



Perspective *Cardiac Critical Care*

The Global Extracorporeal Life Support Organization Chapter: South West Asia and Africa Extracorporeal Life Support Organization in 2024

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ABSTRACT

In early 2024, we can take a moment to acknowledge the journey we have been on in critical care, especially in the region that comprises Extracorporeal Life Support Organizations (ELSO's) South West Asia and Africa Continent (SWAAC) Chapter. ELSO has been able to develop a global standard in foundational educational knowledge for adults. This is only possible with the participation of experts in every region. The process for developing this standard has now been published. ELSO is using this same process to develop the foundational knowledge for neonatal and pediatric education. We are grateful to many in the SWAACELSO region for your assistance in the development of a global standard in education and training. The SWAACELSO region has achieved so much in the recent past. Participation in all facets of extracorporeal life support (ECLS) and ELSO globally continues to advance how we work together and what is available for patients in communities everywhere. This region will continue to help lead in creating resiliency and innovation in the coming years. Personally, I am grateful for the dedication and commitment to improving life support that this region continues to advance.

Keywords: Extracorporeal life support organization, South West Asia and Africa extracorporeal life support organization, ECMO

INTRODUCTION

In early 2024, we can take a moment to acknowledge the journey we have been on in critical care, especially in the region that comprises Extracorporeal Life Support Organizations' (ELSO's) South West Asia and Africa Continent (SWAAC) Chapter.

The recent COVID-19 pandemic is now an endemic disease. Along with respiratory syncytial virus and other endemic illnesses, it is one more we will need to adapt to. New strains of the virus will warrant different symptoms, some requiring the escalation in critical care that we learned so well in its pandemic stage.^[1]

As we went through this challenge together, programs that offered ECLS became stronger. The innovation, collaboration, and rising to the challenge that so many exhibited with bravery and compassion—are the foundation of our current abilities to flex up and down, work together, and resolve to meet the upcoming challenges with some faith that we can make progress on behalf of the communities we serve.

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Looking forward, we will have more challenges to face together.

At ELSO's 34th Annual Conference, I was asked to describe 2035 related to ECLS and our community. In hope that these thoughts are useful in how we do our work today; I will share them here.

CHALLENGES AND THOUGHTS ON SOLUTIONS

Resource constraints

Whether the cause is a pandemic, equipment recalls, or staffing shortages, we have demonstrated an ability to work together when there are constraints and a high need for collaboration. We should get good at this. We should harness the recent lessons learned and take those to the next level. A few solutions to resource constraints follow:

Pandemic preparedness – global work

ELSO will be incorporating tools deployed and lessons learned from the recent pandemic for better preparedness for the next one. These tools and lessons include real-time data availability in the ELSO Registry, global extracorporeal membrane oxygenation (ECMO) Capacity Map, WhatsApp communities, Center Certification, enhanced training and education support with virtual courses, certification exams, and endorsed courses. The first ELSO-endorsed course in our revamped process that included a global education standard was in Mumbai, India.^[2,3] Beyond ELSO, the World Health Organization is embarking on a global pandemic accord involving 194 countries – an effort to be better prepared for future pandemic emergencies.^[4]

Center Certification

There are a few ways in which our community can improve on what we just learned. In 2024, ELSO will launch Center Certification. With the Center Certification program, there will be a means of identifying Tier 1 centers, which we could look to in a time of resource constraints as being specifically committed to maintaining at least evaluation capacity for ECMO patients. These centers would be a hub to many spokes. The referring centers will have a way of knowing where to go, so that is less of a mystery. Centers that are Tier 2 and 3 will have a streamlined working relationship with a hub (Tier 1) center where they can provide support and a possible transfer, if necessary. Tier 3 centers will be functional with excellent communication and coordination with Tier 1 centers. If done well, capacity will be far better for more communities and more patients.

Engagement with device developers and regulatory agencies

For those centers contributing to the ELSO Registry, data on device performance can help with both access to technology

and improvement in technology innovation. The data have been used to help achieve regulatory improvements in some markets, including the United States, with the Food and Drug Administration. Working with regulatory agencies, Ministries of Health, and other government agencies is something ELSO can do, especially with data.

During the ongoing Getinge equipment recalls, ELSO has worked directly with their leadership team and the leadership teams of other device developers, along with our community, to understand the magnitude of the issue and the capacity planning that needs to be fostered. Thanks to our community's input, we were able to share your thoughts with regulatory agencies and device developers, which is helping to shape strategy with several stakeholders.

Climate change

This pressing issue is top of mind for many. Because climate change is pervasive and disruptive, we need to start thinking strategically about its impact on critical care and the broader ELSO community. As a direct example, during the pandemic, the one plant that makes oxygenator fibers in the world was impacted by severe flooding, and its capacity was reduced for months. This crisis is due to climate change, exacerbated by a pandemic, and was one more challenge at the time. The flooding had a direct impact on the ECMO supply chain for some time.

Supply chain disruption is part of the climate change risks that we face. Perhaps more pertinent is the impact of climate change on where we live and the general resources and conditions in those areas. Wildfires, flooding, storms, and increasing heat are causing climate migration – impacting where we live and where we can deliver care. When building new facilities, we also need to consider climate sustainability for the longer term.

UN sustainable development goals (SDPs)

A useful framework for how to incorporate environmental sustainability in how we plan is the United Nations' Sustainability Development Goals,^[5] which cover health care, energy reliability, and building sustainable systems among areas relevant to our work. The UN SDP is worth building familiarity with and incorporating into how we think about our healthcare delivery systems, critical care teams and anticipate possible disruptions.

Access and equity

The pandemic highlighted access and equity issues related to life support. Outcome disparities are linked to access issues. Improving access and equity to advanced critical care and life support will require collaboration, innovation, and addressing barriers. Making progress on access and equity is an effort worth

the work on systems, structures, and resource constraints that will likely be required. A 2023 publication on health disparities in ECMO describes the challenges and framework well for the United States.^[6] To the extent that these issues are universal, we would welcome a focused effort that yields improvements.

Access to ECMO during the pandemic had its own repercussions. This was well documented in a single-center perspective, showing increased death when capacity was unavailable.^[7] While a different access issue, the categorical challenge of improving access is before us.

OPPORTUNITIES: GENERAL ADVANCEMENTS IN ECLS

Communication: Whatsapp communities – communication, support, and collaboration

In February 2023, ELSO launched several WhatsApp communities for the purposes of providing real-time communication, collaboration, and support among our community on a range of different topics. We made communication open, free, and accessible on a secure platform. With now 13 communities and membership nearing 1,000 in several, this tool can be a help for many reasons: Resource constraints, new program support, ECMO Director and ECMO Coordinator communications, and improvements in Centers of Excellence, to name just a few of them. For a full list of community conversations you might find of interest, please visit: <https://www.else.org/ecmo-resources/elsowhatsappcommunities.aspx>

Education and training

ELSO foundations – A global standard curriculum

ELSO has been able to develop a global standard in foundational educational knowledge for adults. This is only possible with the participation of experts in every region. The process for developing this standard has now been published.^[8] ELSO is using this same process to develop the foundational knowledge for neonatal and pediatric education. A huge thank you to the many in the SWAACELSO region for your assistance in the development of a global standard in education and training. The Neo/Peds Foundations course will be available in 2024. Individual certification exams for adults (available now) and neo/peds practitioners (2024) will help the whole team demonstrate that they have met the global standard in their education and training. Virtual courses enable global accessibility. Individual certification exams are also available remotely.

Endorsed courses

Once a global standard exists, ELSO is keen to have centers throughout the world be a part of our global strategy enabling

access to high-quality education and training. Our first endorsed course with the new global adult education standard was the Riddhi Vinayak Multispecialty Hospital in Mumbai, India. As more courses are added, you can find the latest list here: <https://www.else.org/ecmo-education/elseendorsedcourses.aspx>

Quality advancements

Quality benchmarking tools – impact on clinical practice

Centers can use their data for quality benchmarking purposes by accessing the quality benchmarking tool: <https://www.else.org/registry/qualityreportingplatform.aspx>. Increasingly important for centers in quality improvement initiatives, teaching, and training. A commitment to improving outcomes for patients makes it imperative to check on your own program to learn where improvements are possible.

Centers of excellence

This program continues to acknowledge the hard work of programs that are committed to quality on behalf of their patients. We were pleased to have the first Platinum Center in India last year and look forward to many more throughout the SWAAC region in the years ahead.

Advancing knowledge

The SWAACELSO community is integral to all publications and efforts of the global ELSO community. Members comprise guidelines, author groups, research, and education initiatives. This work, collectively, has yielded more publications and research in the past few years at a fast-growing pace. We expect, and need, that pace to continue.

Technology innovation

If there were something positive to come out of the recent pandemic, I would highlight a few: (1) Adult ECMO became more accepted globally. This patient population first became more prominent in the last pandemic (H1N1 in 2009). The COVID-19 pandemic, which affected adults primarily in the first waves, made ECMO in adult patients much more accepted. (2) ECMO, as an effective life support strategy, was in more demand. This led to more programs, team members, and interest. (3) With more demand, device developers can justify spending the resources to further innovation in device technology.^[9-13]

Traditional device developers have been investing in ECLS equipment, and we expect that to grow and improve. New device developers are entering the market, which can improve outcomes for patients when there are robust choices and integrated data-driven improvements. In addition, engineering and science are embarking on improvement strategies that may even improve organ procurement someday soon.

The SWAACELSO region has achieved so much in the recent past. Participation in all facets of ECLS and ELSO, globally, continues to advance how we work together and what is available for patients in communities everywhere. This region will continue to help lead in creating resiliency and innovation in the coming years. Personally, I am grateful for the dedication and commitment to improving life support that this region continues to advance.

Ethical approval

Institutional Review Board approval is not required.

Declaration of patient consent

Patient consent not required as there are no patients in this study.

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Conflicts of interest

There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

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