

Data that Supports Nursing Practice in Pediatric Critical Care

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Why Important?

- Coming out of our worst shortage in nursing
- Challenge ...
 - Re-enchanted “experienced” nurses with the practice of nursing
 - Support new talent in the profession
- Strengthen the science of nursing to support an autonomous and accountable discipline.
 - Invisible to Visible to Measurable

Objectives

1. Identify clinical inquiry as an essential nursing competency.
2. Discuss the unique nature of pediatric critical care nursing research.
3. Discuss the current state-of-the-science of Pediatric Critical Care Nursing.

Nature of Nursing

- Integration of objective data with knowledge gained an appreciation of the patient's subjective experience.
- Application of scientific knowledge to the process of care through the use of judgment and critical thinking.
- Advancement of professional nursing knowledge through scholarly inquiry.

ANA, Nursing's Social Policy Statement 2003

Our Past

Clinical Inquiry

- Florence Nightingale
 - Breakthrough thinking on disease prevention.
 - Highlighted nursing's significant role in healthcare.
- Birth of professional nursing
 - Independent discipline based on scientific principles.



At Present



- Clinical Judgment
- Caring Practices
- Response to Diversity
- Advocacy/Moral Agency
- Facilitator of Learning
- Collaboration
- Systems Thinking
- Clinical Inquiry
 - Ongoing process of questioning and evaluating practice, and providing informed practice.
 - Creating practice changes through research utilization and experiential learning.

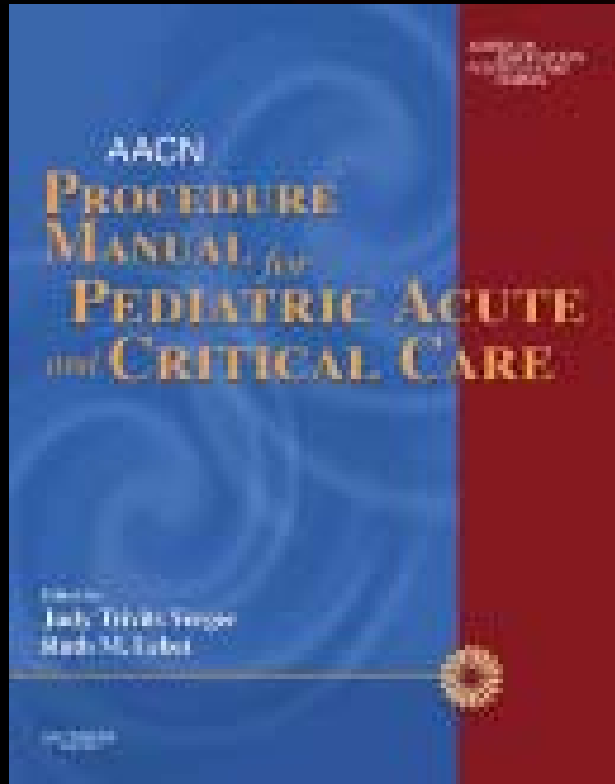
Clinical Inquiry

Stages of Skill Acquisition



- Staff Nurse I
 - Identifies aspects of care important for quality monitoring and collects data as requested.
- Staff Nurse II
 - Contributes to the development of evidenced-based algorithms, decision trees & protocols.
- Staff Nurse III
 - Uses an evidenced-based process to evaluate current practices & make recommendations for best practices.
- Advanced Practice Nurse
 - Develops &/or participates in studies to evaluate patient care issues, products & technology.

Data to Support Clinical Practice



- AACN Procedure Manual for Pediatric Acute and Critical Care
- Verger JT and Lebet RM (Eds)
- 2008 Saunders Elsevier
- 201 procedures

Use of Evidence to Identify Best-Practices

- Pediatric-specific research studies were referenced *whenever obtainable* to support the steps of each procedure.

I	Manufacturer's recommendation only
II	Theory Based or Expert opinion
III	Laboratory data; no clinical data
IV	Limited clinical studies
V	Clinical studies in more than 1 different patient population and/or situation
VI	Clinical studies in a variety of patient populations and/or situations

Content Analysis

- Randomly selected 25% of the 201 procedures (random numbers generated using www.random.org)
- Examples (50/201): Thermoregulation, enteral nutrition, mechanical ventilation, urinary catheterization, CVP monitoring, ICP monitoring, skin assessment, cervical collars

Findings

21% steps (308/1483) were leveled

15%	I	Manufacturer's recommendation only
33%	II	Theory Based or Expert opinion
3%	III	Laboratory data; no clinical data
25%	IV	Limited clinical studies
10%	V	Clinical studies in more than 1 patient different population and/or situation
14%	VI	Clinical studies in a variety of patient populations and/or situations

Implications

- Some things can't be studied
 - Lost equipoise and/or unethical
- Use data outside our sub-specialty
- Evaluate on an article-by-article basis
 - Is the patient sample “different” from a relevant physiologic and/or developmental stance?
- May stimulate “revolutionary” thinking

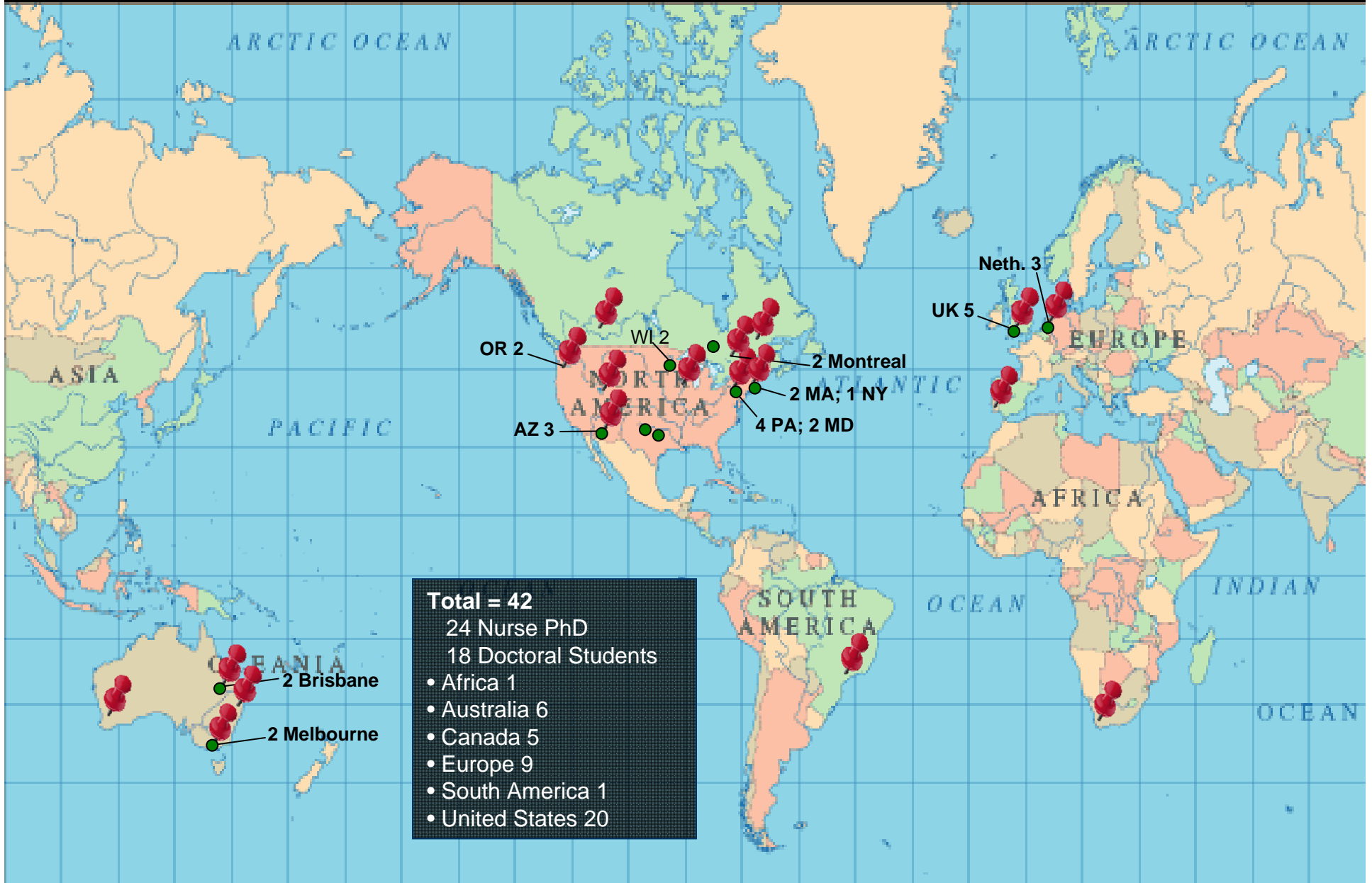
Using the Data We Have

- Are you asking focused clinical questions?
- Are you efficiently tracking down the best evidence?
- Do you critically appraise the evidence?
- Are you applying valid, useful evidence in your practice?

Requires ...

- Awareness of the available resources
- Mentoring in carrying out & using clinical research
- System support

Nurse Scientists in Pediatric Critical Care



List Serve

- May 2006: PICUPhD list
- An international directory of doctorally prepared nurse researchers who study phenomena of concern in pediatric critical care.
- Purpose: To build a community of nurse scientists in the field; the activities of which are defined by the group.

Nurse Researchers

- Equal distribution: Children's Hospitals, Universities (Nursing/Medicine), or both
- Function independently and as members of interdisciplinary research teams
- Perform bench to organizations/systems-level research
- Methods: Qualitative and Multisite Clinical Trials

Work in progress

Operational Definitions

- Critically-ill child is a newborn to adolescent patient who is experiencing a real or potential life-threatening health problem that requires continuous specialized care.
 - Our concept of “patient” includes their family - persons who are related in any way — biologically, legally, or emotionally to the patient. (Patients and families define their families.)

Pediatric Critical Care Nursing

Discipline that provides specialized nursing care to pediatric critically ill patients and their family with the goals of promoting an optimal patient and family outcome, preventing short and long-term complications, restoring health or allowing the patient a peaceful death.

Pediatric Critical Care Nursing Science

- Knowledge that supports and sustains the practice of pediatric critical care this includes but is not limited to relevant human and physical sciences.

State of our Science

- Active programs Pediatric Critical Care Nursing Research
 - Nurse-led research
 - 5 data-based publications in the same topical area.
 - 1st author on at least 3 publications

Programs Pediatric Critical Care Nursing Research

- Over half
 - Ethics, moral distress, end-of-life care and decision-making
 - Parent stress and coping
 - Pain, sedation, withdrawal
 - Pulmonary care (suctioning and weaning)
 - Impact of critical illness on the patient/family
 - Patient safety

New Areas

- Long-term outcomes/Quality of life
- Chronically critically-ill
- Advanced Practice Nursing (APN)
- ICP monitoring
- Knowledge transfer (EBP)
- Organizational culture/Financial
- Clinical decision-making/Competence assessment

Domains of Critical Care Practice

Benner, Hooper-Kyriakidis and Stannard, 1999

1. Diagnosing and managing life-sustaining physiologic functions in unstable patients
2. Skilled know-how of managing crises
3. Providing comfort measures for the critically ill
4. Caring for patient' families
5. Preventing hazards in a technological environment
6. Facing death: end-of-life care and decision-making
7. Communicating and negotiating multiple clinical, ethical and practical perspectives
8. Monitoring quality and managing breakdown
9. Skilled know-how of clinical leadership and the coaching and mentoring of others

“Wanted” Programs Pediatric Critical Care Nursing Research

- Qualitative studies to explore phenomena of concern to pediatric critical care nursing.
- Instrument development studies to provide clinicians with better tools to assess patient status and risk.
- Interventional studies (multisite) to support patient and family needs and priorities in the pediatric intensive care unit.