

# European Sepsis Report 2023



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# BELGIUM

## Patient-led initiatives Sepsibel, Belgium

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Starting around May 2020, Michael Clarke and Carine Nelissen, two sepsis survivors introduced through the ESA, joined forces with others with the ambition to set up a Belgian sepsis action plan and a support group. Michael and Carine set up Sepsibel, a group with the ambition to aggregate Belgian sepsis patients, share their stories, and create a national movement around sepsis. A Sepsibel website and Facebook page were set up as a first step.

In parallel with and in support of the Sepsibel initiative, another member of the team has engaged with a group of ICU and medical specialists – a sepsis expert reflection group. One of these groups then had a meeting with Belgian politicians who have shown their support for the idea of a national action plan against sepsis. As a result, two federal MPs, Robby De Caluwé and Nathalie Muylle, proposed in April 2021 a resolution for a national action plan. A round table with experts was also organized on 13 September 2021 by Mr. De Caluwé, to build consensus around such a national sepsis action plan.

Though there was considerable support in the Federal Parliament for this resolution, it has been held up by rather limited opposition. In November Sepsibel addressed an open letter to the Federal Minister of Health supported by ten medical and patient associations urging action.

Progress is being made in populating the Sepsibel website and gaining more public attention with stories appearing on the ESA webpage and in a specialized Belgian medical review, 'De Specialiste'. The open letter to the Minister of Health also got coverage in the medical sections of the wider press.

Since the 2022 ESA Annual Meeting, the Sepsibel team has been reinforced by a very active sepsis shock survivor, Ilse Malfait, who aims to publish a book about her experience.

Sepsibel is now working on obtaining formal status as a not-for-profit entity to further support its ambition to create a national movement around sepsis.

It has ambitious plans this year to raise awareness for sepsis by:

- gathering new members
- collecting sponsors
- publishing a narrative nonfiction book about the experiences of sepsis written for

- a wide audience
- getting media attention around 13 September
- a Belgian sepsis event around 13 September

## FRANCE

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### Background

It is estimated that sepsis is responsible for nearly 57,000 deaths in France each year. The average cost is around € 16,000 per hospitalization. France launched its sepsis plan in October 2019. It develops around three domains: increasing knowledge, providing better care, and increasing surveillance coverage of sepsis.

### What is happening

In increasing knowledge, the targets are the general public and health professionals. For the general public, France is implementing education programs for students on the prevention of infections and sepsis as the main cause of death from infections. Sepsis courses are now mandatory in the curricula of nurses and medical students.

On better care, France is trying to enforce its vaccination program, having increased the number of mandatory vaccinations to 11 as a main tool to prevent infections and sepsis broadly speaking. In September 2023 the national health authority will release clinical practice guidelines for sepsis including pre-hospital care (i.e., management by the general practitioners) and post-acute care until the patients resume a normal life.

To foster research, France will include sepsis as a priority in the fourth "Programme d'Investissement d'Avenir", with subsequent substantial funding through research calls. A national committee has been launched to advise the government on funding sepsis research in France.

### Results, next steps and challenges

To increase surveillance coverage of sepsis, France has revised the national rules for coding hospitalization based on the new Sepsis 3 definition. Thereby, France will publicly release yearly national epidemiological data on sepsis as done, for example, for stroke or acute myocardial infarction.

The plan includes in total ten areas of interventions ranging from treatment to awareness raising, education, research, and follow-up.

## Patient-led initiatives France Sepsis Association

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Launch event of France Sepsis Association

Jamila Hedjal launched the France Sepsis Association in 2020, following the death in November 2018 of her son Farès, who died after a septic shock caused by appendicitis. The France Sepsis Association is for patients and relatives affected by sepsis. It has the objective to support them in the after-care follow-up, and it carries their voices in different instances to improve their comfort and the quality and safety of care. Many people are becoming involved, mostly relatives of sepsis patients, as well as resuscitation and healthcare professionals.

Jamila has established fruitful contacts with French authorities, scientific societies, and media, contributing to raising awareness about sepsis amongst policymakers and the general public in France.



Jamila Hedjal

## GERMANY

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### Background

Hospital mortality in Germany seems to be higher compared to other high-income countries, such as the US, Australia, and the United Kingdom. The hospital mortality of patients with sepsis in Germany is higher and the decline over time is less. Therefore, in 2013 the German Sepsis Foundation initiated a memorandum for a National Sepsis Plan, which was supported by a high number of professional medical societies, the presidents from prestigious national institutions such as the National Academy of Science and the Robert Koch Institute and advocacy groups such as the German Coalition for Patient Safety.

This memorandum contributed considerably to the successful effort by the Global Sepsis Alliance and the Sepsis Foundation to obtain the support of the German Minister of Health for the 2017 70.7 World Health Assembly resolution on sepsis. Despite its crucial role, in the adoption of this resolution urging member states to integrate

sepsis into their national health strategies, Germany has delayed its implementation.

## **What is happening**

Under the German presidency of the G7, the ministers of health in their joint communiqué committed to:

“... intensify our efforts to strengthen early detection, diagnosis and therapy of sepsis and ensure synergy with antimicrobial stewardship and IPC programs e.g., through national educational campaigns and

... to boost the implementation of the WHA Resolution “Improving the Prevention, Diagnosis and Clinical Management of Sepsis” (WHA Res. 70.7).”

Moreover, the German Federal Minister of Health Karl Lauterbach, jointly with WHO Director-General Tedros Adhanom Ghebreyesus granted the patronage for the event celebrating a decade of World Sepsis Day, on 16 September 2022 in Berlin.

Minster Lauterbach also patronized the 4th World Sepsis Congress ‘One Global Health Threat: Sepsis, Pandemics, and Antimicrobial Resistance’, on 25 and 26 April 2023.

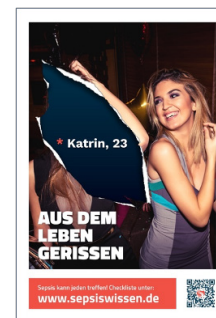
## **Results, next steps and challenges**

Over the last years, there was a steady increase of reports on unnecessary deaths and long-term consequences of sepsis in national and local media. In parallel, the Sepsis Foundation, the German Coalition for Patient Safety, and sepsis survivors, and their families have increased their awareness, advocacy, and lobbying efforts. This, in combination with the understanding that the vast majority of deaths due to the COVID-19 pandemic are due to sepsis, increased sepsis awareness and resulted in a number of important measures by the ministry of health and the Joint Federal Committee (G-BA).

These included the funding of three sepsis-related “Innovation funds” projects, which helped foster the understanding of the burden of sepsis long-term consequences (Sepfrok), of the quality of the documentation about sepsis in administrative claim data and their usefulness for quality improvement efforts (OPTIMISE), and the public awareness project Sepsis Wissen.

The Sepsis Wissen (Sepsis Knowledge) project, started in August 2020, focuses on aspects such as the knowledge of early warning signs and the importance of vaccinations. It also addresses the general population through a large-scale public campaign in Berlin and the federal state of Brandenburg. A Sepsis Information center offers training formats and learning opportunities for health professionals and laypersons.

The funding of the German-wide sepsis awareness campaign “Deutschland Erkennt



Sepsis" (DES - Germany recognises sepsis) by the German Ministry of Health with € 4.5 million for five years and the patronage of the Federal Minister of Health Lauterbach is another important step forward in the fight against sepsis in Germany. The partners for this project comprise the German Coalition for Patient Safety, the Sepsis Stiftung (German Sepsis Foundation), Sepsis-Hilfe (Sepsis Aid), the Sepsis Dialog Greifswald, and the German Quality Improvement Network (DQS).

The funding of this campaign so far already allowed the realization of a number of projects such as:

- the conduct of a representative country-wide survey which confirmed the persisting low level of knowledge about sepsis amongst the general population
- the development of an interactive sepsis checklist, available in multiple languages
- the implementation of sepsis in the curricula for all first aid courses in Germany



Moreover, it is very encouraging that the Federal Government Commissioner for Patients and MP Stefan Schwartze encouraged members of the German Federal Parliament from all parties to support the Sepsis Foundations' request to make sepsis a priority on the global and national levels. He also expressed his support during a press conference on World Sepsis Day 2022.

## IRELAND

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### Background

Following a significant sepsis-related patient safety incident in Ireland, the National Sepsis Steering Group (NSSG) was established by the Health Service Executive (HSE) in July 2013. The Group was tasked with using existing databases to quantify the burden of sepsis in Ireland. The Hospital Inpatient Enquiry system (HIPE) was used for this purpose. The resulting data showed that 60% of all in-hospital deaths had a sepsis or infection diagnosis; 42% of all in-hospital beds were occupied with a sepsis

or infection code. The in-hospital mortality rate was 28.8%.

As a result, the Department of Health prioritized the development of a National Clinical Guideline on Sepsis Management.

### **What is happening**

The HSE established the National Sepsis Programme (NSP) to develop and implement this guideline. The NSP was granted permission by the Surviving Sepsis Campaign (SSC) to adapt the SSC Sepsis Guidelines for the Irish context and in 2014, the first National Clinical Guideline (NCG) on Sepsis Management was published.

This publication was accompanied by an implementation program and a series of on-site visits took place in all hospitals across Ireland. Sepsis education and awareness presentations were held including all clinical grades and hospital management. Early recognition and early management were the main focus so acute settings, where patients present or deteriorate were targeted first i.e., Emergency Departments (EDs), acute medical assessment units (AMAs), acute surgical assessment units (ASAs), and medical and surgical wards. The NSP supported acute hospitals to establish local sepsis committees with multidisciplinary membership representing all specialties, to oversee the implementation of the NCG in their hospital. The NSP provides clinical decision support tools (Sepsis Forms and Algorithms) that prompt clinicians to complete the 'Sepsis-6' bundle within the first hour of recognizing the signs and symptoms of sepsis, i.e., Take 3: Blood cultures, Blood tests, and Assessment of urinary output and Give 3: Antimicrobials, Fluids if required and Supplementary oxygen if required.

The aim of the NCG is to reduce unnecessary variations in practice and provide an evidence base for the most appropriate healthcare to optimize patient survival from sepsis. The NSP monitors this aim in two ways:

1. Audit of implementation of the NCG (Clinical audit/Process audit) with immediate feedback to clinical sites to Inform ongoing education and Quality Improvement efforts.
2. Audit of outcomes resulting from the implementation of the NCG (National Sepsis Report). The Annual Sepsis Reports can be found on the Irish Health Services website.

Public awareness is an important aspect of Improving outcomes from sepsis and the NSP engages in a variety of methods to advance this, e.g., posters, social media campaigns, support of high-profile personalities, and sepsis awareness events such as conferences and study days.

### **Results, next steps and challenges**

Thanks to this structured response, the number of documented sepsis cases has doubled since the initially reported data, and the sepsis-associated mortality rate has decreased by 26.7% (26.8% - 2011 vs 19.4% - 2019). The NSP has updated the NCG



and includes guidance for sepsis in pregnancy. In addition, with permission from the SSC paediatric sepsis guideline was adopted in totality and an implementation plan is currently being rolled out nationally.

An education programme has been developed to support the National Sepsis Guideline and has been recently updated to incorporate a maternal sepsis scenario. A paediatric animated video has also been developed to aid recognition of sepsis in children to



Raising awareness on Irish ambulances

support parents to recognise sepsis and seek medical assistance/advice. As part of the community awareness campaign, the Irish National Ambulance Service fleet of ambulances displays the signs and symptoms of sepsis.

A number of barriers hampered the change, including an overuse of antibiotics, a denial and blame culture, controversy within the same expert community on the definition of sepsis, poor morale and overwhelmed workforce.

## ITALY

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Fabrizio Gemmi, [fabrizio.gemmi@ars.toscana.it](mailto:fabrizio.gemmi@ars.toscana.it)**

### Background

The Italian healthcare system is a federal one and resources are managed independently by each regional healthcare service. There are ongoing activities at regional level to develop a comprehensive strategy to tackle sepsis.

### What is happening

The Italian Society of Anesthesia and Intensive Care (SIAARTI) is working on different fronts. The annual World Sepsis Day celebration in collaboration with the main Italian railway company (Trenitalia) and with the regional healthcare services, media campaigns, and the implementation of specific programs in national curricula are the main examples of SIAARTI's awareness-raising efforts. SIAARTI also provides

an educational program including distance education, basic courses, a masterclass, internships, and professional certification. SIAARTI's Guidelines on Good Clinical Practice for the management of sepsis in adults stress the commonly 'unrecognized' criteria for hospitalization for septic patients (level 2-3) and on hospital minimal resources to manage a septic patient in an acute care setting. In January 2020, with the support of the Italian National Institute of Health, SIAARTI launched national multi-disciplinary guidelines on sepsis management, as a first step for a national plan.

In 2019 and in 2023 the Italian Ministry of Health adopted the National Plan for contrasting Antimicrobial Resistance and HAIs - healthcare-acquired infections (PNCAR). The Tuscany and Lombardy regional programs include actions explicitly addressing the KPIs of the PNCAR.

## Lombardy

The Quality Improvement Program (QIP) of Lombardy started in 2012. A regional Multidisciplinary Advisory Committee (MAC) was set up with the objective to define an organizational model to implement the guidelines into clinical practice. This target was developed through regional decrees on the management of adult and maternal sepsis aimed at promoting an early simplified bundle for detection, risk stratification, and care in the management of septic patients out of ICU. To implement its capillary diffusion educational courses (developed centrally by the MAC) were mandatory for hospital personnel of all the regional hospitals. The QIP has been associated with improved compliance to simplified sepsis bundles and lower in-hospital mortality in septic patients. A survey in all hospitals on clinical-organizational resources to face sepsis was developed by the MAC and the Regional Patient Safety and Risk Management Center to identify and tackle barriers to implementation (submitted to publication in 2021). A centralized regional system of automatic extraction of sepsis cases through AHRQ and ANGUS algorithms from administrative data (specificity >90%, sensitivity 50-70%) was developed by Lombardy Regional Welfare Center to give a trimestral reporting of sepsis cases for all hospitals. Periodical external audits of sepsis cases (extracted centrally) are in use to monitor compliance with sepsis care guidelines in Lombardy.

## Tuscany

Tuscany regional healthcare services started to promote action to contain and reduce the impact of sepsis in 2012. In 2016 an interdisciplinary and multidisciplinary group was nominated. The group of experts coordinated by the patient safety and risk management center produced the report "Call to action" in 2019.

The report is a collection of recommendations, best practices, and guidelines based on the state of the art. It provides practical guidance for the settlement and maintenance of the comprehensive sepsis pathway addressing the connections of the several sectors and disciplines involved in emergency and community care, hospital care, and



Tuscany's "Call to action" report

critical care. The text is currently under review, to update it with respect to the most recent guidelines, and to provide healthcare workers with tools that help the diagnosis of sepsis and the implementation of the appropriate therapies.

In 2021 the Sepsis group joined the regional program AID with the aim to fight HAIs and AMR through an integrated overall program for infection prevention and control, antibiotic and diagnostic stewardship, and sepsis management. A set of output and outcome KPIs on sepsis has been developed to monitor the response to the condition at the local level and raise awareness of the relevance of the issue amongst political makers.

### **Results, next steps and challenges**

In light of the regional experiences of Lombardy and Tuscany, AGENAS (the national agency of healthcare services) has launched a research project with the following objectives:

1. define a case review form (CRF) to be used as a tool to:
  - a. retrospectively analyze the clinical assistance and organizational path of the patient with HAIs, sepsis, or septic shock
  - b. retrospectively analyze the clinical assistance and organizational path of the patient with HAIs, sepsis, or septic shock
2. assess the sensitivity and specificity of known algorithms for identifying/extracting cases of infections possibly related to sepsis/septic shock, starting from administrative data.

The evaluation will use as a reference the clinical diagnosis formulated retrospectively based on the medical records, according to the Sepsis-2 and Sepsis-3 criteria and through the use of a CRF by external reviewers. The cases identified according to the reference algorithms will allow for assessing the burden of sepsis in Italy. The project is focused on quality improvement in the early identification and management of sepsis. The retrospective analysis of sepsis cases will trigger a local audit coordinated by patient safety and quality improvement hospital teams. The project is endorsed by the national network of clinical risk managers of the Ministry of Health.

Between October 2021 and March 2022, SIAARTI ran a national survey on clinical-organizational resources to manage sepsis patients (in particular in ED and wards) in more than 500 Italian hospitals. The survey has the objective to investigate the current state of sepsis management at the national level.

# NORWAY

Contact: Prof. Erik Solligård, erik.solligard@ntnu.no

## Background

The work to fight sepsis started in 2016-17 through a national inspection initiated by the government. A team visited all hospitals in Norway and each hospital was visited and reviewed three times. The reviewers looked at how long it took patients to receive antibiotics and processes (i.e., triage, time until the doctor visit, blood culture, lactate measurement...). The results showed that many patients did not get antibiotics as soon as they should. Besides, there was a lack of coordination and leadership in the hospitals. This inspection generated a number of local initiatives that lead to an increase in survival rates and a decrease in the length of stay of sepsis patients.

## What is happening

This was followed by a governmental program focusing on early recognition of sepsis in the ED and at the ward. A big focus was on education (brochures, folders, e-learning, training, monitoring...). This has been implemented in EDs in all hospitals in Norway and it is on the way to being implemented in all wards. Other measures include a survey involving 120.000 people that will be followed for 20 years.

## Results, next steps and challenges

One of the main challenges is the unrecognized burden of sepsis in Norway: there is no agreement and official numbers are based on ICD coding. A sepsis incidence study using Rudd's et al definition is ongoing. Lack of awareness in the population is also a burden. For the last 5-6 years there has been also an attempt to set up a national antibiotic guideline for sepsis that eventually should be finalized by the end of 2021. There is currently political will to move towards a national action plan, but due to the pandemic, the process has been set on hold.

In autumn 2021, the Swedish Sepsisfonden will launch a co-operative trust in Norway, under the same brand. The objective is to raise awareness about sepsis amongst the general public and provide support to the healthcare system.

In 2021 a patient organization named LHL-Sepsis was launched, with the objectives to strengthen patients' and their relatives' rights and raise awareness.

# SPAIN (CATALUNYA)

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## Background

The main objective of the plan in Catalunya was to create a hospital emergency code for sepsis. The elements that pushed for a structured plan were a continued increase of the incidence of sepsis in the region, delay in the antibiotic treatment therapy and delay in transfer to ICU.

## What is happening

The journey started in 2008 with local experiences which progressively led the Parliament of Catalunya to declare sepsis a public health problem in 2015 and requested the creation of a strategic plan for early detection and treatment of sepsis. A multi-disciplinary advisory committee was set up, and early detection parameters were identified together with initial treatment, according to the degree of care of hospitals in the network (i.e., primary, secondary, or tertiary care). Hospitals were mapped and clustered according to what kind of sepsis patients they would be ready to treat.

Training, analysis, and feedback mechanisms were developed, including "Radar sepsis", a system that provides a continued screening of cases and that helps analyze data and give feedback to different hospitals. The project Sepsis Training Audit and Feedback (STAF), supported by a grant for the TV3 telethon, is developed in 3 phases:

1. Two mobile learning mini-courses based on early warning scores for technicians of pre-hospital care systems and for hospital personnel. <https://codisepsia.snackson.com/>
2. Development of an RSIXS platform for sepsis and septic shock to register the key performance indicators (KPI) for antibiotic administration, resuscitation, infection source control, and time of ICU admission. This platform is in the portal of the Health Department (Catalut).
3. Development of the RADAR-Sepsis platform for automatic register of administrative data related to sepsis and dashboard creation to allow comparative analysis of incidence, ICU requirements, hospital results, and loss of quality of life in survivors.

## Results, next steps and challenges

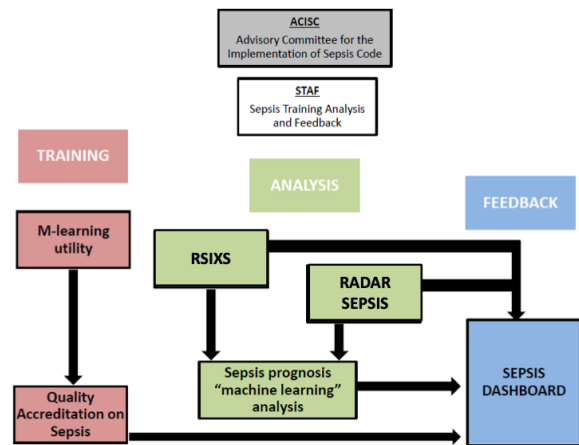
The recommendations coming out of this experience:

- Protocol for sepsis detection should be developed for all healthcare workers
- Patients who don't respond to initial treatment should be placed in ICU.
- Antibiotic administration should be done on time as well as normalization of hemodynamic parameters.
- Quality control systems should be in place and be included in the annual budget of the hospital.
- To create a control panel with automatized clinical information to compare data

of training (number of people with minicourses), indicators of activities, KPI, and indicators of clinical and economic results of the hospital.

- To create a control panel with automatized clinical information to compare data of training (number of people with minicourses), indicators of activities, KPI and indicators of clinical and economic results.

**And now, how will we implement Codi Sèpsia??** 



Catalunya sepsis plan's flow chart

## SWEDEN

Contact: Prof. Kristoffer Strålin, [kristoffer.stralin@sl.se](mailto:kristoffer.stralin@sl.se)

### Background

The Swedish government set up 20 different program committees and asked them to suggest diagnoses upon which to build up structured healthcare processes. The project started in 2019 and will last three years, with a budget of € 90 million. The infectious diseases group proposed sepsis, which was selected among ten other diagnoses in 2019.

### What is happening

A multidisciplinary sepsis group has built up an algorithm on how to detect severe sepsis in emergency departments (ED) in Sweden, the Sepsis Alert. Based on the patient history and the ED triage score determined by the ED nurse, a sepsis alert is triggered, giving the patient high priority and a structured healthcare process. The group has also built up a patient follow-up process after discharge, in which sepsis alert patients with a final sepsis diagnosis will be routinely followed up with a telephone call including a structured questionnaire about the condition of the patient. The process also includes process follow-up with quality indicators, such as survival and hospital-free days within three months from admission. The healthcare process is presented here.

A consequence analysis including a health-economic analysis of the national sepsis healthcare process has been developed. We expect the healthcare process to improve sepsis care quality and improve outcomes. According to the health-economic analysis, the increased costs of more staff involvement during sepsis alerts as well as of routine patient-follow up will be offset by a shorter hospital stays and reduced readmission frequency.


Based on the healthcare process and the consequence analysis, the directors of the Swedish healthcare regions approved the national sepsis healthcare process on 21 May 2021.

## Results, next steps and challenges

The Swedish healthcare regions are now supposed to implement the national sepsis healthcare process with sepsis alert and patient follow-up into clinical practice.

The healthcare region Stockholm-Gotland has received the mission to build up an electronic system aimed at monitoring the sepsis care process and its quality indicators. In order to be able to identify the sepsis cohort electronically, an automatic SOFA-score calculator has been implemented into the electronic record system of the region.

After this electronic system has been built up in the Stockholm-Gotland region, the aim is to implement it in the other regions in Sweden.



**Sweden**

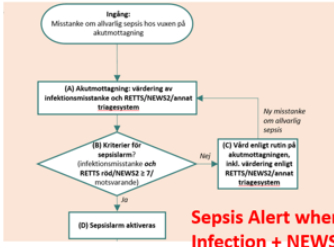
Regeringskansliet  
Socialdepartementet

Sveriges  
Kommuner  
och Landsting

Standardized Health Care Processes  
(for several diagnoses)  
€ 90 000 000 for 2019-2021  
from the Swedish Government

Sepsis selected as one of ten  
diagnoses for 2019-2020

**Process algorithm**



**Sepsis Alert when  
Infection + NEWS2 ≥ 7**

**Clinical follow-up**  
Telephone contact after discharge

**Process follow-up**

- Automatic detection of sepsis (infection + SOFA score increase)
- Automatic quality indicators (outcome and process)

**Consequence analysis**

- Positive:
  - Improved quality and outcome
  - Shorter hospital stay
  - Less readmissions
- Negative:
  - Cost of staff at sepsis alerts and clinical follow-up
  - Cost of electronic follow-up system
- Health-economic analysis: The healthcare process is cost-effective

Nationellt system för kunskapsstyrning  
Hälsa- och sjukvård  
SVERIGES REGIONER I SAMVERKAN

Summary slide, June 2021

## Other initiatives Sepsisfonden, Sweden

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### Raising awareness

In March 2020 Sepsisfonden launched a national awareness campaign in Sweden, with the purpose to raise awareness about sepsis in the general public. This work has continued in different smaller campaigns and events during the following years. Sepsisfonden has - since its start in 2015 - conducted awareness surveys every other year. In 2015 21% of the Swedish population knew what sepsis is. In 2017 it was 30%, in 2019 43%, and in 2021 49%. This is obviously still far too low, but it shows a

positive trend. It is interesting to note that during the same period, awareness about other common diseases has decreased in Sweden. The numbers also show that the awareness work will have to continue for a long time and that it takes time to make a permanent shift in the general public's knowledge. It is also interesting to note that while women's awareness has gone from 51% in 2019 to 59% in 2021, in the same period no change is seen in men's awareness, remaining at 35%, the same level as in 2019. In May 2023 the fifth survey will be launched.

### Sepsisfonden's contribution to the national action plan

Sepsisfonden has also continued to work closely with the national program for the new standardized course of medical care for sepsis, which started to be implemented throughout all emergency hospitals in Sweden in 2022. Sepsisfonden has provided the program with information that will be handed to all sepsis patients after being discharged from the hospital.

### Fighting sepsis in the nordics

In September 2022 we launched Sepsisfonden throughout the Nordic countries, via our new website [sepsisfonden.com](https://sepsisfonden.com), where there is content in all nordic languages and English. National medical editors in Finland, Iceland, Denmark, and Norway are now part of our content board to ensure valid information in all languages. With the Swedish trust as the hub, this is a way for Sepsisfonden to raise awareness throughout all the Nordic countries.

### Patient-led initiatives Sepsis Foreningen

Contact: Kristina Bjorkqvist, [kristina.bjorkqvist@sepsisforeningen.se](mailto:kristina.bjorkqvist@sepsisforeningen.se)

With the support of Sepsisfonden, in 2020 a group of patients founded Sepsisföreningen. The organization has elected a board and counts now approximately 150 members, mainly survivors and family members, but also researchers. Sepsisföreningen provides information and support to patients and family members and plans to expand its activities as it grows. It has obtained some visibility by being invited on a national morning tv show, talking about the long-term effects of sepsis. It has also been involved in the development of the national program for the treatment of sepsis patients (see above).



Kristina Bjorkqvist, Sepsisvoreningen, and ESA Patient and Family WG member, on national TV morning show to talk about sepsis



# THE NETHERLANDS

## Patient-led initiatives Sepsis en daarna, the Netherlands

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Sepsis en daarna is a patient group initiated by former patient and nurse Idelette Nutma. In 2016 Idelette published a book 'Sepsis and afterwards' which is a guide for survivors, and other communication materials including, articles, posters, and videos with the intention to inform as many people as possible about sepsis and its consequences. Every year since 2018 an annual Sepsis Peer Meeting is being organized.

In 2018 the petition 'SOS voor sepsis' was offered to the House of Representatives, resulting in three meetings with the Ministry of Health, which eventually has given its support for:

- A Sepsis Network, SepsisNet, was launched in September 2020 with the aim to enhance awareness. Its board consists of four medical specialists, a general practitioner, and a former patient.
- Funding for implementing and extending the new Dutch Sepsis Guideline, which was published in September 2022. It also contains a paragraph regarding the importance of mentioning the word 'sepsis' and educating patients about the long-term consequences. Patient representatives were involved in the process. The guideline is about ICU and non-ICU patients. Furthermore, the Dutch guideline 'Sepsis in Children' was published in June 2021. Both guidelines address the need for communication about sepsis and good aftercare.
- Organizing a sepsis congress, that took place in May 2022

Sepsis en daarna also set up a Facebook group in 2017, which is providing valuable support. Meanwhile, the organization continues cooperating with experts and professionals via a number of initiatives to raise awareness, provide the patient perspective, and emphasize that sepsis can have a huge impact also on non-ICU patients.

In January 2023 Sepsis en daarna and SepsisNet met with C-support, the organization subsidized by the Ministry of Health to support long Covid patients. They discussed how to join forces and aim for a post-infectious expertise center in the future.

Also, in January 2023 the TULIP project was launched. It was initiated by the Amsterdam UMC. Involved are the Amsterdam University of Applied Sciences, Center of Expertise Urban Vitality, Departments Physiotherapy, Occupational Therapy, Exercise Therapy, Exercise & Nutrition, and the Allied Health Care Professionals from the Amsterdam region and patients representatives, including 'Sepsis en daarna'. This project develops

an integrated transmural allied health model of care (iTRAC) for patient groups in which functional decline, physical and cognitive impairments, and malnutrition are highly prevalent, i.e., patients admitted to the Intensive Care Unit, Internal Medicine, and Oncologic Surgical departments, including sepsis patients. This project will stimulate interprofessional rehabilitation care collaboration regarding recovery after hospitalisation.

## SWITZERLAND

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### Background

Until now, Switzerland has lacked a coordinated approach to address sepsis. The 2021 European Sepsis Report revealed that - contrary to other European countries - Switzerland had not yet actioned the WHO sepsis resolution. In Switzerland, data from 2017 which were obtained through the Global Burden of Disease study, indicate that every year over 19,000 persons suffer from sepsis<sup>3</sup>, and almost 3,500 patients will die because of sepsis every year. The exact costs resulting from sepsis in Switzerland are unknown. A previous study using data from 1998-2000 observed an average direct cost of CHF 41,790 (standard deviation CHF 33,222) per sepsis case and estimated annual costs of CHF 493 to 1,199 million per year in Switzerland.

### What is happening

In response, a large group of sepsis experts formed a national multidisciplinary panel and met in a workshop to identify the needs, gaps, and strategies to address sepsis in Switzerland. The expert panel included clinical, academic, and policy professionals, as well as sepsis survivors from different Swiss regions. The goal of the workshop was to formulate recommendations to create a Swiss Sepsis National Action Plan (SSNAP).

The Swiss Sepsis National Action Plan (SSNAP) was released on September 13th, 2021, and has been published recently.

### Results, next steps and challenge

Specifically, the panel developed four main recommendations to address sepsis in Switzerland. The whole panel agreed on four key recommendations as key priorities to reduce the impact of sepsis on Swiss patients and society:

1. Launch a sepsis awareness and education campaign.
2. Develop and implement a national standard for the detection, treatment, and follow-up of sepsis.
3. Implement support systems for sepsis survivors and for families affected by sepsis.
4. Promote sepsis research to improve how we recognize and treat sepsis.

At present, discussions are happening at various levels to define how these recommendations can be put into action.

## THE UNITED KINGDOM

Contact: Dr. Ron Daniels, [ron@sepsistrust.org](mailto:ron@sepsistrust.org)

### Background

When the WHA resolution came out in 2017, the UK government was already writing its national action plan and it is now running its third action plan. The UK Sepsis Trust (UKST) works with NHS England and other statutory bodies to operate an intercollegiate Cross System Deterioration Board which includes specific strategies to improve outcomes from sepsis. We also work with a complementary NHS Antimicrobial Resistance (AMR) Board.

The recent pandemic presented significant challenges in implementing direct action on sepsis at a governmental level. Following a prior commissioning incentive that drove significant improvements in sepsis management, recognition and treatment of sepsis is now part of the standard contract for all English hospitals. The UK Sepsis Trust focuses on raising public awareness through partnerships and setting the scene for improving outcomes through working with other agencies including (e.g.) national cancer charities.

### What is happening

In 2015, the UK Sepsis Trust developed an operational tool called Red Flag Sepsis to empower junior professionals to act to deliver the charity's Sepsis 6: a simplified care bundle including source control and antibiotics, escalation to critical care where needed, and treatment coordinated by senior clinicians. The bundle is used now in 99% of British hospitals. In 2019, the UK's recommendations and approvals agency NICE provided, for the first time, formal endorsement of UKST's care pathways incorporating Red Flag Sepsis and the Sepsis 6. These are now available across all facets of healthcare including in hospices, care homes, general practice, the ambulance service, and in hospitals.

In early 2022, the UK's Academy of Medical Royal Colleges issued its own statement on early antimicrobial treatment in patients with sepsis, mirroring to a degree the Surviving Sepsis Campaign's recommendation that patients who were less sick (for the UK, a NEWS2 score of less than 7) should benefit from a treatment decision within 3 hours rather than the 1-hour administration mandate for those critically ill. UKST is now working with the Academy to disseminate revised tools in accordance with this statement.

In April 2020, UKST recognized that recovery from COVID-19 was likely to bear stark

similarity to post-sepsis syndrome (PSS). As a result, the charity launched its Blurred Lines campaign as well as opened its Support Nurse services to people who have survived COVID-19.

Raising public awareness of sepsis, in general, is also an important part of the strategy. UKST has launched its Sepsis Savvy strategy to work with major corporates to educate their staff and (in some cases) clients about sepsis. By February 2023, 427 commercial organizations including Amazon, Vodafone, JP Morgan, and PWC had signed up. We have also launched an accredited school program with lesson plans for all age groups: to date, 861 schools have signed up. Collaborations, for example with national cancer charities for World Cancer Day, have augmented our reach still further.

## Results, next steps and challenge

Due to a suspension in reporting, it is not currently known how reliable the recognition and management of sepsis are within the UK. It is likely that the situation has slipped from that prior to the pandemic, in which English hospitals were recognizing and treating sepsis within one hour with antimicrobials and supportive therapy in 82% of patients. This requires addressing with urgency as we continue to emerge from the pandemic. UKST's Blurred Lines campaign received pro bono donations of marketing space across multiple national media outlets, including national newspapers (e.g., The Times), glossy magazines (e.g., Vogue), and on large format city center advertising (over a 13-day period appearing on 56 screens across four cities: London, Birmingham, Edinburgh, and Glasgow with over 9 million potential views). UKST's Support Nurses have to date provided direct support to almost 7,000 survivors of COVID-19, with the condition now accounting for almost 30% of their caseload.

Sepsis Savvy was launched in February 2020, comprising an online educational game together with an instructional video and online resources. It's been adopted by over 400 corporates, as diverse as the Direct Line Group (major insurance company who've sent the resources to their 3 million customers), Five Guys (a chain of fast-food outlets who have undertaken relay races across the country between their stores), Burger King, Microsoft UK, and Iceland Foods (a major food retail company with over 960 stores in the UK).

As we enter the 2023/24 financial year, we will see two major national television pieces highlighting the dangers of sepsis: one documentary by a BAFTA award-winning actor who lost his young daughter to sepsis, and the second a storyline in the country's longest-running soap opera, Coronation Street, which reaches an audience of 8 million.



Raising awareness on milk bottles

UKST's relationship with Iceland Foods has resulted in raising awareness of sepsis on milk cartons - by February 2023, almost 100 million breakfast tables across the UK have seen sepsis messaging in this way.

UKST is now in the process of re-engaging with HM Government, with statutory bodies and with other stakeholders to reprioritize the recognition and management of sepsis in the post-pandemic era. The charity is working with NHS England's Your COVID Recovery group to disseminate knowledge of its support services.

In collaboration with Biomérieux, UKST conducted an awareness survey among doctors examining their knowledge of and attitudes to sepsis, AMR and diagnostics across five European countries (UK, France, Spain, Sweden, Italy), with results announced in 2022. This highlighted both common themes and important differences between countries.

Through 2023/24, UKST will continue and grow its strategy of engaging members of the public through partnership working, particularly through the Sepsis Savvy campaign, and will target schools and educational facilities.

**CANCER AND SEPSIS**  
THE UK SEPSIS TRUST

To mark World Cancer Day on 4th February 2022, the UK Sepsis Trust and supporting organisations are highlighting the sepsis risk among cancer patients (particularly those who have recently undergone chemotherapy). Knowing the signs of sepsis and seeking urgent treatment can help prevent needless deaths.

Neutrophils are infection-fighting white blood cells. Having a lower-than-normal neutrophil count puts you at risk of developing infections.

Chemicals in chemotherapy drugs help kill cancer cells, but they can also reduce levels of neutrophils.

There are 200,000 patients who undergo chemotherapy a year in the UK.

Neutropenic sepsis causes three deaths a day across the UK.

**What is sepsis?**  
Sepsis is the immune system's over-reaction to an infection or injury. Left untreated, it can result in organ failure or death.

**CHILDREN**  
A child may have sepsis if he or she:  
• Is breathing very fast  
• Has a 'fit' or convulsion  
• Looks unwell, black, or pale  
• Has a rash that doesn't fade when you press it  
• Is very lethargic or difficult to wake  
• Feels unusually cold to touch

**ADULTS**  
An adult may have sepsis if there is one or more of these signs:  
• Slurred speech or confusion  
• Extreme shivering or muscle pain  
• Passing dark urine (in fact)  
• Severe breathlessness  
• It feels like you're going to die  
• Skin mottled or discoloured

**WHAT TO DO IF YOU SUSPECT SEPSIS:**  
Cancer patients should contact healthcare professionals at their hospital. If they have a fever or feel generally unwell, as they are at higher risk of getting sepsis.

Non cancer patients should call 999 or visit A&E if they have one of the sepsis symptoms.

**WORLD CANCER DAY**  
THE UK SEPSIS TRUST

To mark World Cancer Day on 4th February 2022, the UK Sepsis Trust and supporting organisations shared an infographic and series of infographics highlighting the sepsis risk among cancer patients.

**Social media & web impact**

- 161 Likes - avg. is 6\*
- 139 RTs - avg. is 3
- 31K impressions - avg. is 980
- 87 post shares - avg. is 19\*
- 42 reactions - avg. is 30
- 22 reactions - avg. is 6\*
- 12 shares - avg. is 2
- 94 Likes - avg. is 20\*

\*Figures based on engagement for period 1 Jan 2022-Dec 31 2022

83% more web traffic to the Sepsis Savvy page compared to the previous week

**Supporting organisations**

NBiVictrix, WORCESTERSHIRE ACUTE HOSPITALS CHARITY, Cancer Research UK, Weston Park Cancer Centre, 52North, MACMILLAN CANCER SUPPORT, YOUNG LIVES vs CANCER, Marie Curie, THE UK SEPSIS TRUST

**THE SEPSIS 6**  
COMMUNITY SETTINGS

Start immediately and complete within the hour if your patient requires active treatment and has been identified as Red Flag Sepsis on your screening tool

- 1. Discuss with GP or on-call clinician**  
Sepsis is complex - clinicians will help guide your actions
- 2. Give oxygen if available**  
Especially if their oxygen saturations are less than 92%
- 3. Help clinician obtain blood tests**  
This may be omitted if urgent hospital transfer is arranged
- 4. Give antibiotics**  
IV, or consider oral antibiotics if patient is to remain in the community
- 5. Ensure hydration**  
Give IV fluids if available, or encourage oral intake
- 6. Monitor**  
Including vital signs if possible, and urine output estimates

**Remember:** the Sepsis 6 for Community Settings is appropriate for most patients who require active treatment, even if it is not hospital-based.

Marie Curie, THE UK SEPSIS TRUST



Sepsis Voices - presentation deck



Blurred lines campaign

UKST\_Hospital\_Posters

## **Contact**

For any query about this report, please contact the European Sepsis Alliance at [esa@global-sepsis-alliance.org](mailto:esa@global-sepsis-alliance.org)

## **Donate to our cause**

The ESA is part of the Global Sepsis Alliance, an international non-profit charity organization. Please consider donating to support our cause at [www.europeansepsisalliance.org/donate](http://www.europeansepsisalliance.org/donate)