Profile

Luregn Schlapbach: advocating for children with sepsis

The initial plan was for Luregn Schlapbach to go into music. "I never thought medicine was for me when I finished school", explained Schlapbach, who is now Head of Department of Intensive Care and Neonatology at University Children's Hospital Zurich (Zurich, Switzerland). A night in hospital changed his mind. "I was 23 years old and was studying the oboe", recalled Schlapbach. "It was the summer vacation and I was volunteering at a camp for adults with disabilities. One of the participants got injured and we took him to hospital. I spent the whole night talking to the nurses and doctors about what they did. I thought, 'wow, this is amazing'. There and then, I decided to apply for medical school."

A few years later, Schlapbach experienced a second pivotal moment. It was early in his residency training. He had finished work for the day and was leaving the hospital. He crossed paths with a mother who was bringing her child to the emergency room in a baby basket. The child was known to the staff. She had a chronic condition and was in and out of hospital. But this time was different. "I went in for my shift the following day and I learned that the child had gone into septic shock overnight and been flown out to another unit. She died there. I could not believe it. She came in with a fever and before anyone knew what was going on, we had lost her", said Schlapbach.

When the clinical team subsequently discussed the case, several key questions emerged: how can health-care staff recognise when a child is getting worse? What can they do about it? What is the biological explanation behind the fulminant deterioration that affects some children? Schlapbach has devoted his career to answering these questions. "We know that children are uniquely susceptible to sepsis due to their maturing immune system. At the same time, they are systematically disadvantaged in many settings as global inequities widen the gap in child health", he said—thus the relevance of having internationally standardised, data-driven, robust criteria for sepsis in children. Together with Scott Watson from Seattle Children's Hospital (Seattle, WA, USA), Schlapbach co-chaired co-chaired the taskforce leading to the Phoenix Criteria for paediatric sepsis and septic shock that drew on more than 3·5 million paediatric encounters from around the world. "While this work is unique for the paediatric discipline, we are hoping to feed into and access growing databases that are even more representative of the global diversity in the next years. Such will be a requirement if, as a discipline, we aim to meet the promise of precision medicine for children and improve the reach into less advantaged settings", Schlapbach told *The Lancet Child & Adolescent Health*.

See **Series** page 670

For the **Phoenix Criteria for paediatric sepsis and septic shock** see *JAMA* 2024; **331:** 665–74

Over the past decade, Schlapbach has borne witness to exciting developments in paediatric critical care. There has been a considerable expansion of paediatric intensive care services in South America, Asia, and parts of Africa. More recently, efforts by various paediatric critical care networks to enrol children in increasingly pragmatic randomised clinical trials have started flourishing. "The paediatric critical care community is realising that we cannot just focus on doing research at a local or national level. We have to boost international trial collaboration to generate high-grade evidence", said Schlapbach. The relative lack of resources available for research involving children makes it even more important that the paediatric community works effectively together. Schlapbach believes that paediatric oncology can serve as a model. "They have delivered outstanding improvements, and precision treatment is already happening. They have done so by creating a culture and research ecosystem where it is unthinkable for a child with cancer not to be offered the possibility of participating in a clinical trial. We need to bring that spirit to paediatric critical care", he said.

Children entering the paediatric intensive care unit (PICU) are typically younger than 5 years, a crucial time in their development. Their chances of survival have improved considerably overall, but what happens in the PICU can still define the rest of their lives. One in six children who have been in the PICU struggle at school, for example. "Too often, critical illness will hinder the child to reach their full potential later in life, and we often don't know whether we could have done a better job if we had the right evidence and tools", Schlapbach explains. "As patients and families become increasingly ingrained in PICU research and practice, the importance of outcomes beyond traditional metrices of PICU performance has gained momentum."

The PICU is a highly pressured environment. "The challenges are never ending, but at the same time, the PICU is a place with a great sense of purpose", said Schlapbach. "What gives me comfort is knowing that I am part of a highly dedicated team that is trying to do its best for the patient and family. Your resilience can come under attack and you cannot help but think about the things you could have done better, so it is really important to invest in an ongoing learning health system." Learning at a personal and local level thus needs to go hand in hand with advancing through research and systematic quality improvement, which in turn requires agile exchange with colleagues through trials and collaborations. Besides, the rewards are enormous. "Enabling good outcomes for children is of immense value for society and of course it is the most precious gift for families.

Talha Burki