



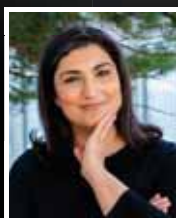
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OCTOBER 2023 • ISSN 2516-3817

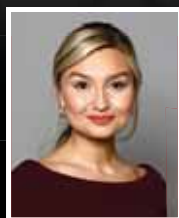
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EMPOWER RESEARCH CAREERS, STRENGTHEN THE EUROPEAN RESEARCH AREA

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Lessons from the COVID pandemic to fight against sepsis and common infections

Michael Wong, Founder and Executive Director at Physician-Patient Alliance for Health & Safety and Amy Campbell, Quality Nurse Specialist at ECU Health and Chair at PPAHS Sepsis Advisory Board, discuss how the COVID-19 pandemic has impacted the fight against sepsis



COVID has been the biggest health emergency in recent times, with over [700 million cases and nearly seven million deaths](#). It caused disruption across the globe and enormous pressure on healthcare systems worldwide.

What can we learn from this unprecedented event in the fight against sepsis? To try and answer this question, experts gathered at the [fourth World Sepsis Congress](#) to discuss lessons from the COVID pandemic. Their thoughts and recommendations provide valuable insight into how the pandemic, while tragic, showed new ways of working that could be applied in the fight against sepsis.

COVID made healthcare a priority

Panellists agreed that a silver lining of COVID was that it made international bodies and governments recognise the importance of good healthcare and the need for national and international cooperation to achieve this. The EU, for example, strengthened its health security framework and substantially increased EU funding for health.

COVID also emboldened healthcare services to make changes and try new approaches. One example of this is the expansion of telemedicine in Germany, where a

tele-ICU was established before the pandemic to improve critical care in smaller hospitals, but when COVID hit, it received funding to expand internationally, from Uzbekistan to Uganda.

Another example is clinical trials – nearly 9,000 trials were launched to study COVID, and the pandemic showed that large-scale clinical research collaboration is both possible and very effective. Platform trials (studying a disease rather than a single intervention) were especially useful, as they merge research and quality improvement.

Maintaining the focus on healthcare as the pandemic eases

Most countries have now ended COVID restrictions, and with them, this spotlight on healthcare. This has an impact on all these initiatives; in Vietnam, sustaining national cooperation is now more challenging, the telemedicine program has less funding and has a lower priority, and the global clinical trials system remains underdeveloped.

What does this mean for the fight against sepsis?

Despite this lessening focus on health, international organisations, governments, and healthcare systems must learn lessons from the COVID response and apply them to other areas. This is particularly true of sepsis, which, with [11 million annual deaths](#), is more deadly each year than COVID has been in its entirety.

Most sepsis cases and deaths are in resource-limited settings, where there are many challenges in prevention and treatment. But sepsis is truly a global issue, affecting people in all nations and at all stages of life. It, therefore, requires a global response, and building on the cooperation and innovation seen during the pandemic would be a good start.

The rest of this article will look at what is needed in the fight against sepsis and how the lessons learned from the pandemic can be applied:

Good and universal health coverage

First and foremost, well-functioning health systems are essential for the fight against sepsis, including prevention, diagnosis, and treatment. It is critical that

countries have universal access to healthcare, a good workforce, enough medical products, diagnostic technologies, and data and information systems.

But this is often not the case. Many countries, especially in resource-limited settings, do not have universal health coverage, so access to healthcare is limited to those who can pay. These countries can also lack enough staff and medical products such as blood transfusions and oxygen.

Strong leadership and coordination

More broadly, strong leadership and coordination are needed. COVID demonstrated that such leadership is possible – the challenge is to apply it to a more chronic issue like sepsis. And access to continuous professional education is important, given the complex nature and changing resistance patterns of sepsis. International organisations like the WHO can help here, especially through the [information](#) and guidelines they publish.

Targeting local needs

The panellists also discussed the importance of tailoring treatments to specific contexts. For example, the ongoing work in telemedicine is aware of the need to adapt to local settings. And more broadly, any new proposal or initiative must be tailored to the area where it is implemented. This was again seen during COVID, where economic and cultural differences impacted the effectiveness of different approaches.

Reliable diagnostics for sepsis

One particular area of concern is the lack of reliable and affordable diagnostics for sepsis. Given the wide range of causes (viruses, parasites, bacteria) of sepsis, it is hard to know what antibiotic will be most effective.

Good diagnostics are, therefore, key, and there has been progress in recent years, but many countries and regions still do not have access to rapid, accurate, and cost-effective testing at the point of care. This can lead to greater expense (and worse patient outcomes) in the long run, as different antibiotics are tried due to not knowing what will work best.

Effective antibiotic use

This leads to another issue in the treatment of sepsis – the overuse of antibiotics. Given the critical nature of

sepsis, antibiotics are often needed, but not always. As above, knowing the most likely cause of infection is vital to see if antibiotics are needed at all, and if so, which one to use rather than chopping and changing.

Research is underway for a new class of antibiotics (with the caveat that, if found, it will need to be used sparingly). The rapid expansion of clinical trials during COVID could help advance this process, especially the use of platform trials, which are easier to integrate into clinical practice.

There is also a need for a cultural shift away from overusing antibiotics. Again, the lessons from COVID may be helpful here, as the pandemic showed that change can happen rapidly and gave clinicians the confidence to make decisions such as stopping antibiotics rather than overusing them.

Prevention of sepsis

Good healthcare, diagnostics, and antibiotics are all vital for treating sepsis but even better would be the ability to prevent it. The panellists agreed that developing a vaccine was hugely beneficial. COVID showed the difference a vaccine can make, but the challenge is to create the same sense of urgency for sepsis, and therefore funding and cooperation, as there was in developing the COVID vaccines.

Good data to understand the causes and prevalence of sepsis

And last but not least, without quality data, it is impossible to understand the causes and prevalence of sepsis, develop antibiotics or vaccines, or treat sepsis effectively. The pandemic highlighted the importance of data, but the data quality for sepsis is not at the level of COVID, and more work is needed.

As well as antibiotics and vaccines, research is needed into the long-term outcomes of sepsis (long COVID has helped raise awareness of this). And qualitative research is also needed, especially when tailoring initiatives to different countries and settings, but again this can be expensive and difficult.

But collecting this data can be challenging, both in terms of costs and difficulties in collection (for example,

collecting post-hospital data in clinical trials is not easy, especially in resource-limited settings).

And the data needs to get to where it's needed. Some hospitals, for example, are unable to perform diagnostics for sepsis, but if they have information on the most

“Most sepsis cases and deaths are in resource-limited settings, where there are many challenges in prevention and treatment. But sepsis is truly a global issue, affecting people in all nations and at all stages of life.”

prevalent pathogens, they can make better treatment decisions. Even in high-income countries, data is not always used to its full extent.

To conclude, sepsis is a complex condition to diagnose, treat and prevent. But the panellists agreed that substantial progress would be made if the collaboration, funding, and innovation seen during the pandemic continued in the fight against sepsis.

To listen to this session of the fourth World Sepsis Congress, please click [here](#).

If you are a clinician and would like to receive continuing medical education credits for listening to this Congress session, please click [here](#).

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