3rd European Sepsis Alliance Annual Meeting

March 23rd, 2020

Recording of the online event available here

Executive summary

The 2020 Annual Meeting for the European Sepsis Alliance took place online due to the COVID-19 pandemic. The quality of the discussion was not affected and the event provided a complete and up-to-date overview of the impact of sepsis, its correlation with COVID-19, the response of healthcare professionals and of policy makers, their successes and their challenges, the witnesses and the demands of survivors to improve patient experience and life after sepsis.

Professor Konrad Reinhart, GSA President, reminded that despite the enormous advances of medicine in the past century, infectious diseases, and therefore sepsis, are still a major global health threat. Sepsis accounts for **49 million cases** and **11 million deaths** yearly.

Awareness, data collection and research funding are some of the areas where policymakers were called to act upon. Such call should be considered even more urgent these days as the correlation between sepsis and COVID-19 has been proved.

Ortwin Schulte confirmed that COVID-19 will impact also their agendas in the coming months, shifting the priorities of the upcoming German Council presidency. On the positive side, he reminded that the EU has always come out stronger from health crisis. Teresa Kortz presented the WHO long history of sepsis prevention, including the World Health Assembly sepsis resolution of 2017, while Mr John F. Ryan from the European Commission stressed on the cross-border nature of sepsis therefore on the need of coordination amongst Member States. Furthermore, sepsis is also closely related to other important healthcare issues such as **AMR** and **patient safety**. The above mentioned WHA resolution points out that, in the absence of appropriate and timely clinical management, including effective antimicrobials, sepsis would be almost always fatal and that ineffective or incomplete antimicrobial therapy for infections, including sepsis, may be a major contributor to the increasing threat of antimicrobial resistance. Similarly, in his presentation Abdulelah Alhawsawi, Director of the Saudi Patient Safety Center, addressed the fact that sepsis is a leading cause for preventable deaths because a) it can often be prevented through basic infection prevention measures such as appropriate hand hygiene, access to vaccination programmes, improved sanitation and water quality and availability, and other infection prevention and control best practices and b) in the early stages is highly amenable to treatment through early diagnosis and timely and appropriate clinical management.

Some countries have undertaken structured initiatives to respond to the WHO recommendations, others had already anticipated them. Experts from Sweden, UK, France, Norway and Spain shared their experience on the ground. Beside the specificities, these plans have many common traits:

- A **multidisciplinary** approach is fundamental because sepsis plans require structural solutions.
- Involvement of **stakeholders** beyond the healthcare sector. Awareness and patient follow-up happen outside healthcare facilities, therefore input from survivors and communication partners is also very important.
- **Non-harmonised data collection** (i.e. different ICD coding). This is an area where the support of EU authorities such as ECDC is much needed.
- Some **resistance** in the implementation of sepsis plans, even within the healthcare system, and discussions on resources.

The closing discussion was on the need to empower patients in healthcare, which is extremely important when it comes to sepsis. The role of patients and their families in timely identification, informing healthcare providers and in the recovery phase is key. In this regard, the ESA has launched an informative brochure on life after sepsis, that will be translated in different languages. Survivors shared their first-hand moving stories. One of their key messages was that sepsis is preventable and awareness is key.

European Sepsis Alliance's call to EU policy makers:

- Encourage EU member states to implement the WHO Sepsis Resolution.
- Define common approaches through a revised European One Health Action Plan, which should include:
  - A comprehensive EU Infection Management Program
  - Exchange of best practices on sepsis prevention and sepsis response
  - Integrating sepsis in the 'State of Health in the EU' report on the quality of the health systems of member states
  - A harmonized EU data collection method on the incidence of sepsis, and AMR
  - Research on prevention of infection risks
  - The launch of a European observatory for sepsis
- Foster awareness for sepsis by a European Sepsis Week in September and supporting the World Sepsis Day.
- Support and empower patients and families who suffered or lost loved ones by sepsis.

ANNEX – National sepsis plans

SWEDEN | *Contact: Prof. Kristoffer Strålin, kristoffer.stralin@sll.se*

Background

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

Response

The multidisciplinary sepsis group built up an algorithm on how to detect sepsis. It would assign a score, indicating when a specialist should be involved. The group worked with and tested the algorithm and the process with hospitals in different regions of Sweden. The process also includes follow-up with patients after discharge. They identified markers for infection and set up an automatic SOFA score calculation.

Result, next steps and challenges

The result is a better quality of care which is measured with an increased survival rate. The downside of the approach is the cost for clinical and electronic follow-up and also for the need to involve more infection disease specialist in the emergency departments. This could hamper the further testing and the uptake of the solution.
Next step will be to be able to identify the sepsis cohort of the nation though the national electronic record system.

Sweden

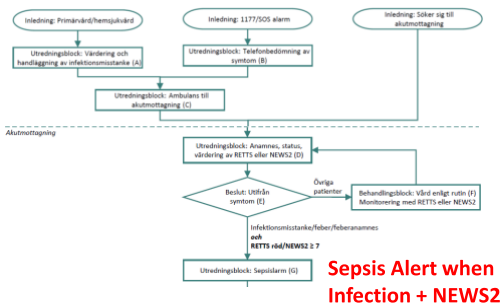
Regeringskansliet Socialdepartementet

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
- Negative:
  - Cost of clinical follow-up and electronic follow-up system
  - More time from Infectious Diseases physicians

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

UK | *Contact: Ron Daniels, ron@sepsistrust.org*

Background

When the WHO resolution came out in 2017 the UK government was already writing its national action plan and it is now running its third action plan. This early approach was championed by an intercollegiate body since 2008 wanting to improve the outcome of sepsis. The UK Sepsis Trust, one of the main drivers, is a national registered charity since 2012.

Response

The UK Sepsis Trust has elaborated an operational tool called Red Flag Sepsis to empower junior professionals to act. In 2007 the Sepsis 6 was developed: a simplified care bundle including source control and antibiotics, escalation to critical care where needed, treatment coordinated by senior clinician. The bundle is used now in 99% of British hospitals.

Raising public awareness is also an important part of the strategy. The UK Sepsis Trust has set up collaborations with local stakeholders and businesses and placed key messages on the UK ambulances and on advertisement at major events, including on a popular TV show.

Result, next steps and challenges

From 2016 hospitals have been paid more to treat sepsis well. In this time lapse, the UK went from 40% to 80% of patients treated and the antibiotic rate follows proportionally this growth. Also, the mortality rate, according to estimates and considering variables over time, seems to be reduced, linked to the process improvement.

The UK Sepsis Trust is currently contributing to the next sepsis action plan while working on an interoperable data registry based on artificial intelligence to better understand sepsis.

FRANCE | *Contact: Prof. Djillali Annane, djillali.annane@aphp.fr*

Background

France launched its sepsis plan in October 2019. It develops around three domains: increasing knowledge, providing better care, increasing surveillance coverage of sepsis.

Response

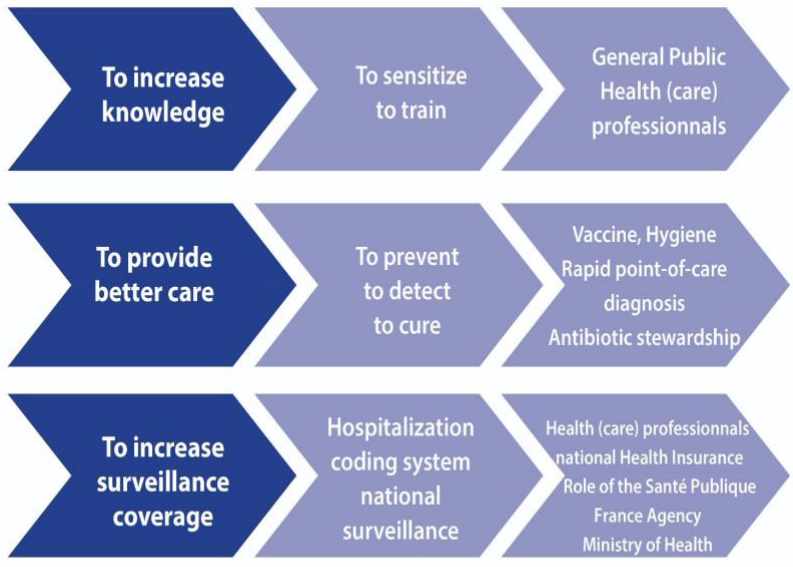
On increasing knowledge, the targets are the general public and the health professionals. For the general public France is implementing education programs for students on prevention of infections and sepsis as the main cause of death from infections. These programs are set to be implemented in September 2020.

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.

Result, next steps and challenges

To increase surveillance coverage of sepsis, France is starting this year a perspective cohort study involving 200.000 people being surveyed for ten years. This will provide yearly very useful information for the epidemiology of sepsis in France.

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



Direction générale de la Santé
Paris, 13th septembre 2019

Press Release

World Sepsis Day

Delivery of the report "*Sepsis - all united against a little-known scourge*":
10 measures to improve the management in France of the most serious form of infections

NORWAY | *Contact: 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 brought to an increase in survival rate and a decrease in the length of stay of sepsis patients.

Response

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

Result, 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; no one "owns" the patients (the debate is between intensivists and internists). 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 soon. There is currently political will to move towards a national action plan. The Minster of health is aware of the situation, he has been challenged and he showed good will.

National Inspection in most ED's 2017-18

3 visits to each hospital, journal review and interviews
- Lack of coordination and leadership
- Many patients do not get antibiotics as early as they should

Variety of good initiatives

Table 3. Patient outcomes before and after inspection

	Before	After	Adjusted for background variables[a]	Adjusted for backgr
All-cause mortality, 30 days from admission	424 (11.1%)	377 (10.5%)	0.81 (0.69 to 0.95)[c]	1.25 (0.86 to 1.80)[c,]
Length of stay in days, mean (SD)	7.1 (7.8)	6.2 (6.1)	0.87 (0.84 to 0.90)[e]	0.94 (0.86 to 1.03)[e]
n	3813	3594	7371	7371

[a]Adjusted for age, organ dysfunction, sex and Charlson comorbidity index

[b]Adjusted for secular trends entered as dummy variables per year, plus the other background variables

Husabø,,Solligård, Hovlid 2020 in press

GEMINI CENTER SEPSIS RESEARCH

SPAIN (Catalunya) | *Contact: Prof. Antonio Artigas, AArtigas@tauli.cat*

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.

Response

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, 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 screen of cases and that help analyse data and give feedback to different hospitals.

Result, next steps and challenges

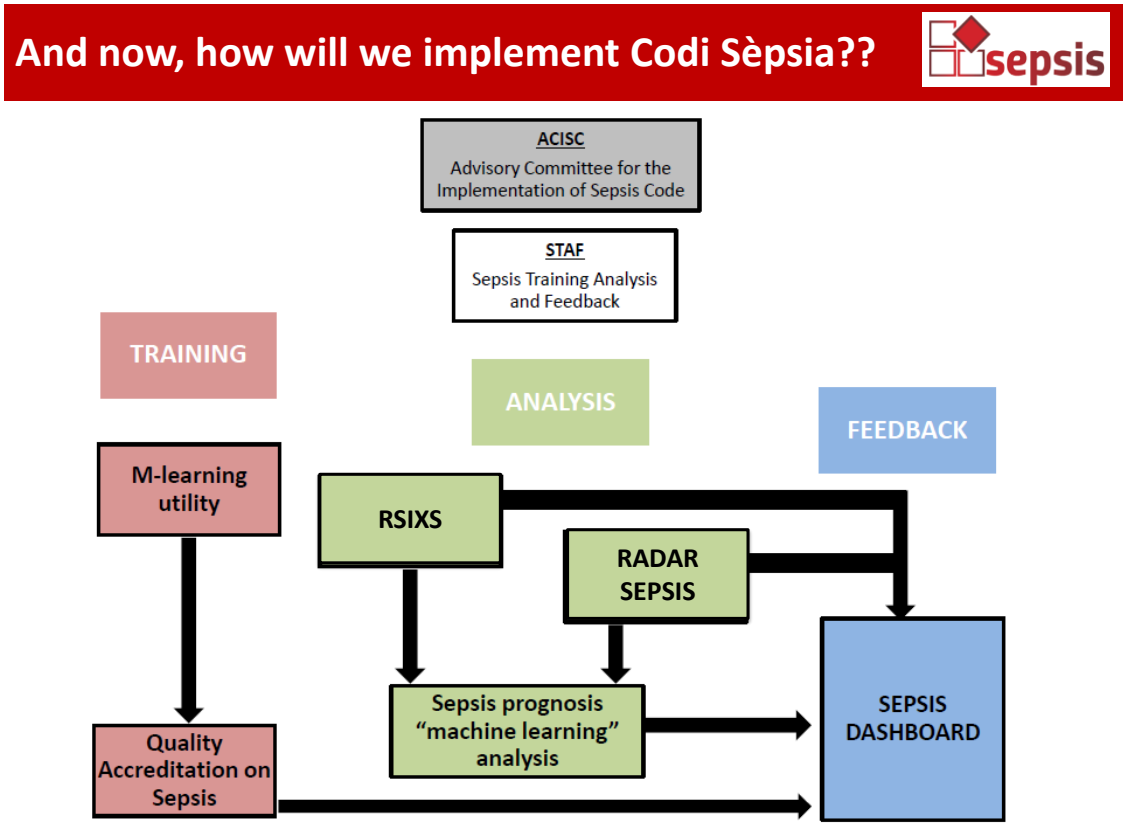
The recommendations coming out of this experience:

-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.



IRELAND (addendum) | *Contact: Vida Hamilton, vida.hamilton@hse.ie*

Background

In 2013, after a dramatic patient story, the Minister of Health put together a committee (national sepsis committee) who decided to establish guidelines to be budget-neutral and using existing databases. The process started with looking at data: 60% of all in-hospitals deaths had a sepsis or infection diagnosis; 42% of all in-hospital beds were occupied with a sepsis or infection code. In-hospital mortality rate was 28.8%.

Response

In 2014 the first national guidelines were published, accompanied by an implementation program. A series of on-site visits by the national sepsis committee took place in all hospitals across Ireland. Sepsis education and awareness presentations were held, besides meetings with hospital management.

The program aimed at early recognition and early management in the emergency departments. It involved algorithms, processes and education of hospital personnel.

A guideline has been developed, sepsis is included in education programs and hospitals have put in place implementing measures.

On the clinical side, the plan included the implementation of the so-called Sepsis 6 bundle of care in the first hour since the appearance of the first symptoms. This include the administration of antimicrobials, fluids and oxygen and blood and urine tests.

Awareness raising campaigns accompany the program through social media and the support of high-profile personalities.

Result, next steps and challenges

Thanks to this structured response, the number of documented sepsis cases increased significantly since the inception of the plan, and mortality rate decreased by 12.2% (2018 data).

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, a poor morale and overwhelmed workforce. The plan includes continued monitoring and reporting that can be followed on the Irish Health Services web site.