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Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

Supplement to: Supplement to: Arias AV, Lintner-Rivera M, Shafi NI, et al. A research definition and framework for acute paediatric critical illness across resource-variable settings: a modified Delphi consensus. *Lancet Glob Health* 2024; published online Jan 5. https://doi.org/10.1016/S2214-109X(23)00537-5.

SUPPLEMENTARY MATERIALS

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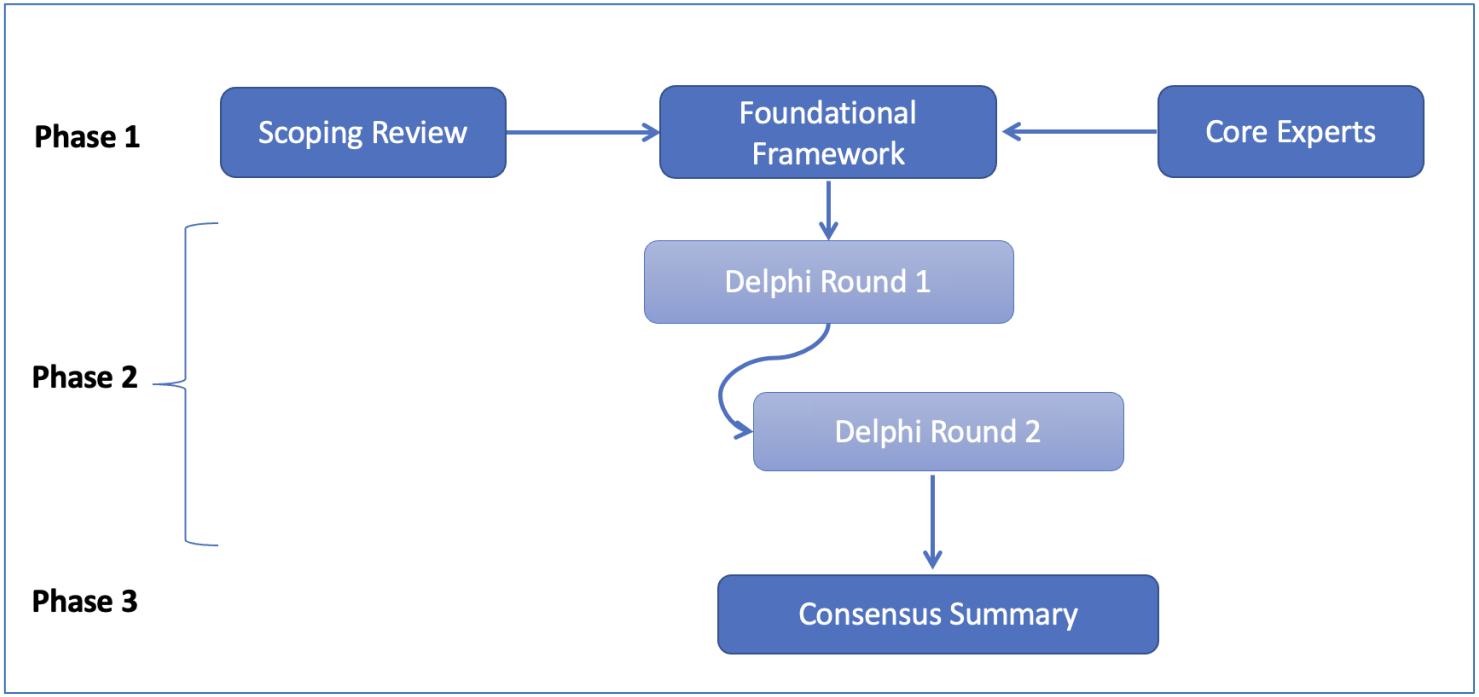
Appendix 1. DEFCRIT Methodological Phases



Appendix 2. Search Strategies

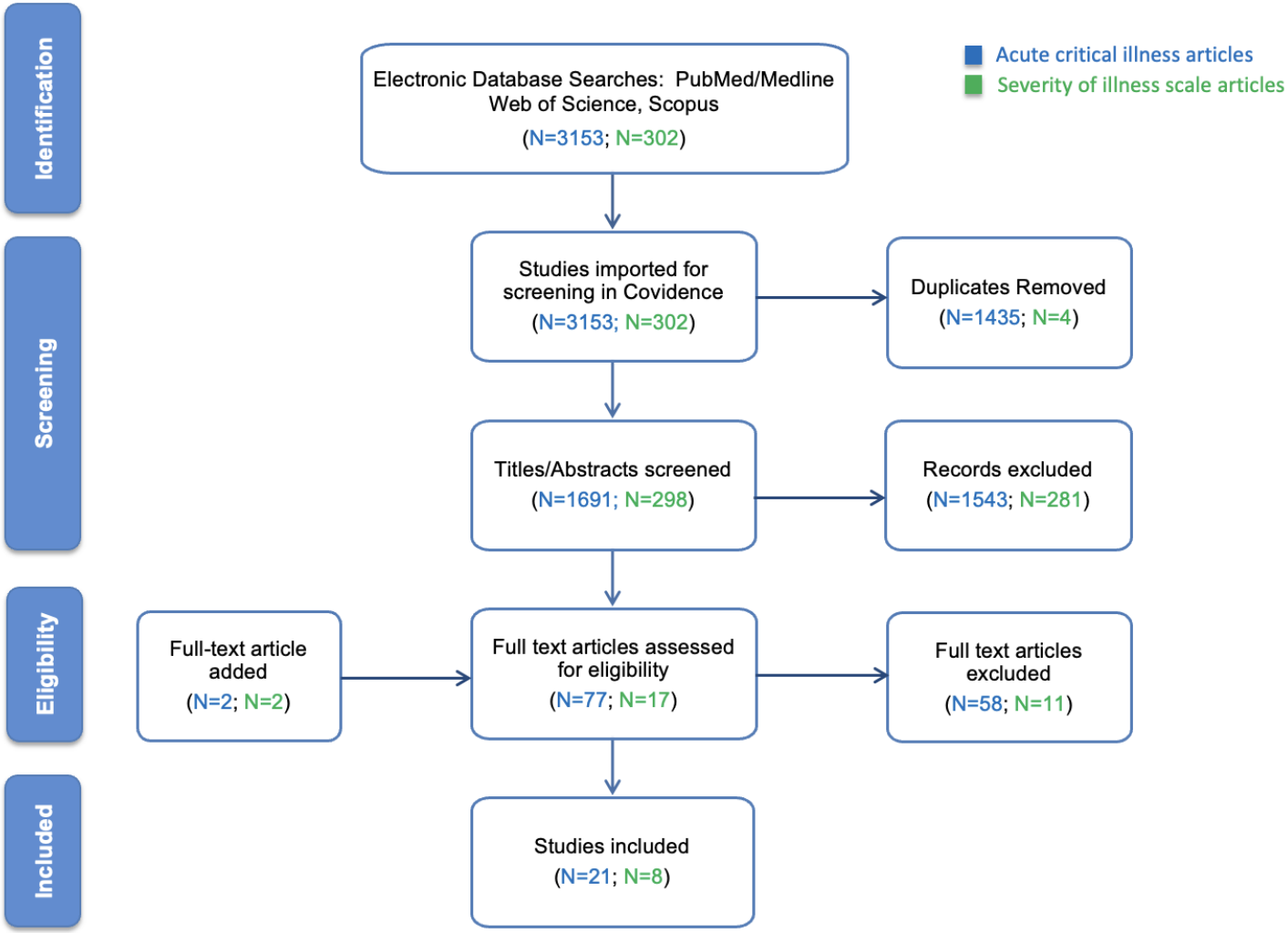
SEARCHES FOR CRITICAL ILLNESS DEFINITION

MEDLINE (OVID)	("critical care" or "critical illness" or "intensive care" or "critically ill").ab,ti. adj6 (definition or defined or "consensus definition").ab,ti. Limit to yr="1980-Current"
EMBASE (EMBASE.COM)	(('critical care' OR 'critical illness' OR 'intensive care' OR 'critically ill') NEAR/5 (definition OR defined OR 'consensus definition')):ab,ti,kw AND [1980-2021]/py
SCOPUS (ELSEVIER)	TITLE-ABS-KEY (("critical care" OR "critical illness" OR "intensive care" OR "critically ill") W/5 (definition OR defined OR "consensus definition")) AND PUBYEAR AFT 1980

SEARCH FOR SEVERITY OF ILLNESS SCALES IN DEVELOPING COUNTRIES

EMBASE (EMBASE.COM)	**#1**: ('disease severity' OR 'severity of illness') NEAR/3 (scale* OR scor* OR index OR indices)):ab,ti OR 'severity of illness index'/de OR 'disease severity assessment'/de **#2**: 'developing countr*':ab,ti OR 'developing nation*':ab,ti OR 'low income countr*':ab,ti OR 'low income nation*':ab,ti OR 'lower-middle income countr*':ab,ti OR 'lower-middle income nation*':ab,ti OR LMIC:ab,ti OR LMICs:ab,ti OR 'low resource setting*':ab,ti OR 'lower resource setting*':ab,ti OR 'resource limited setting*':ab,ti OR 'limited resource setting*':ab,ti OR 'resource constrained setting*':ab,ti OR 'low income country'/de OR Somalia:ab,ti OR Niger:ab,ti OR Chad:ab,ti OR 'Burkina Faso':ab,ti OR Mali:ab,ti OR 'Central African Republic':ab,ti OR Burundi:ab,ti OR Mozambique:ab,ti OR Guinea:ab,ti OR Afghanistan:ab,ti OR Ethiopia:ab,ti OR 'Sierra Leone':ab,ti OR Benin:ab,ti OR Sudan:ab,ti OR Liberia:ab,ti OR Congo:ab,ti OR Malawi:ab,ti OR Senegal:ab,ti OR Eritrea:ab,ti OR Madagascar:ab,ti OR Gambia:ab,ti OR Uganda:ab,ti OR 'Solomon Islands':ab,ti OR 'Cote d`Ivoire':ab,ti OR 'Ivory Coast':ab,ti OR Yemen:ab,ti OR Togo:ab,ti OR Nepal:ab,ti OR Tanzania:ab,ti OR Rwanda:ab,ti OR Haiti:ab,ti OR Pakistan:ab,ti OR Somalia/de OR Niger/de OR Chad/de OR 'Burkina Faso'/de OR Mali/de OR 'Central African Republic'/de OR Burundi/de OR Mozambique/de OR Guinea/de OR Afghanistan/de OR Ethiopia/de OR 'Sierra Leone'/de OR Benin/de OR 'Guinea-Bissau'/de OR 'South Sudan'/de OR Liberia/de OR 'Democratic Republic Congo'/de OR Malawi/de OR Senegal/de OR 'Papua New Guinea'/de OR Eritrea/de OR Madgascar/de OR Gambia/de OR Uganda/de OR 'Solomon Islands'/de OR 'Cote d`Ivoire'/de OR Yemen/de OR Togo/de OR Nepal/de OR Tanzania/de OR Rwanda/de OR Haiti/de OR Pakistan/de Bhutan:ab,ti OR Comoros:ab,ti OR Djibouti:ab,ti OR Cambodia:ab,ti OR Angola:ab,ti OR Zimbabwe:ab,ti OR Bangladesh:ab,ti OR Vanuatu:ab,ti OR Laos:ab,ti OR Cameroon:ab,ti OR Honduras:ab,ti OR Mauritania:ab,ti OR 'Sao Tome':ab,ti OR Zambia:ab,ti OR Lesotho:ab,ti OR Kenya:ab,ti OR 'Timor-Leste':ab,ti OR Nigeria:ab,ti OR Nicaragua:ab,ti OR Myanmar:ab,ti OR Burma:ab,ti OR 'Cape Verde':ab,ti OR 'Cabo Verde':ab,ti OR Guatemala:ab,ti OR Kiribati:ab,ti OR Tajikistan:ab,ti OR 'Marshall Islands':ab,ti OR Morocco:ab,ti OR Ghana:ab,ti OR 'North Korea':ab,ti OR Maldives:ab,ti OR Bolivia:ab,ti OR India:ab,ti OR 'El Salvador':ab,ti OR Eswatini:ab,ti OR Swaziland:ab,ti OR Micronesia:ab,ti OR Palestine:ab,ti OR Tuvalu:ab,ti OR 'Dominican Republic':ab,ti OR Kyrgyzstan:ab,ti OR Belize:ab,ti OR Mongolia:ab,ti OR Venezuela:ab,ti OR Bhutan/de OR Comoros/de OR Djibouti/de OR Cambodia/de OR Angola/de OR Zimbabwe/de OR Bangladesh/de OR Vanuatu/de OR Laos/de OR Cameroon/de OR Honduras/de OR Mauritania/de OR 'Sao Tome and Principle'/de OR Zambia/de OR Lesotho/de OR Kenya/de OR 'Timor-Leste'/de OR Sudan/de OR Nigeria/de OR Nicaragua/de OR Myanmar/de OR 'Cape Verde'/de OR Guatemala/de OR Kiribati/de OR Tajikistan/de OR 'Marshall Islands'/de OR Morocco/de OR Ghana/de OR 'North Korea'/de OR Maldives/de OR Bolivia/de OR India/de OR Congo/de OR 'El Salvador'/de OR Eswatini/de OR 'Federated States of Micronesia'/de OR Palestine/de OR Tuvalu/de OR 'Dominican Republic'/de OR Kyrgyzstan/de OR Belize/de OR Mongolia/de OR Venezuela/de **#3**: #1 AND #2 **#4**: ([adult]/lim OR [middle aged]/lim OR [young adult]/lim) **#5**: #3 NOT #4

Appendix 3. Flow Diagram of Selected Studies. The PRISMA-ScR (Preferred reporting items for Systematic Reviews and Meta-Analysis guidelines extension for Scoping Reviews) flow diagram details the process of article identification and selection. The initial search resulted in 3455 articles. After duplicates were removed, 1989 abstracts were screened. This process left 94 records for full-text screening. An additional 4 records were identified from other sources. Twenty-nine articles were included for the development of the DEFCRIT framework.



Appendix 4. Included Studies from the Scoping Review

Author, Publication Year	Title	Country	Study design	Hospital setting (ER, PICU, etc.)	Years of Study	Patient population age/ # participants	Key Concepts/Characteristics used to inform foundational framework (bolded)
DEFINITION OF CRITICAL ILLNESS							
Bone et al., 1992[1]	American College of Chest Physicians/Society of Critical Care Medicine Consensus Conference (ACCP/SCCM): Definitions of sepsis and organ failure and guidelines for use of innovative therapies in sepsis	USA	Consensus Conference	N/A	N/A	Adults/ N/A	**Life-threatening** critical illness is a process of **progressive physiologic failure or decline** toward **multiple organ dysfunction**. MODS defined as presence of altered organ function in an acutely ill patient such that **homeostasis cannot be maintained without intervention**.
Fromm et al., 1993[2]	Critical care in the emergency department: A time-based study	USA	Prospective, cohort	Single center, ER	1991-1992	Adult and pediatric/ 1527 patients	Critical illness defined as patients who were **admitted from the ER to intensive care units/special care units, operating room** or who died in the ER
Muckart et al., 1997[3]	ACCP/SCCM Consensus Conference: Definitions of systemic inflammatory response syndrome and allied disorders in relation to critically injured patients.	South Africa	Prospective, cohort	Single center, Surgical ICU	N/A	Adults (18+)/450 patients	Critically ill injured patients without head trauma admitted to the ICU with **progressive physiologic deterioration** and increasing **organ dysfunction**. Determined frequency of SIRS, Sepsis, Septic Shock, severe SIRS and sterile shock in this patient population per their consensus definitions.
Goh et al., 1999[4]	Sepsis, severe sepsis and septic shock in pediatric multiple organ dysfunction syndrome	Malaysia	Prospective, cohort	Single center, ICU	1995-1996	Pediatric (1 mo - 144 months)/495 patients	Critical illness defined as a **life-threatening** condition and **progressive dysfunction in 2 or more related organ systems** or MODS. Categorized patients using the ACCP/SCCM consensus criteria for sepsis and worst physiology the first 48hr of admission to ICU.
Pronovost et al., 1999[5]	Determining the value of critical care	USA	Review	N/A	N/A	N/A	Uses SCCM definition of critical care; "critical care medicine combines physicians, nurses and allied health professions in the coordinated and collaborative management of patients with **life threatening single or multiple organ system failure**; resulting in "**physiologic instability**". The critical care continuum begins at the moment of illness or injury and continues throughout the patient's hospitalization and subsequent recovery. **Critical care is most often practiced in the ICU but it can be delivered anywhere**."
Henderson et al., 2002[6]	Risk adjusted mortality of critical illness in a defined geographical region	England	Retrospective, Cross-sectional	Multicenter (all inpatient settings)	1996-1998	Pediatric (0-16 years)/1148 patients	Defined critical illness by specific diagnosis (bacterial meningitis, meningococcal septicemia, GSC <12, ARF, Fits lasting >1hr, cardiac arrhythmias) and intervention criteria (any airway intervention, ventilation, supplemental O2, CPR, nebulized adrenaline/bronchodilators, IVF resuscitation, apneas, continuous IV drug infusion, special nursing > 12hr). Large number of **critically ill children were not admitted to ICUs with a small number of deaths**.
Maybloom et al., 2002[7]	Admissions for critically ill children: where and why?	England	Descriptive survey (Cross sectional)	Multicenter (all inpatient settings)	1996-1997	Pediatric (0-16 years)/4700 patients	Critical illness defined as **acute body-system or multi-system failure** with criteria adapted from PALS guidelines. Need for intensive care was defined as needing tracheal intubation. A significant number of critically illness episodes **occurred on wards** with 62% receiving their care in the ward.
Durham et al., 2003[8]	Multiple Organ Failure in Trauma Patients	USA	Prospective descriptive	Single center ICU	1996-1999	Adults/869 patients	Critically ill trauma patients defined as those patients **admitted to ICU with organ failure**.
Adhikari et al., 2010[9]	Critical care and the global burden of critical illness in adults	Canada	Review -Series article	N/A	N/A	Adults/ N/A	Critical illness includes a patient's **complexity of illness, severity of illness, organ dysfunction and risk of imminent death, irrespective of physical location**. Most patients receive care in an ICU. These patients fall into three main categories: those with **acute organ dysfunction** (including those whose ultimate outcome is unclear and thus receive long-term intensive organ support), those who have undergone a **major procedure and are monitored** in the peri-intervention period to prevent and detect acute organ dysfunction, and those whose trial of intensive care has failed and are **receiving end-of-life care**.

Ferreira et al., 2011[10]	Organ Dysfunction: General Approach, Epidemiology, and Organ Failure Scores	Germany	Review	N/A	N/A	Adults/ N/A	Critically illness defined as **organ dysfunction** in the ICU
Lustbader et al., 2012[11]	Physician Reimbursement for Critical Care Services Integrating Palliative Care for Patients who are Critically Ill	USA	Review	N/A	N/A	N/A	Used the Centers for Medicare and Medicaid definition of critical illness: "Critical care involves high complexity decision making to assess, manipulate, and **support vital system functions(s)** to treat **single or multiple vital organ system failure** and/or **to prevent further life-threatening deterioration** of the patient's condition. Examples of vital organ system failure include but are not limited to: central nervous system failure, circulatory failure, shock, renal, hepatic, metabolic, and/or respiratory failure. Although critical care typically requires interpretation of multiple physiologic parameters and/or application of advanced technology(s), **critical care may be provided in life threatening situations when these elements are not present**. Providing medical care to a critically ill, injured, or post-operative patient qualifies as a critical care service only if both the illness or injury and the treatment being provided meet the above requirements"
Painter, 2013[12]	Critical Care in the Surgical Global Period	USA	Review	N/A	N/A	N/A	Uses the Centers for Medicare and Medicaid Services definition of critical illness: "A critical ill or injured patient **impairing one or more vital organ systems** such that there is a high probability of **imminent or life-threatening deterioration** in the patient's condition." "Vital organ systems include, but are not limited to, failure of the central nervous system, circulatory failure, shock, and failure of the renal, metabolic, and/or respiratory systems. **Requires treatment of single or multisystem vital organ failure** to prevent further deterioration of the patient's condition"
Benneyworth et al., 2015[13]	Cross-sectional comparison of critically ill pediatric patients across hospitals with various levels of pediatric care	USA	Retrospective, Cross-sectional	Multicenter and multiple settings (used PHIS, KID NACHRI and state Medicaid databases)	2009	Pediatrics (0-21 Years)/68,834 discharges from ICU	Critical illness defined as: 1) ICU care using the revenue codes and 2) **Critical care services using diagnosis and procedures codes** (ICD-9-CM) for cardiac or pulmonary arrest, respiratory failure, apnea or invasive mechanical ventilation. Categories of critical illness: respiratory disease, surgical procedures, trauma/burn/injuries, seizures/neurologic diagnoses, cardiac disease, ingestion/toxin exposure/mental health, general infection/sepsis, ECMO or tracheostomy, hematologic/oncology, and others. Invasive procedures: invasive, non-invasive ventilation, CVC, arterial catheters, blood product.
Kievlan et al., 2016[14]	External validation of a prehospital risk score for critical illness	USA	Retrospective, Cohort	Multicenter	2010-2012	Adults (18+)/ 42,550 patients	Critical illness defined as **intensive care unit (ICU) stay with delivery of organ support** (MV or vasopressor)
Lavoie et al., 2016[15]	Defining Patient Deterioration Through Acute Care and Intensive Care Nurses' Perspectives	Canada	Literature review (Dimensional analysis)	ACU/ICU	2002-2012	Adult/ N/A	Critical illness defined as patient deterioration (an **evolving, predictable, and symptomatic process of worsening physiology toward critical illness**)
WHO, 2016[16]	Pediatric emergency triage, assessment and treatment: care of critically-ill children	Global	Guideline	N/A	N/A	Pediatric / N/A	Critical illness defined as **any severe problem with the airway, breathing or circulation, or acute deterioration of conscious state**; includes apnoea, upper airway obstruction, hypoxaemia, central cyanosis, severe respiratory distress, total inability to feed, shock, severe dehydration, active bleeding requiring transfusion, unconsciousness or seizures
Ince, 2017[17]	Personalized physiological medicine	Netherland	Review	N/A	N/A	Adults and pediatrics/ N/A	Critical illness defined as a wide range of disorders with **failing organ systems** being treated with a variety of **drugs and organ-supporting devices**.
Habib et al. 2017[18]	Profile and outcomes of critically ill children in a lower middle-income country	Pakistan	Retrospective chart review	Single center ED	2014	Pediatric (< 14 years)/172,162 visits to the ED	Critical ill children defined as being triaged as level 1 according to Emergency Severity Index or those **requiring immediate life-saving interventions**, such a significant fluid resuscitation, bag mask ventilation, CPR, blood administration, control of major bleeding, need for inotropes or immediate requirement for non-invasive nasal bubble continuous positive airway pressure.
Marini, 2017[19]	Time-sensitive therapeutics	USA	Review	N/A	N/A	N/A	Critically ill **patients are cared for in ICUs**, illness continues well beyond ICU discharge often culminating in **long-term morbidity and mortality**. Critical illness and treatments **disrupt normal physiology** and adaptive mechanisms, and often ignore biorhythms, destabilizing

							and perhaps invalidating normal physiological controls. In **life-threatening** critical illness there is a pattern rigidity, disproportionate reactions, and monotony that indicate loss of compensatory reserve**.** Selection of treatments should be based on awareness of evolving pathophysiology.
Diaz et al., 2019[20]	Global Critical Care: Moving forward in resource-limited settings	USA/Brazil/ Canada	Review	N/A	N/A	N/A	Patients with critical illness defined as **requiring ICU care for acute, life-threatening complications**. ICUs are "staffed with highly **specialized health care professionals**, **systematic monitoring** and use of **high-cost technology**"
Agulnik et al., 2021[21]	Clinical and organizational risk factors for mortality during deterioration events among pediatric oncology patients in Latin America: A multicenter prospective cohort	Latin America	Multicenter, prospective cohort	Multicenter inpatient settings	2021	Pediatric (3.8-13.1)/467 patients	Critical illness defined as clinical deterioration events or any hospitalized pediatric oncology patient requiring unplanned transfer to **higher level of care, ICU-level intervention** on the floor (vasoactive infusion, invasive or noninvasive MV, CPR) or floor **death in a patient without limitation on resuscitation** (non-palliative death)
PEDIATRIC SEVERITY OF ILLNESS SCALES IN LOW- AND MIDDLE-INCOME COUNTRIES							
Bains et al. 2012[22]	A Simple clinical score "TOPRS" to predict outcome in pediatric emergency department in a teaching hospital in India	India	Prospective cohort study	Single-center, ER	2009	Pediatric/777 patients	Used a simple clinical scoring system for **severity of illness** (**TOPRS** - 6 clinical variables: **temperature, O2 saturation, HR, RR, sensorium and seizures**) to help prioritize care and predict outcome in emergency department
George et al., 2015[23]	Predicting mortality in sick African children: the FEAST Paediatric Emergency Triage (PET) Score	Tanzania, Uganda, Kenya	Retrospective cohort from randomized controlled trial	Multicenter	2009-2011	Pediatric/3170 patients	Used 8 clinical variables (**temperature, HR, cap refill time, conscious level, severe pallor, respiratory distress, lung crepitations, and weak pulse volume**) to create the **FEAST PET score** to determine risk for mortality
Hansoti et al. 2017[24]	SCREEN: A simple layperson administered screening algorithm in low resource international settings significantly reduces waiting time for critically ill children in primary healthcare clinics	South Africa	Prospective, implementation -effectiveness hybrid study	Multicenter, clinics	2014, 2016	Pediatric/3383 patients	Critically ill children identified by the screening algorithm **SCREEN** to expedite care. SCREEN was used by non-medical support staff; designated "Red" children were considered **"critically ill" if positive for any of the 6 questions (unable to drink/breastfeed, vomiting, convulsions, lethargy, <2 mo age, prior visit in the last 2 days)**
Patki et al., 2017[25]	Comparison of Severity Scoring Systems in a Pediatric Intensive Care Unit in India: A Single Center Prospective, Observational Cohort Study	India	Prospective cohort study	PICU	2011-2012	Pediatric (1 mo-18 years)/132 patients	Evaluated performance of PRISM an PIM in predicting mortality in PICU patients in India. **PIM was more convenient as it has less variables**.
Gulla et al. 2020[26]	Illness severity and organ dysfunction scoring in Pediatric Intensive Care Unit	India	Review	N/A	N/A	Pediatrics/ N/A	Reviewed **PRISM, PIM and PELOD** scores. Their validations in developing countries have shown **mixed results and may not be applicable in developing nations** due to resource limitations, different patient characteristics and inadequate staff training.
Muttalib et al., 2020[27]	Performance of Pediatric Mortality Prediction Models in Low- and Middle-Income countries: A systematic review and Meta-analysis	Global	Systematic Review and Meta-Analysis	Multicenter, inpatient settings	2000-2019	Pediatrics/ N/A (15 studies included)	Describes the performance of different prognostic models for mortality or clinical deterioration events in hospitalized children in LMICs. Several have been **validated in single cohorts, more rigorous validation is required** before clinical implementation.
Lalitha et al, 2021[28]	Sequential Organ Failure Assessment Score as a Predictor of Outcome in Sepsis in Pediatric Intensive Care Unit	India	Prospective, cohort	PICU	2017-2019	Pediatric (1 mo - 18 years)/240 patients	Comparison of pSOFA (day 1 and 3), PRISM III (first 24hrs) and PELOD-2 (day 1,3,5) to predict mortality in PICU patients with sepsis. **Single center use of severity scores for mortality.**
Von Saint Andre-von Armin, et al. 2021[29]	Feasibility of family-assisted severity of illness monitoring for hospitalized children in low-income settings	Kenya	Prospective, cohort	Single-center, inpatient ward and acute rooms	2017	Pediatric (2 mo - 12 yo)/107 patients	Severity of illness identified by caregivers using the **FASTER** (Family Assisted Severe Febrile Illness Therapy) tool which quantifies patients' **work of breathing, mental status, and perfusion, producing color-coded flags to signal illness severity**.

Appendix 5. Focus Group Survey Questions

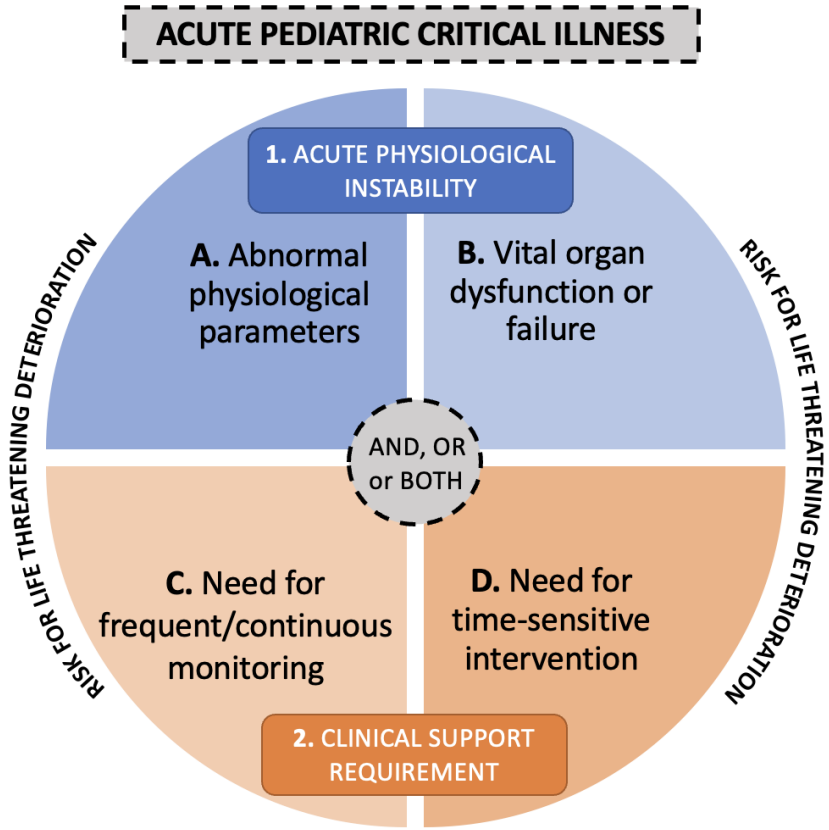
FOCUS GROUP SURVEY QUESTIONS
Questions: **1. Why is pediatric critical care definition important for research purposes in resource-limited settings?** **2. What defines acute pediatric critical illness and how is it understood in the current literature?** **3. What are some key components that define acute pediatric critical illness across resource variable settings, including setting without an ICU? (e.g., life-threatening condition, intensity of care, etc.)** **4. What factors point to 'critical illness or severe disease' in a pediatric patient (e.g., physiologic response, need for continuous monitoring, etc.)?** **5. How can we move beyond the current knowledge and stablish a framework that can be used for future research?**

Appendix 6. Focus group survey responses and key concepts from the scoping review used for the development of the foundational DEFCRIT framework.

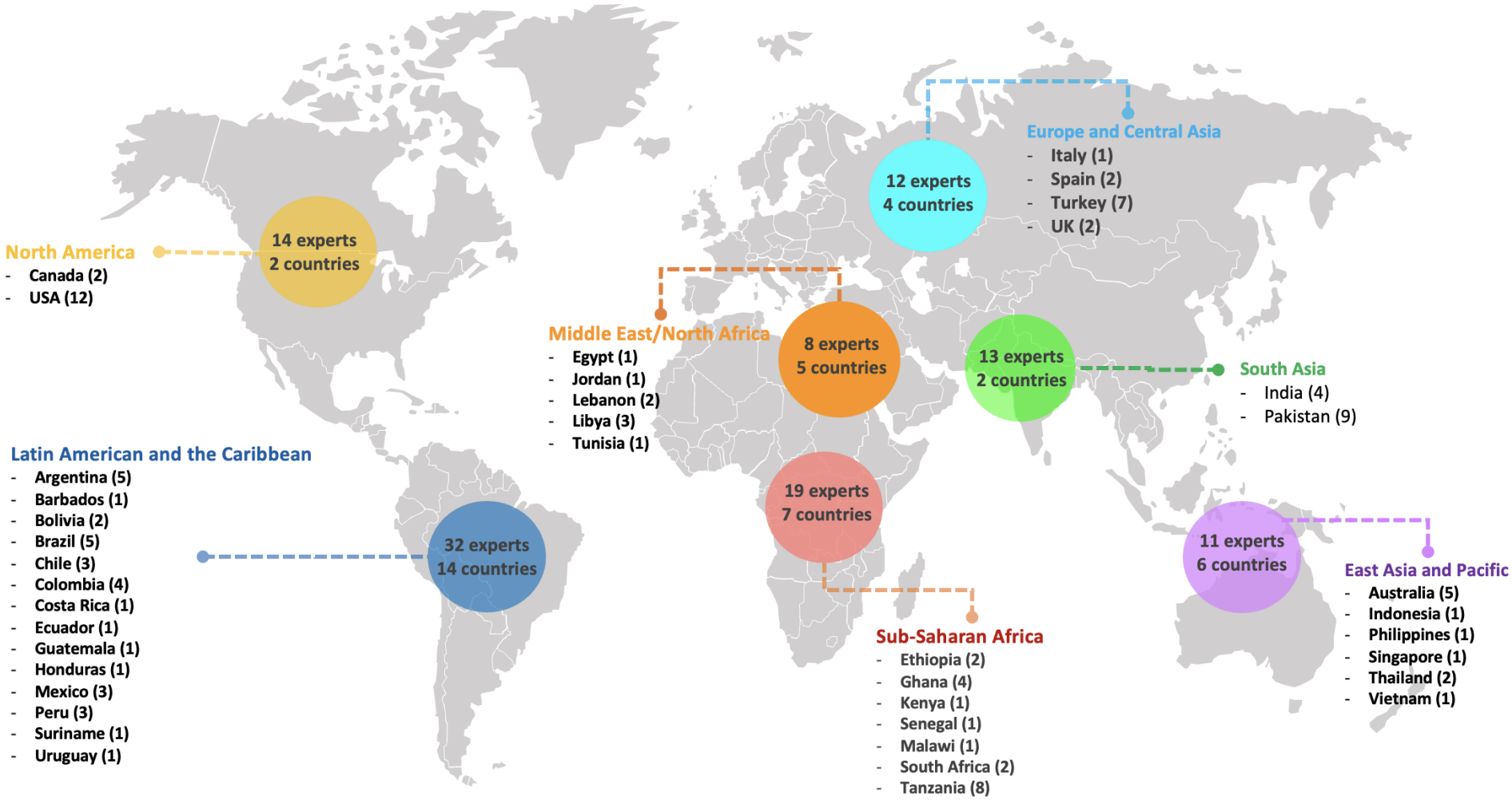
SURVEY ANSWERS TO QUESTION 1	
• Standardization of research • Comparison and Benchmark • Understanding management of patients in resource limited setting • Understand disease patters and resources required • Advocacy • Capacity building • Resource allocation • Advance research in the prioritization of patients needing higher level of care • Advance research in resource limited settings	**The importance for a consensus research definition**
SURVEY ANSWERS TO QUESTIONS 2-4 AND KEY CONCEPTS EXTRACTED FROM SCOPING REVIEW (See Appendix 5)	**Main Categories (Attributes) extracted from scoping review and expert opinion (focus group survey)**
Acute physiological instability that threatens life Physiological abnormality demonstrated by deviation from normal vital signs Physiologic parameters that fall more than 2-3SD from normal range (or red zone on PEWS) Hemodynamic instability	1. Physiological instability/dysfunction
Illness that places patients at risk for severe acute organ dysfunction Single or multi-organ dysfunction or failure Organ dysfunction that requires support	2. Vital Organ Dysfunction
Conditions that place patients at risk for death At risk for disability or mortality Illness with high probability of imminent or life-threatening deterioration Children presenting with conditions that need to be treated as emergencies	3. Life-threatening/Severe illness
Need for rapid interventions without which there can be significant risk to life Timely interventions or treatment to avoid disability or death Lack of support or delays in care lead to significant morbidity or mortality Need for prompt advanced life support interventions to restore organ function Timely organ support Illness needing frequent monitoring or reassessment to be able to intervene on time Need for rapid response to avoid deterioration	4. Time Sensitive Interventions

Need for continuous monitoring of vital signs and physiological activity Requires frequent human and technological support Organ failure requiring advance support Need for highly specialized personnel for monitoring and management Need for close, frequent, and continuous monitoring for early detection of anticipated deteriorating conditions Need for greater staff to patient ratio Illness that requires critical care Conditions that need admission to special care units (may not be available in LMICs) Probability of death may be highly dependent on resource availability Illness that requires intensive support	5. Intense clinical support/critical care
Potentially reversible Illness that may be reversible with timely organ support	6. Pontial Reversibility
Critical Illness can occur irrespective of physical location In LMICs critical illness may need to be manage on the regular wards	7. Location independence

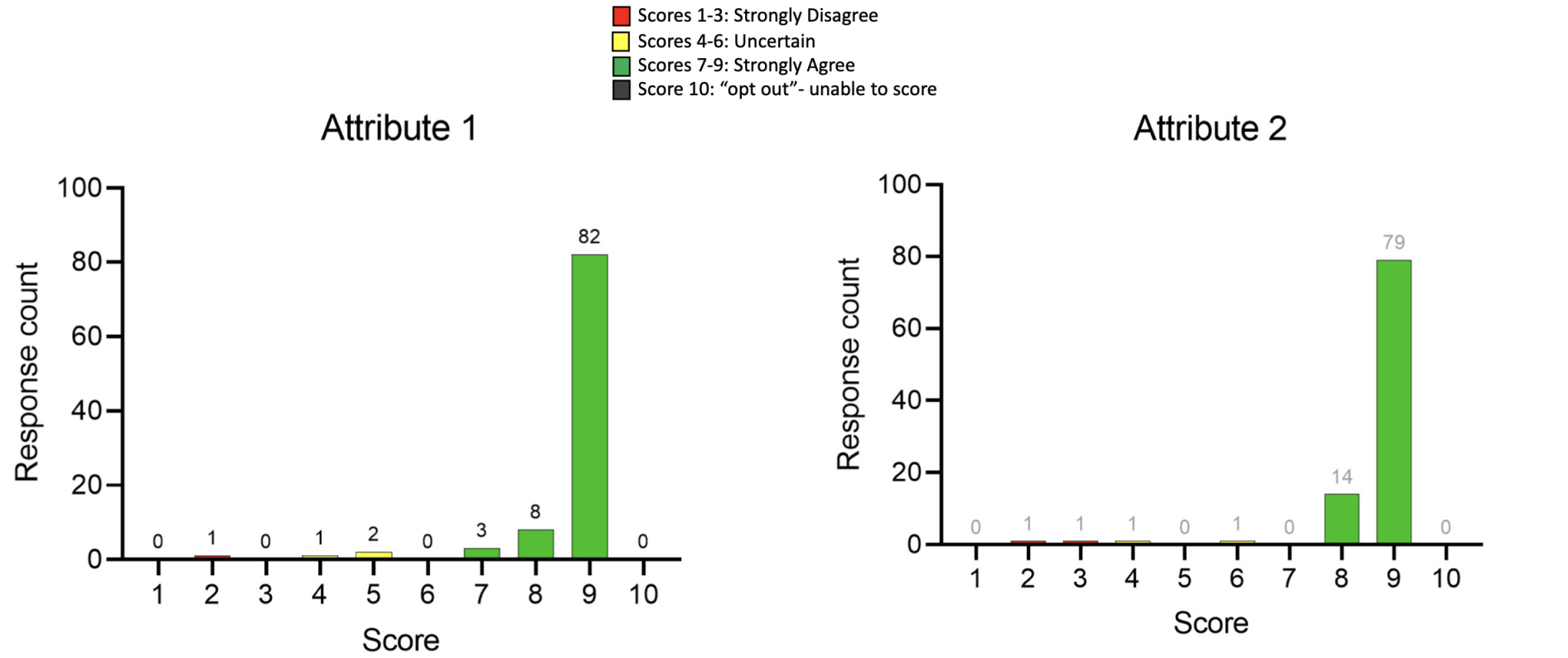
Appendix 7. DEFCRIT foundational framework of Domains and Subdomains. The framework includes two domains (1. Acute physiologic instability and 2. Clinical support requirement). Domain 1 encompasses the subdomains: A. abnormal physiological parameters and B. vital organ dysfunction or failure. Domain 2 encompasses the subdomains: C. need for frequent or continuous monitoring and D. need for time-sensitive interventions.



Appendix 8. Map Showing Locations of the Panel of Experts. This map shows the location of participating experts, N= 109 experts from 40 countries



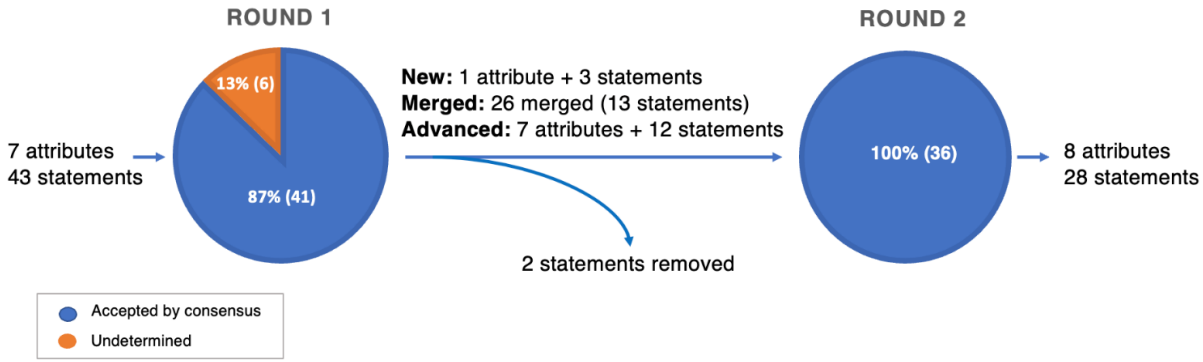
Appendix 9. Manner in which results were displayed to the panel of experts – Example showing how results were presented to the panel of experts in graphical and tabular formats to display central tendencies, percentages, and frequency distributions.



ATTRIBUTES		Median	% Agreement
Attribute 1	Physiological instability	9	95.88

ATTRIBUTES		Median	% Agreement
Attribute 2	Impairment of one or more vital organs	9	95.88

Appendix 10. Consensus Round Results – Only indicators reaching consensus were selected for the DEFCRIT framework. The figure summarized the results, and the table shows scores for each statement in both rounds. During round one, experts added 1 new attribute and 3 statements, merged 26 statements and advanced 7 attributes and 12 statements to round 2 for rating agreement on a scale of 1-9. Two statements were removed after round 1. The final DEFCRIT framework contains 8 attributes and 28 statements.



	ROUND 1		ROUND 2	
ATTRIBUTES OF ACUTE PEDIATRIC CRITICAL ILLNESS	**Median (range; IQR)**	**% Agreement**	**Median (range; IQR)**	**% Agreement**
Attribute 1. Physiological instability	9 (1-9; 1)	93.6 %	9 (2-9; 0)	95.9 %
Attribute 2. One or more vital organ dysfunction or failure	9 (1-9; 1)	92.7 %	9 (2-9; 0)	95.9 %
Attribute 3. Risk of imminent life-threatening deterioration or death	9 (1-9; 0)	92.7 %	9 (3-9; 0)	99.0 %
Attribute 4. Requires appropriate and time-sensitive intervention and/or monitoring	9 (1-9; 1)	93.6 %	9 (6-9; 0)	97.4 %
Attribute 5. Location Independence	9 (1-9; 2)	86.2 %	9 (6-9; 0)	99.0 %
Attribute 6. Independence from resource availability	9 (1-9; 1)	85.3 %	9 (1-9; 0)	95.9 %
Attribute 7. Potential reversibility	8 (1-9; 2)	79.8 %	9 (3-9; 1)	94.8 %
Attribute 8. Acute or sudden onset of illness or clinical deterioration	X	X	9 (3-9; 1)	88.9 %
1. **DOMAIN:** ACUTE PHYSIOLOGICAL INSTABILITY A. **SUBDOMAIN**: ABNORMAL PHYSIOLOGICAL PARAMETERS				

Statement 1. Pediatric patients 'at-risk for' or 'with acute critical illness' might have abnormal physiological parameters in absence of clinical support (Subdomain A)	9 (1-9; 1)	94.3 %	9 (6-9; 0)	97.9 %
Statement 2. Pediatric patients 'at-risk for' acute critical illness might have one or more abnormal physiological parameters or vital signs in the absence of clinical support	8 (1-9; 2)	75.5 %	9 (2-9; 1)	96.9 %
Statement 3. Pediatric patients 'with acute critical Illness' might have persistent (>1hr) or worsening abnormality of one or more physiological parameters or vital signs in the absence of or despite clinical support	9 (1-9; 2)	85.8 %	9 (2-9; 1)	92.8 %
Statement 4. Normal range of vital signs for patients 'at-risk for' acute critical illness can be defined with any available references (merged with statement 5)	9 (1-9; 1)	89.6 %	9 (1-9; 0)	99.0 %
Statement 5. Normal range of vital signs (for patients at-risk or with acute critical illness) can be defined using any accepted references (merged statement)	9 (1-9; 1)	91.5 %		
Statement 6. Primary vital signs for patient 'at-risk for' acute critical illness (merged with statement 7)	9 (1-9; 1)	94.3 %	9 (4-9; 0)	95.9 %
Statement 7. Examples of physiological parameters or vital signs (merged statement)	9 (1-9; 1)	94.3 %		
Statement 8. Other vital signs for patients 'at-risk for' acute critical illness (merged with statement 9)	8 (1-9; 3)	67.9 %	8.5 (1-9; 1)	95.9 %
Statement 9. Other examples of physiological parameters to consider (merged statement)	8 (1-9; 2)	75.5 %		
Statement 10. Physiological parameters and vital signs for 'at-risk' patients can be monitored using non-invasive and if available by invasive monitoring (merged with statement 11)	9 (1-9; 1)	91.5 %	9 (6-9; 0)	99.0 %
Statement 11. Physiological parameters and vital signs can be monitored using non-invasive and if available by invasive monitoring (merged statement)	9 (1-9; 1)	94.3 %		
Statement 12. Pediatric patient at risk of critical illness that have only 1 abnormal vital must have vital organ dysfunction	7 (1-9; 3.25)	64.2 %	REMOVED (after R1; not included in R2)	
Statement 13. Pediatric patient with critical illness that have only 1 abnormal vital must have vital organ dysfunction	8 (1-9; 2.25)	73.6 %	REMOVED (after R1; not included in R2)	
1. DOMAIN: ACUTE PHYSIOLOGICAL INSTABILITY **B. SUBDOMAIN**: VITAL ORGAN DYSFUNCTION/FAILURE				
14. Pediatric patients 'at-risk for' or 'with acute critical illness' might have new or acute vital organ dysfunction/failure requiring clinical support (Subdomain B).	9 (1-9; 1)	87.6 %	9 (5-9; 1)	94.9 %
15. Pediatric patients 'at-risk for' acute critical illness might be suspected to have or be at-risk for new/acute vital organ dysfunction/failure requiring clinical support.	X	X	9 (5-9; 1)	94.9 %
16.Pediatric patients with 'acute critical illness' have confirmed new/acute vital organ dysfunction/failure requiring clinical support.	X	X	9 (5-9; 1)	95.9 %
17. Pediatric patients 'at-risk for' critical illness can have Neurological impairment (merged with statement 18)	8 (1-9; 2)	82.9 %	8 (2-9; 1)	95.9 %
18. Examples of clinical features of Neurological dysfunction/failure (merged statement)	9 (1-9; 1)	95.2 %		

19. Pediatric patients 'at-risk for' critical illness can have Respiratory impairment (merged with statement 20)	8 (1-9; 1)	94.3 %	9 (6-9; 0)	97.9 %
20. Examples of clinal features of Respiratory dysfunction/failure (merged statement)	9 (1-9; 0)	97.1 %		
21. Pediatric patients 'at-risk for' critical illness can have Cardiovascular impairment (merged with statement 22)	9 (1-9; 1)	89.5 %	9 (5-9; 0)	97.9 %
22. Examples of clinal features of Cardiovascular dysfunction/failure (merged statement)	9 (1-9; 1)	96.2 %		
23. Other organ dysfunctions do not occur without affecting in some way the above vital organs	8 (1-9; 2)	84.8 %	9 (2-9; 1)	93.8 %
24. Vital organ dysfunction/failure can also be defined using any accepted references	X	X	9 (3-9; 1)	97.9 %
1. DOMAIN: CLINICAL SUPPORT-REQUIREMENT **C. SUBDOMAIN:** NEED FOR FREQUENT OR CONTINUOUS MONITORING				
25. Pediatric patients 'at-risk for' or 'with acute critical illness' might need frequent or continuous monitoring (Subdomain C)	9 (1-9; 0)	98.1 %	9 (6-9; 0)	96.9 %
26. Pediatric patients 'at-risk for' acute critical illness might need frequent (at least every 2hrs) human-dependent monitoring or assessment (by trained healthcare staff and/or caregivers)	9 (1-9; 1)	85.6 %	9 (4-9; 1)	94.9 %
27. Pediatric patients 'with acute critical Illness' might need continuous human-dependent monitoring or assessment (by healthcare staff and/or caregivers) for monitoring and patient assessment	9 (1-9; 0)	94.2 %	9 (1-9; 0)	96.9 %
28. Examples of human dependent assessment for 'at-risk' patients (merged with Statement 29)	9 (1-9; 1)	95.2 %	9 (7-9; 0)	99.0 %
29. Examples of human-dependent monitoring/assessment (merged statement)	9 (1-9; 0)	98.1 %		
30. Device-dependent assessment can be done in addition to human-assessment in 'at-risk' patients (merged with Statement 31)	9 (1-9; 0.5)	95.2 %	9 (7-9; 0)	99.0 %
31. If resources are available, then device-dependent (e.g., non-invasive or invasive), laboratory and/or imaging-based monitoring can be used in addition to human assessment (merged statement)	9 (1-9; 0)	97.1 %		
32. Device-dependent assessment for 'at-risk' patients (merged with statement 33)	9 (1-9; 1)	90.4 %	9 (8-9; 0)	99.0 %
33. Examples of device-dependent monitoring (merged statement)	9 (1-9; 1)	95.2 %		
2. DOMAIN: CLINICAL SUPPORT-REQUIREMENT **D. SUBDOMAINS:** NEED FOR TIME-SENSITIVE INTERVENTION				
34. Pediatric patients 'at-risk for' or 'with acute critical illness' might need time-sensitive interventions to support vital organ and avoid risk for further deterioration or death (Subdomain D)	9 (1-9; 0)	96.2 %	9 (6-9;0)	97.9 %

35. Pediatric patients 'at-risk for' acute critical illness need hands-on interventions (merged with statement 36)	9 (1-9; 2)	84.6 %	9 (2-9; 1)	91.8 %
36. Pediatric patients 'at-risk for' or 'with acute critical illness' might need frequent (at least every 2 hours) time-sensitive hands-on interventions (merged statement)	9 (1-9; 1)	90.4 %		
37. Pediatric patients 'at-risk for' critical illness need time sensitive life-supporting interventions (merged with statement 38)	9 (1-9; 1)	91.3 %	9 (3-9; 0)	96.9 %
38. Pediatric patients 'at-risk for' or 'with acute critical illness' might need a time sensitive life-supporting intervention based on available resources and clinical judgement (merged statement)	9 (1-9; 0)	96.2 %		
39. Examples of life-supporting interventions for children 'at-risk' of critical illness (merged with statement 40)	9 (1-9; 1)	93.3 %	9 (6-9; 0)	96.9 %
40. Examples of life-supporting interventions (merged statement)	9 (1-9; 0)	98.1 %		
OTHER CONSIDERATIONS				
41. Studies in pediatric critical illness can include children from 1-month to 18-years old.	9 (1-9; 1)	89.4 %	9 (2-9; 0)	95.9 %
42.Pediatric population can be categorized or sub-grouped by age group, for example with the WHO classification	9 (1-9; 1)	84.6 %	9 (5-9; 0)	97.9 %
43. Comorbidities, pre-existing, or high-risk conditions should be considered and documented when studying acute pediatric critical illness	9 (1-9; 1)	93.3 %	9 (7-9; 0)	99.0 %
DEFINITION				
- Proposed research definition for Acute Pediatric Critical Illness	X	X	9 (7-9; 0.25)	99.0 %
- Definition can be used in studies aiming to include patients with chronic conditions who develop new acute critical illness	X	X	9 (5-9; 1)	94.9 %

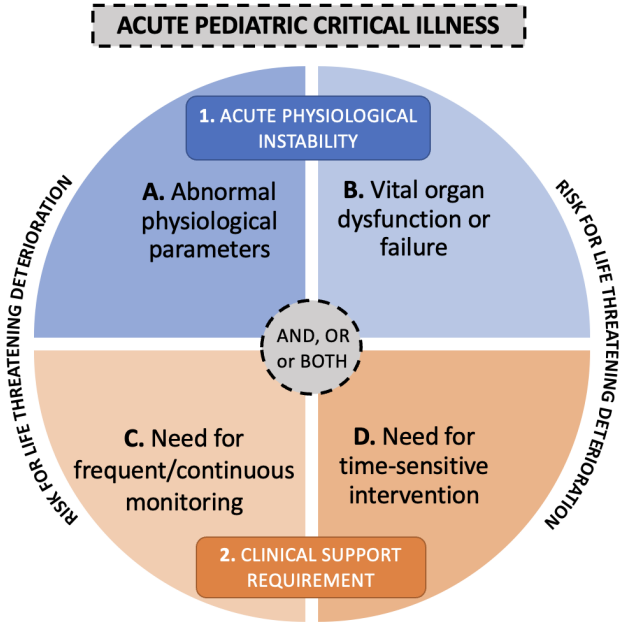
Scoring	
Accepted	Median score of 7-9 and ≥ 80% evaluator agreement
Uncertain	Median score 4-9 and < 80% evaluator agreement
Unimportant	Median score (1-3)/Removed
Merged	Merged statements scores in blue

Appendix 11 – Consensus Summary and Recommendations

A RESEARCH DEFINITION AND CONCEPTUAL FRAMEWORK FOR ACUTE PEDIATRIC CRITICAL ILLNESS (DEFCRIT)

SECTION 1: RESEARCH DEFINITION FOR ACUTE PEDIATRIC CRITICAL ILLNESS:

An infant, child or adolescent with an illness, injury, or post-operative state that increases risk for or results in: 1) **acute physiological instability** (abnormal physiological parameters and/or vital organ dysfunction or failure), OR 2) **a clinical support requirement** (such as frequent or continuous monitoring and/or time-sensitive intervention) to prevent further deterioration or death.



* The patient can meet this definition by having physiological instability, support requirements, or both.
* This definition is – by design – not limited by resources or admission to a formal intensive care unit (ICU).
* This definition may be used in studies aiming to include patients with chronic conditions (e.g., cerebral palsy, chronic renal disease) who develop new acute critical illness**.**

SECTION 2. ATTRIBUTES OF ACUTE PEDIATRIC CRITICAL ILLNESS USED FOR THIS DEFINITION:

1. **Physiological instability:** Acute inability to maintain one or more physiological parameters within a normal range for the patient's age (e.g., heart rate, respiratory rate, oxygen saturation, level of consciousness) in the absence of clinical support.
2. **One or more vital organ dysfunctions or failures:** Acute, severe impairment of one or more vital organs (specifically the heart, lungs, and brain) that requires clinical support.
3. **Risk of imminent life-threatening deterioration or death** in the absence of appropriate recognition and management.
4. **Requires appropriate and time-sensitive intervention and/or monitoring:** Patients with critical illness (including those with severely abnormal laboratory or imaging results or post-surgical state) need appropriate time-sensitive interventions and/or monitoring to support vital organ function.
   ***** The need, frequency or type of monitoring or interventions will depend on the provider's clinical judgment and disease process.
5. **Location independence:** Pediatric acute critical illness can develop and be managed in any setting and is not location specific (e.g., pre-hospital settings, emergency departments, wards)
6. **Independence from resource availability:** Patients can develop acute critical illness regardless of whether critical care interventions are possible or not, or if resources are present in their clinical setting or not (e.g., a patient can develop respiratory failure regardless of the ability to provide mechanical ventilation).
7. **Potential reversibility:** Acute change in a patient's clinical condition should be potentially reversible with appropriate interventions at the time of assessment.
   ***** Reversibility might be difficult to determine at the time of initial assessment. Some conditions might not be reversible but still require critical care support (e.g., a patient who develops brain death and requires support for organ donation). This attribute does not imply that patients with critical illness should return to their previous baseline health status or level of functioning.
8. **Acute or sudden onset of illness or clinical deterioration:** Critical illness, injury, or deterioration that develops acutely.
   ***** How much time constitutes an 'acute' change will vary by the disease process and context of the study but should be contrasted with a long-lasting or chronic critical illness.[30,31]

SECTION 3. CONSENSUS DEFCRIT FRAMEWORK

<table>
<tr><th>CORE AREA</th><th>DOMAIN</th><th>SUBDOMAIN</th><th>TIER 1 (At-risk for acute critical illness)</th><th>TIER 2 (Acute Critical illness)</th></tr>
<tr><td rowspan="4">RECOGNITION</td><td rowspan="4">1. ACUTE PHYSIOLOGICAL INSTABILITY</td><td rowspan="4">A. Abnormal physiological parameters (Statement 1)</td><td>Statement 2. One or more abnormal physiological parameters or vital signs (>95th or <5th percentile, or >2 or < 2 SD for age) in the absence of clinical support (e.g., inotropes, oxygen)

* Accepted references are inconsistent in the normal ranges (e.g., Harriet Lane Handbook[32] and American Heart Association Pediatric Advanced Life Support Provider Manual[33]) and percentile cutoff points they cite for pediatric vital signs. [34,35]</td><td>Statement 3. Persistent (> 1h*) or worsening abnormalities of one or more physiological parameters or vital signs (>95th or <5th percentile, or >2 or < 2 SD for age) in the absence of or despite clinical support (e.g., inotropes, oxygen, etc.)

* We recommend defining persistence of abnormal physiological parameters or vital signs as > 1 hour. However, this timeframe can be modified according to disease process and study context - for example, status epilepticus has been defined as a 30-minute seizure.[36]</td></tr>
<tr><td colspan="2">Statement 4. Normal range of vital signs can be defined with any accepted reference, including but not limited to PALS[33] and WHO.[37]
* There are inconsistent data on threshold values and normal ranges for vital signs. We acknowledge that there is a need for global standardization of age-based vital sign ranges. Defining global standards for age-based vital signs are beyond the scope of this study.</td></tr>
<tr><td colspan="2">Statement 5. Examples of physiological parameters or vital signs may include but are not limited to:
CNS: Level of consciousness (by use of the GCS or the AVPU scale), pupil size and reactivity, etc.
RESPIRATORY: Signs of airway obstruction and respiratory distress, respiratory rate and effort, oxygen saturation, etc.
CARDIOVASCULAR: Heart rate, blood pressure, capillary refill time, quality of central/peripheral pulses, skin (color/perfusion), urine output, etc.
Statement 6. Other parameters to consider (often associated, but on their own might not qualify as critical illness): Temperature, fontanel fullness, hepatomegaly, signs of dehydration (e.g., sunken eyes, dry mucosa), skin turgor, nutritional status (e.g., weight-for-age, mid-upper arm circumferences), pain scores (established by an age-appropriate scale), parental or caregiver concern, etc.

Statement 7. Physiological parameters and vital signs can be monitored using non-invasive methods (e.g., pulse oximeter) and, if available, by invasive monitoring (e.g., arterial line to measure blood pressure)</td></tr>
<tr><td colspan="2">Remark:
Patients who do not have abnormal (or different from baseline) physiological parameters or vital signs might still be at-risk for or have acute critical illness and require clinical support and/or monitoring (e.g., patients with abnormal laboratory results [high lactate, hypoglycemia/hyperglycemia, hyperleukocytosis, elevated INR, etc.] – see Domain 2 for consensus statement on Clinical Support Requirement).</td></tr>
</table>

Abbreviations: Standard Deviation (SD); Pediatric Advanced Life Support (PALS), World Health Organization (WHO); Glasgow Coma Scale (GCS); Alert, Voice, Pain, Unresponsive Scale (AVPU).

CORE AREA	DOMAIN	SUBDOMAIN	TIER 1 (At-risk for acute critical illness)	TIER 2 (Acute Critical illness)
RECOGNITION	1. ACUTE PHYSIOLOGICAL INSTABILITY	B. Vital organ dysfunction or failure (*Statement 8*)	***Statement 9.*** **Suspected to have or be at-risk** for new or acute vital organ dysfunction or failure requiring clinical support.	***Statement 10.*** **Confirmed** new or acute vital organ dysfunction or failure requiring clinical support.
			Clinal features of vital organ (CNS, Respiratory and/or Cardiovascular) dysfunction or failure can include but are **not limited** to: • ***Statement 11.*** **CNS**: Altered level of consciousness (V, P, U on the AVPU scale or GCS < 12 or ≥ 3 points from baseline in the absence of sedatives), focal deficits, miosis or mydriasis not explained by medications, seizures that do not respond to antiepileptics or status epilepticus, new onset paralysis, etc. • ***Statement 12.*** **RESPIRATORY**: Inability to protect the airway, moderate-severe respiratory distress (determined by an illness-appropriate clinical scale), depressed respiratory effort, abnormal airway sounds (e.g., wheezing, stridor, grunting), poor to absent air movement, signs of poor gas exchange (hypercarbia and hypoxia), etc. • ***Statement 13.*** **CARDIOVASCULAR:** Delayed or brisk capillary refill, signs of shock or poor perfusion (e.g., cold extremities, weak, absent or bunding pulses, mottled skin or pallor), persistent or worsening tachycardia or bradycardia, signs of severe dehydration (e.g., lethargy, thready pulses, sunken eyes), uncontrolled bleeding/hemorrhage, cardiac arrest, arrhythmias causing hemodynamic instability, oliguria, or anuria, etc. ***Statement 14***. In general, other organ dysfunction alone does not qualify as critical illness, as dysfunction in other organs becomes critical when it affects one of the 3 major organs listed above (e.g., hepatic dysfunction causing confusion and bleeding, acute abdomen with peritoneal signs or severe abdominal distension causing respiratory or cardiovascular dysfunction, renal dysfunction with elevated potassium increasing the risk of developing or causing cardiovascular dysfunction, etc.) ***Statement 15.*** Vital organ dysfunction or failure can also be defined using any accepted references including but **not limited** to: PARDS by PALICC[38], AKI by KDIGO[39], PODIUM criteria for organ dysfunction.[40] * We acknowledge that there is a need for global standardization of definitions for vital organ dysfunction or failure. Defining vital organ dysfunction or failure is beyond the scope of the current study.	
			Remark: Patients who **do not** have acute vital organ dysfunction or failure may still be at-risk for or have critical illness if they have abnormal physiological parameters **(Subdomain A)** or if they require clinical support and/or monitoring **(Domain 2)**	

Abbreviations: Alert, Voice, Pain, Unresponsive Scale (AVPU); Glasgow Coma Scale (GCS); Pediatric Acute Respiratory Distress Syndrome (PARDS); Pediatric Acute Lung Injury Consensus Conference (PALICC); Acute Kidney Injury (AKI); Kidney Disease Improving Global Outcomes (KDIGO); Pediatric Organ Dysfunction Information Update Mandate (PODIUM).

CORE AREA	DOMAIN	SUBDOMAIN	TIER 1 (At-risk for acute critical illness)	TIER 2 (Acute Critical illness)
MANAGMENT	2. CLINICAL SUPPORT-REQUIREMENT	C. Need for frequent or continuous monitoring (*Statement 16*)	***Statement 17.*** Need for **frequent** (at least every 2h) human-dependent monitoring or assessment (e.g., by trained healthcare staff and/or caregivers)	***Statement 18.*** Need for **continuous** human-dependent monitoring or assessment (e.g., by trained healthcare staff and/or caregivers).
			Statement 19. Examples of **human-dependent monitoring and assessment** can include but are **not limited** to: vital signs, work of breathing, capillary refill, perfusion and pulse checks, serial neurological examinations, progression of skin lesions, pain, urine output (e.g., diaper count, weight), fluid loss (e.g., diarrhea, bleeding) assessments, and signs of clinical deterioration (e.g., using the scoring tool from PEWS). ***Statement 20.*** **If resources are available** at the center or hospital and are indicated for the patient, then **device-dependent** (e.g., non-invasive or invasive respiratory support), laboratory and/or imaging-based monitoring can be used in addition to human assessment**.** ***Statement 21.*** Examples of **device-dependent monitoring** can include but are **not limited** to frequent (at least every 2h) or continuous non-invasive and/or invasive monitoring: cardiorespiratory (e.g., heart rate, blood pressure, oxygen saturation), temperature, end-tidal carbon dioxide (CO_2), continuous electroencephalogram (EEG), intracranial pressure (ICP), urine output or bladder pressure via indwelling catheter, laboratory results (e.g., glucose, hemoglobin, lactate), and point-of-care ultrasound.	
		D. Need for time-sensitive intervention (*Statement 22*)	***Statement 23.*** Need for frequent (at least every 2 h) time-sensitive **hands-on interventions.** Examples can include but are **not limited** to: suctioning, oral care, repositioning, tracheostomy care, cleaning and dressing of wounds and burns, and cold sponge bathing for fever. ***Statement 24.*** Need for time-sensitive **life supporting interventions** (e.g., resuscitation, medications, surgical procedures) depending on available resources and clinical judgement. ***Statement 25.*** Examples of life-supporting interventions often associated with acute critical illness can include but are **not limited** to: • **CNS:** Rewarming or cooling (targeting normothermia), antidotes (e.g., naloxone), anticonvulsants, hyperosmolar therapy, CSF drainage for raised ICP, decompressive surgery. • **RESPIRATORY:** Improving airway patency, continuous nebulizers, non-invasive or invasive ventilatory support (e.g., HFNC, BIPAP, CPAP, intubation, and mechanical ventilation), thoracostomy (needle or tube), heliox (helium-oxygen gas mixture), inhaled nitrous oxide (iNO). • **CARDIOVASCULAR**: Inotropes, vasopressors, vasodilators, cardiopulmonary resuscitation, pericardiocentesis, extracorporeal life support, control of life-threatening bleeding/hemorrhage (e.g., surgery, massive transfusion). • **Other interventions to consider:** Antibiotics, insulin drip, renal replacement therapy, urgent surgical procedures (e.g., correction of intestinal perforation), peritoneal drain for abdominal compartment syndrome.	
			Note: The statements in **Domain 2** could apply to patients with severely abnormal laboratory or imaging results, post-operative patients, those requiring timely-surgical interventions, and critical interventions to support other organs not listed above (e.g., kidney dysfunction requiring renal replacement therapy).	

Abbreviations: Cerebrospinal fluid (CSF); Intracranial Pressure (ICP); high-flow nasal cannula [HFNC]; bilevel positive airway pressure [BIPAP]; continuous positive airway pressure [CPAP]

SECTION 4. OTHER EPIDEMIOLOGICAL CONSIDERATIONS:

OTHER IMPORTANT EPIDEMIOLOGICAL CONSIDERATIONS FOR PEDIATRIC CRITICAL ILLNESS STUDIES:

- ***Statement 26* – Age.** Studies in pediatric critical illness can include children aged 1-month to 18-years.
  * Experts acknowledged that age ranges (e.g., pediatric patients) can vary by facility, country, and individual study. For instance, a 2-week-old term infant with respiratory failure due to Respiratory Syncytial Virus (RSV) infection could potentially be included if they do not have perinatal or birth-related conditions. Similarly, some pediatric facilities might extend care provision to patients older than 18 years.

- ***Statement 27* – Age sub-groups**. Pediatric population can be categorized or divided into subgroups by age, for example with the WHO classification[41] or other subclassification schema.[42,43] We recommend categorizing age according to the WHO age classification to be able to compare and match studies.

  WHO Classification:
  - < 1 year
  - 1 to 4 years
  - 5 to 9 years
  - 10 to 14 years
  - 15 to 19 years

***Statement 28.* Co-morbidities, and pre-existing, or high-risk conditions** should be considered and documented when studying acute pediatric critical illness. Patients with these conditions have higher risk of complications, support requirement and death. These conditions include but are **not limited** to: 1) Communicable or chronic infections (e.g., HIV, tuberculosis) and 2) Non-communicable diseases such as – neurological/developmental (e.g., neurodisability, prematurity), respiratory (e.g., asthma), cardiovascular (e.g., congenital heart disease, hypertension), hepatic or renal (e.g., chronic liver or kidney disease), hematology-oncology (e.g., sickle-cell disease, malignancy, transplantation), endocrine or metabolic (e.g., diabetes, nutritional deficiency).

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