clear overview of the patient's medical history.

Paramedics' new flexible access to patient record data allow them to access and continually update the data collected in the field for automatic transfer to the hospital, ensuring a seamless transition and continuity of care.

This innovative partnership will hopefully leverage Bliksund's Emergency Worker Assistant (EWA) and integrate it with the record system at Danish hospitals. By connecting healthcare units, the EWA will enable more accurate and timely communication, ultimately assisting treatment in the most critical phase.



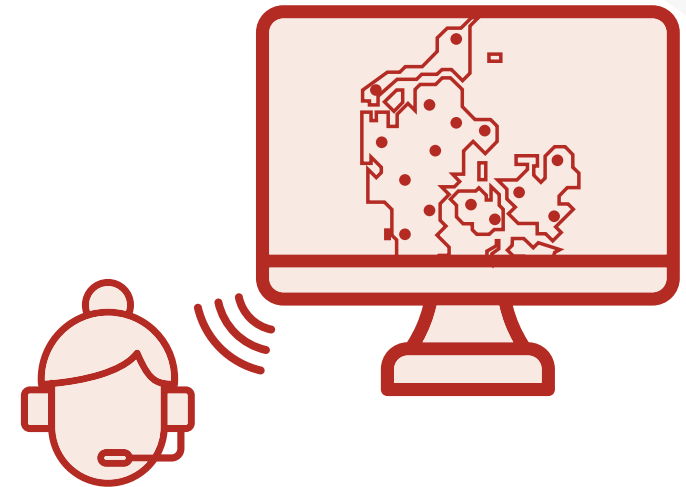
CASE New IT system enhances nationwide ambulance efficiency in Denmark

A joint initiative has secured all five regional dispatch centres a complete overview of all ambulance activity in Denmark. A new cross-regional IT solution enables faster and more efficient ambulance use for the benefit of all citizens.

For example, when a cardiac arrest occurs in the Region of Southern Denmark, the emergency medical dispatch centre can immediately survey the location of all ambulances in their own and the neighbouring Central Denmark Region.

Whichever is closer will be dispatched. In operation from the summer of 2024, this complex technical solution is the result of close collaboration with the regions' dispatch system suppliers.

This ensures faster help, especially in regional border areas and enables dispatch centres to coordinate their efforts during major accidents requiring assistance from other regions².



Helicopters

The nationwide helicopter emergency medical services ensure rapid transport to specialized healthcare, especially in remote areas.

As an integral part of emergency hospitals, helicopters are crucial for swift transport of patients with time critical conditions like severe trauma or stroke in need of highly specialised diagnostics and care at specialised hospitals.

The emergency medical dispatch centres coordinate helicopter and ambulance services with mobile critical care units for urgent cases, such as acute coronary syndrome or stroke, ensuring timely intervention and transport.

4,167 dispatches in 2023³

The HEMS operates day and night, all year around

Denmark's 5 regions share
4 helicopters
called Helicopter Emergency Medical Services (HEMS)

Acute or paramedic vehicles

An acute vehicle manned with a paramedic can be sent to the scene to provide initial assessment, life-saving first aid, and pain management until the ambulance arrives.

The paramedic can finalize assessment and treatment at the scene or, when relevant, find alternative solutions to hospital admission, such as home nurse treatment or admission to the acute ward in a nursing home.

Acute vehicles are dispatched if the paramedic's competence and skills are needed.



Region of Southern Denmark

The Region of Southern Denmark has placed acute vehicles in the relatively small towns of Rudkøbing, Rødding, and Agerbæk. During the busy holiday season, Nørre Nebel also hosts a vehicle⁴.

Mobile Critical Care Unit

Alongside the regular ambulance services, efforts are enhanced by a physician and paramedic staffed mobile critical care unit to provide advanced medical intervention on the site to support advanced treatment and triage to the hospital. The unit collaborates with ambulances at the scene to deliver critical care and assist in the transfer of severely ill patients between hospitals.

Pre-hospital psychiatric care units

In the Capital Region areas, the mobile psychiatric care unit is further staffed by specialized teams qualified to address psychiatric crises and social emergencies, ensuring a

comprehensive approach to emergency care for diverse patient needs. In the Copenhagen area, a psychiatrist-staffed unit provides qualified emergency mental healthcare on-site or by phone.

In the Capital Region, a "sociolance" team comprising a social worker and a paramedic focuses on assisting homeless, socially marginalized, or otherwise vulnerable individuals who require urgent social and/or medical care, further extending the scope of emergency services.

Medical helpline

In Denmark, 1-1-2 calls are the primary point of contact for life-threatening emergencies, ensuring a rapid response to life-threatening situations.

For other acute health concerns, general practitioners (GPs) serve as the main entry point for citizens seeking medical assistance. However, outside the regular opening hours of GPs, the regions independently organize how acute healthcare services are delivered.

This decentralized approach allows for local solutions tailored to the specific needs and practicalities of each region. The flexibility ensures that services are designed to fit the available resources and geographic conditions.

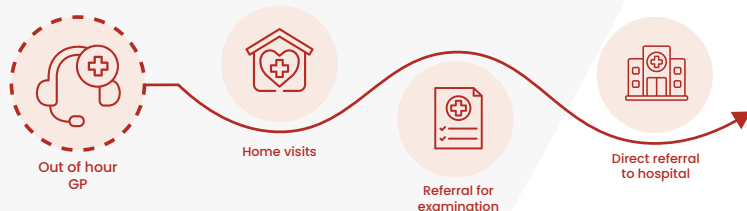
But a common feature across all regions is that citizens must call and talk to regional services to receive help. It is not possible to show up at an emergency department without an appointment.

CASE The Region of Southern Denmark

The Region of Southern Denmark has contracted with GPs to work shifts covering the out-of-hours services from 4.00 pm - 11.00 pm when clinics are closed.

In case of sudden illness that cannot wait for normal office hours, patients can have a physician assess their needs over the phone.

Patients at the on-call service can attend a consultation, if needed, at an agreed time at a central or decentralized location, which is not necessarily a hospital, although it often is. From 11:00 pm to 8:00 am, the region provides these services using healthcare personnel, including paramedics, to address urgent medical needs.



CASE The case of the Capital region

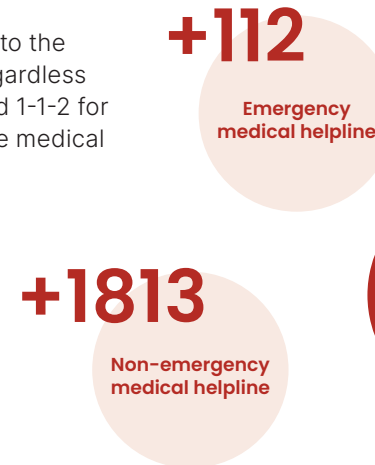
In the Capital Region of Denmark, the emergency medical services (EMS) 1-1-2 and a medical helpline 1813 collaborate in a fully digitized dispatch centre. Since the helpline was established in 2014, physicians, nurses, and paramedics have assisted in the case of accident or acute illness, and the coordination of services allows calls to be transferred between units for better assessment of patient needs – both for 1-1-2 and 1813 calls.

The system dynamically adjusts the level of assistance based on the severity of the patient's condition, thus optimising resource allocation.

Callers are referred to the appropriate help regardless of if they have called 1-1-2 for an emergency or the medical helpline 1813.

The introduction of 1813 in the Capital Region has streamlined emergency assistance, eliminating waiting lines in emergency department waiting rooms. Instead, calling 1813 establishes connection with emergency medical dispatchers for telephone guidance or assignment to appointment times at various facilities, allowing citizens to wait at home.

This ensures distribution among emergency departments and clinics based on workload and location.



Fully digitized system and video consultations

Since the emergency medical services are unified there is quick and easy communication. In a life-threatening emergency, 1813 staff will immediately transfer a call to 1-1-2, and, conversely, when staff at 1-1-2 deem that the caller will be sufficiently served by 1813 assistance, they are transferred to that number.

Video-assisted consultation is used by both 1-1-2 and 1813 services. On 1-1-2, it is used for guidance in

cardiopulmonary resuscitation (CPR) for cardiac arrest, where the emergency medical dispatcher can request the first responder to provide video linkage. Live imagery has also proven valuable when evaluating children or get a visual overview of kinematics in e.g. car accidents. On 1813, video triage is most often used in paediatric cases, helping the staff to determine the appropriate response. Additionally, responders can transmit images to help qualify the response.

CASE Central Denmark

In the central Denmark Region operates a new model during nighttime hours, integrating multidisciplinary teams. A central call center, triages patient inquiries using an advanced symptom-based dispatch reference system.

This system includes video streaming capabilities to aid in decision-making and consistent quality by symptom based triage, recommendations for on site evaluation, consultation, in-hospital evaluation or medical advice for the patients by phone. The system ensures the possibility to monitor the symptoms citizens have at nighttime.

Additionally, the model is integrated with the Prehospital Organization and closely collaborates with the Emergency Medical Dispatch Center. Home visits by paramedics or nurses are supported by vehicles equipped with point-of-care diagnostics and medication.



Civil engagement

In recent years, Denmark has seen a significant improvement in out-of-hospital cardiac arrest (OHCA) survival rates, largely due to an effort to educate and mobilize citizens for cardiopulmonary resuscitation (CPR) and the use of automated external defibrillators (AEDs).

Since a CPR training programme involving mandatory training for drivers and school students was launched in 2005, survivor rates have quadrupled from 143 survivors in 2002 to 644 in 2023. Bystander rates have quadrupled from 19% in 2001 to 76% in 2023⁵, highlighting the success of Denmark's exemplary resuscitation practices.

The nationwide push for CPR training encompasses distributing instructional kits, providing telephone and video-assisted guidance from emergency medical dispatch centres to bystanders, and increasing the availability of AEDs. Comprising more than 25,000 units registered and mapped online, the Danish AED network ensures that defibrillators are accessible to both EMS professionals and the public. This allows anyone to quickly locate the nearest device through the hjertestarter.dk website. Integration with emergency medical dispatch centres enables dispatchers to guide bystanders to the closest AED, significantly boosting survival chances.

Since the launch of a CPR training program in 2005, survival rates have tripled from 4% in 2001 to

14 % in 2022

... and by 2023

26,000

AEDs have been installed and registered⁵

AED Network

The importance of the AED network is emphasized by the fact that using a defibrillator before ambulance arrival increases survival chances by up to 50%. The network's efficiency is enhanced by ensuring that information on the location of AEDs is continually updated.

The AED network is crucial for enhancing bystander resuscitation, ensuring Denmark's leading position in emergency response^{7,8}.

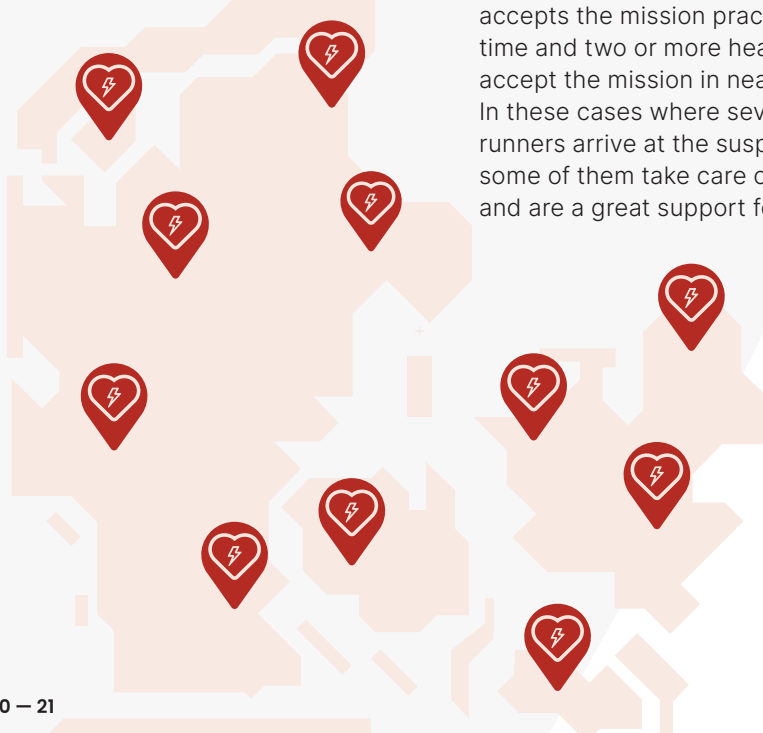
Citizen first responder - Heart Runners

In recent years, the Danish volunteer citizen first responder programme, heart runner programme (TrygFonden Hjerteløber) has experienced great support from the general population.

Every day, all year round, 75 heart runners accept a mission to attempt resuscitation in case of an Out of Hospital Cardiac Arrest (OHCA). In six of ten cases, at least one heart runner will have arrived at the incident scene before the arrival of EMS.

All Danish citizens aged 18 or older can voluntarily register as a heart runner if they feel comfortable performing CPR and using an AED. While strongly recommended, no formal CPR training is required. The programme is based on a smartphone application activated by emergency medical dispatchers to alert nearby heart runners in case of suspected OHCA.

When the heart runner application is activated by emergency medical dispatchers in case of suspected OHCA, at least one heart runner accepts the mission practically every time and two or more heart runners accept the mission in nearly all cases. In these cases where several heart runners arrive at the suspected OHCA, some of them take care of the relatives and are a great support for them.



Citizen volunteers

By integrating volunteer responders with professional emergency response systems, Denmark has created a robust framework for improving outcomes of OHCA.

With heart runners, in more than half of the incidents, more likely than the ambulance to arrive first in cases where they are activated, the programme has proven the value of the volunteer's performing CPR and using a defibrillator.

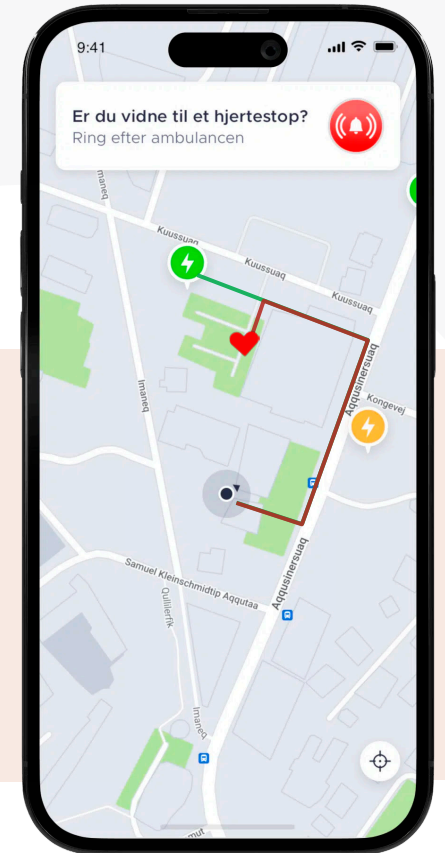
Volunteer engagement and community-based resuscitation practices show how volunteers in collaboration with healthcare authorities can save more lives.

Launch of the volunteer responder app
2017

160.000
volunteers
2024

Early arrival allows heart runners to make a significant difference by performing effective cardiopulmonary resuscitation and using a defibrillator.

Heart runners' intervention before the ambulance arrives triples the chance of AED defibrillation of a victim of cardiac arrest before arrival of the emergency medical services.



Acute hospital treatment

The transformation of Danish emergency medical services since 2007 resulting from the new hospital structure is evidenced by the significant reduction in the number of somatic emergency departments.

In 2007, the majority of the approximately 80 hospitals in operation received acute patients in their emergency wards. Today's 21 somatic hospitals and 19 psychiatric hospitals provide high-quality, specialized care in their emergency departments. The reorganization has ensured that patients receive immediate and appropriate care, benefitting from faster and more accurate diagnosis, often requiring no further hospitalization.

The consolidation of emergency services into fewer and larger hospitals has enabled Denmark to concentrate expertise and resources with specialists at the forefront. In less densely populated areas, smaller emergency clinics provide localized treatment for less severe cases, ensuring accessibility and efficiency across the health system.

Overall, the reorganization has improved patient flows, efficiency, and the quality of emergency care.

The transformation is supported by the introduction of modern technology and the new hospital infrastructure, positioning Denmark as a leader when it comes to the integration of digital solutions in healthcare, in particular where emergency services are concerned. The continuous implementation and adjustment of specialized emergency departments ensure that the Danish health system is well-prepared to meet future demands and provide high-quality emergency care.

CASE *Optimising staffing in EMS*

To staff the emergency department correctly, because emergency departments often face fluctuating patient flow with some days quiet and others chaotic which challenges staffing averages.

At Odense University Hospital's emergency department has implemented a machine-learning model that accurately predicts patient arrivals up to 12 hours in advance.

The solution has been in clinical use for over two years. The model has consistently forecasted patient numbers at the emergency department with a precision of one patient per hour, helping to make daily staffing adjustments more efficient.

This tool enables the department to manage sick calls and surges effectively, ensuring extra help is called in only when truly necessary.



The Future of EMS and innovation

The emergency services in Denmark continuously focus on initiatives to alleviate the burden on hospital emergency departments and enhance citizen safety, a top priority for Danish Regions.

The initiatives address the rising demand for services and support the vision to offer optimal treatment at the right place, whether it be in the home or the hospital.

Funding has enabled the regions to increase the number of available emergency vehicles. This is crucial for the on-site assessment of whether hospital admission or treatment in the home is the more suitable option, particularly for elderly citizens for whom home care is often preferable as hospital stays can be a challenge.



CASE 72-Hour Responsibility

The 72-hour post-treatment responsibility system was implemented nationwide in Denmark in 2023. The initiative means that the hospitals in a region retain responsibility for patients discharged to municipal care for three days. As part of the political agreement on an emergency care package of February 2023, patients are ensured safe transition from hospital care into either their own home, temporary municipal care, or a care home.

The discharging hospital is available for consultations around the clock. The responsibility applies to patients who have been hospitalized for over 24 hours and are considered fully treated. After the 72-hour period, the GP take over responsibility.

This system creates continuity and improves patient pathways across sectors by supporting effective cross-sector collaboration in local healthcare which can prevent unnecessary re-hospitalization.



CASE Cross-sector collaboration

The North Denmark Region

To prevent unnecessary acute admissions for frail elderly patients, the North Denmark Region has launched a novel cross-sector collaboration.

While the region's acute vehicles primarily handle emergencies, any surplus capacity supports visiting nurses in exploring alternatives to acute admission when suitable for the patient. Visiting nurses can request paramedic assistance for detailed examinations to support shared decision-making.

More than half of these cases lead to alternatives, such as follow-up visits by a nurse or GP appointments to start treatment.

Besides preventing unnecessary admissions, this collaboration fosters mutual learning, highlighting the growing integration of emergency services with the healthcare system

CASE *AcuCare*

Region Zealand

AcuCare is a public-private collaboration aiming to replace hospital treatment with home treatment and monitoring for chronically ill patients, particularly those with heart failure. The initiative reduces emergency department visits and prevents readmissions by leveraging digital technologies to ensure equitable healthcare.

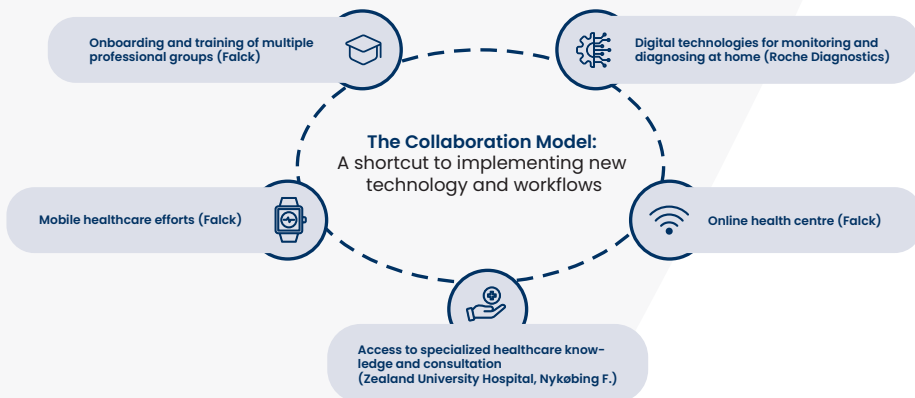
Initiated by Nykøbing Falster Hospital, the Foundation for Life Science Innovation in Region Zealand, Falck, and Roche Diagnostics, AcuCare operates two tracks with both home monitoring and hospitalization at home. One track where heart failure patients receive remote monitoring of vitals (e.g., blood pressure, weight) after

hospital discharge, with timely support from Falck’s nurse-staffed online health center.

And the other track where patients are treated at home with daily visits from Falck paramedics for vital checks and medication, in coordination with hospital physicians. This approach often saves 1–5 hospital days.

By treating patients at home, we enhance their care experience and reduce hospital strain, and we have implemented similar healthcare-at-home initiatives in the US, Poland and Colombia

Jakob Riis
CEO, Falck



Initiatives such as AcuCare are essential for modernizing the healthcare system and ensuring that we can deliver high-quality care in the patient’s home. By leveraging digital technologies and strong partnerships, we improve the quality of life for our chronically ill patients while optimizing hospital resources and reducing the burden on emergency departments

Ricco Dyhr
CEO, Zealand University hospital

CASE *E-Hospital*

Denmark’s Region Zealand has taken an innovative and significant step by introducing the E-hospital. This allows citizens to receive treatment and expert guidance without leaving their homes or by visiting closer satellite locations. It is important to note that this digital avenue is pursued only when patient safety is guaranteed, emphasising the responsible integration of technology into healthcare.

The advantages for patients are substantial since they can now access essential medical guidance and treatments irrespective of their location.

This transformative approach has yielded remarkable results, notably enhancing both the quality and safety of healthcare services for patients while simultaneously reducing the need for acute hospitalisations.

This shift towards virtual care has also highlighted the need for a dynamic partnership between the hospital and primary healthcare. This collaboration is especially crucial in delivering tailored treatments to individuals at or closer to their homes. By combining cutting-edge technology with patient-centric care, this initiative exemplifies a modern and holistic approach to medical services.

Structural changes in the future



OUH, Odense University Hospital

Worldwide, demographic shifts and rising citizen expectations challenge health systems around the world, including Emergency Medical Services (EMS). EMS plays a critical role in addressing these challenges by integrating innovative solutions, workflows, procedures, ideas, and technologies. This ensures timely treatment and fosters collaboration among emergency departments, hospitals, municipalities, volunteers, and local healthcare providers. Denmark exemplifies this with its commitment to continually developing EMS to address acute healthcare needs.

In November 2024, a broad political agreement was reached in the Danish Parliament on a healthcare reform aimed at strengthening the health system further and bringing it closer to citizens.

The reform introduces structural changes, including the establishment of four new strong regions and 17 health councils consisting of representatives from municipalities and regions. These councils will have decision-making authority to strengthen local healthcare and ensure cohesion.

Besides delivering hospital services, the regions will also assume responsibility for the specialized components of municipal nursing services as part of their new tasks, bringing specialized competencies closer to citizens.

This will create cohesive acute care offerings, including round-the-clock services in or near citizens' homes, coordinated with EMS efforts. The reform furthermore obligates regions to support the general municipal nursing care.

Additionally, the reform emphasizes improving access to general practitioners, ensuring equitable medical care across Denmark.

Investments over the next decade in hospitals, technology, and innovative solutions aim to create a cohesive, adaptive, and citizen-centered health system. Achieving this vision relies on collaboration and ongoing development of integrating EMS into the broader health system, as Denmark has successfully done for years.

References & credits

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References

1. Wenstrup, Jonathan et.al. "A retrospective study on machine learning-assisted stroke recognition for medical helpline calls" *Nature*, 2023, article number: 235.
2. Danske Regioner (2024) Alle fem regioner har samarbejdet om nyt IT-system, så ambulancerne kan bruges mere effektiv. Located July 8 2024 at: <https://www.regioner.dk/services/nyheder/2024/juli/alle-fem-regioner-har-samarbejdet-om-nyt-it-system-saa-ambulancerne-kan-bruges-mere-effektivt/>
3. Danske Regioner (2024) Akutlægehelikopterne gik i luften over 4.000 gange i 2023. Located August 26, 2024 at: <https://www.regioner.dk/services/nyheder/2024/juni/akutlaegehelikopterne-gik-i-luften-over-4000-gange-i-2023/>
4. Akutbil (2024). Located December 11, 2024 at: <https://ambulancesyd.dk/om-ambulance-syd/beredskaber/akutbilen>.
5. Danmark er verdens bedste, når det gælder genoplivning (2024). Located December 11, 2024 at: <https://hjerterstarter.dk/find-hjerterstartere/danmark-er-i-verdensklassen-naar-det-gaelder-genoplivning>
6. DANSK HJERTESTOPREGISTER (2023). Located December 11, 2024 at: <https://hjerterstopregister.dk/wp-content/uploads/2024/05/Aarsrapport-fra-Dansk-Hjerterstopregister-2023.pdf>
7. Ugeskift for Læger (2024) Forbedring af overlevelsen efter hjertestop uden for hospital. Located November 8, 2024 at: https://content.ugeskriftet.dk/sites/default/files/scientific_article_files/2022-11/v05220356_web.pdf
8. Danmark er verdens bedste, når det gælder genoplivning (2024). Located December 11, 2024 at: <https://hjerterstarter.dk/find-hjerterstartere/danmark-er-i-verdensklassen-naar-det-gaelder-genoplivning>

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