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Editorial

Our feature article in this issue of *Pediatric Intensive Care Nursing* discusses the development of advanced practice nursing in a pediatric critical care setting in Australia. This article was submitted to *PICN* by Lynette Kirby and her associates.

Various forms of advanced practice nursing roles have been developed in various settings over recent decades. These generally resemble one of two types of roles: clinical nurse specialist (CNS) or nurse practitioner (NP). These roles typically require master's degree education to provide supplemental theoretical, clinical and research preparation in advanced practice.

In general, these roles involve a blend of clinical practice, education, research and/or administrative responsibilities. The NP role tends be primarily a direct-care clinical role involving advanced diagnostic, prescriptive and higher-risk practice, whereas the CNS role is commonly focused primarily on nursing practice development, working with nurses to promote evidence-based practice improvements through knowledge translation initiatives.

The PICU nursing community is practicing in one of the most complex clinical settings possible. Advanced practice nurses can be vitally important in ensuring nursing practice is continually innovative and responsive to emerging clinical problems as well as research evidence. This can be valuable toward optimizing patient outcomes.

It would be interesting to hear from other settings. What kinds of advanced practice nursing roles exist in your PICU settings? What challenges and benefits are you experiencing? Consider publishing your experiences so our international readership can learn from your experience.

Thank you to Lynette Kirby and her associates for sharing their valuable work and opening up this important discussion with our readership!

Franco A. Carnevale, RN, PhD
Editor, Pediatric Intensive Care Nursing

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The Pediatric Critical Care Nurse Practitioner - an Australian Perspective

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Abstract

Advanced practice nursing roles in paediatric critical care have been evolving for several decades. Globally, these roles differ in title, service structure, service provision, and qualification. In Australia, advanced practice nursing roles originated as Clinical Nurse Consultants and Clinical Nurse Specialists. The ensuing evolvement of the Nurse Practitioner (NP) as an endorsed advanced practice nurse has led to further progression of advanced practice scopes, and the development of unique nursing roles.

The original aims of the Paediatric Intensive Care Unit (PICU) NP were to improve the quality of acute patient care and patient experience; reduce adverse clinical events; share knowledge and skills to enhance the competence and confidence of clinical staff; and improve the delivery of comprehensive care to sick children across organisational and professional boundaries.
Initially conceived primarily as a care coordination and case management role within the PICU, the PICU NP role in Sydney subsequently evolved to become an expert responder to the deteriorating child throughout the hospital and leaders of the Paediatric Intensive Care Outreach Service (PICOS). Utilisation of the PICOS has increased significantly since the service was established, particularly following the introduction of an early warning system and a tiered escalation policy to respond to deteriorating children.

The PICU NP role has developed to encompass many responsibilities within the PICU and across the entire organisation and continues to evolve. This article presents a review of the concept and role development of Paediatric Intensive Care Unit Nurse Practitioners within a tertiary children's hospital in Sydney, Australia.

Background

Evolving out of necessity for remote communities, the Nurse Practitioner (NP) role now exists in primary and acute care in both rural and metropolitan Australia, covering many specialties including paediatrics, mental health, aged care, palliative care, family health, emergency and critical care (1-2). Over the years, the NP role definition has created much national and international debate with regards to validity, acceptance, role conflict and role confusion (3-5). This is consistent with the evolution of the original advanced practice roles in nursing of Clinical Nurse Consultants and Clinical Nurse Specialists.

In Australia, during the late 1980s/early 1990s, Clinical Nurse Specialist and Clinical Nurse Consultant positions evolved creating an alternative career path for those expert nurses wishing to maintain a clinical focus rather than the more traditional career paths for senior nurses of management and education (6).
Suitability for these roles centred on experience and skills and the roles were varying and organisation specific to integrate the domains of clinical service and consultancy, leadership, research, education and clinical services planning and management (6-7). Within critical care areas in New South Wales, some advanced practice roles were, and still, are carried out by Clinical Nurse Consultants and Specialists, with existing roles incorporating complex long term patient case management and ward liaison/outreach.

The Pediatric Critical Care Nurse Practitioner - an Australian Perspective

The concept of a nurse led paediatric intensive care outreach service (PICOS) for our organisation was conceived in 2002. At that time, intensive care liaison nurses were a relatively new concept in Australia with only a small number of the 170 Australian intensive care units having liaison nurse roles, and certainly no directive for standardization of these roles or their purpose (8). There was neither available worldwide paediatric literature on similar roles, nor similar services on which to base a scope of practice for this position. Senior nurses and medical staff believed that the ability to prescribe and work autonomously within the Paediatric Intensive Care Unit (PICU) team would best suit the proposed model, hence funding was granted for two Nurse Practitioner positions.

The definition of a Nurse Practitioner provided by the International Council of Nurses is "a registered nurse who has acquired the expert knowledge base, complex decision-making skills and clinical competencies for expanded practice, the characteristics of which are shaped by the context and/or country in which s/he is credentialed to practice" (9). The NP role has existed internationally for several decades, first established in North America followed by a subsequent rapid program throughout the United Kingdom, originating to fill service provision gaps and increase equity of access to health care (3).

For Australian nurses, the last decade has seen extensive professional activity along the NP pathway with regards to education, professional activities and government legislation. Around the globe, many different roles exist under this umbrella of NP/Advanced Practice Nurse (APN), however in Australia there is one official protected title under which NPs are authorised to practice by the Australian Health Practitioner Regulation Agency (AHPRA) (1) A rigorous endorsement process exists that has evolved concurrently with formalised education (10).

Measurement of the impact and value of NPs has proven difficult, with the mainstay of evidence comprising of comparison to doctors, cost analyses and satisfaction surveys. Nevertheless, in many healthcare systems, NPs have been credited with having a positive effect on patient outcomes and the role viewed as important in the provision of appropriate, efficient, cost effective and highly regarded care (1, 11-15).

In Australia, little has been published on the role and impact of NPs, particularly within the paediatric critical care areas (12). During the early phase of the role development, without reference of a similar role in Australia, a review of international practice revealed that PICU NP roles were usually introduced to fill a void resulting from medical staff shortage and were based on medical models with varying responsibilities, skills and supervision (3, 15). A NP care coordinator role in the acute care setting was not described in the literature and the role of ward liaison nurses historically focused on those patients discharged from the ICU rather than deteriorating patients whose condition might prompt a call to the Medical Emergency Team (MET) or arrest team (16-17).

Recognition of the widening gap in available resources and experience between intensive care and the wards, perhaps partly due to the increasing complexity and volume of paediatric intensive care has led to the innovation of extended nursing roles in paediatric critical care areas. The PICU NP role described here is the first of its kind in Australia and is a unique role within this setting with its combination of complex case management skills, management of deteriorating patient capability and coordination of the PICOS, and serves as a potential template for others to follow.

Primary Need Identification and Early Role Development

The need for a novel PICU NP role in our tertiary children's hospital in Sydney was first conceived during a time of increased PICU activity, patient acuity and complexity. Initially described as a 'Continuum of Care Coordinator', it was envisaged that the role would be filled by an expert clinical nurse within the PICU largely coordinating the clinical management of complex PICU patients, including their transition in to and out of the PICU.

The Pediatric Critical Care Nurse Practitioner - an Australian Perspective

It was also envisaged that the role should incorporate ward liaison and consultation, essentially aiming to bridge the perceived clinical skills and resource divide between the PICU and the wards. This occurred during a time of increased demand on PICU services by an expanding number of complex patients. At that time the combined intensive care/high dependency unit (HDU) was a mixed medical/surgical unit with 16 funded beds with an average of 1050 admissions per year. Medical staffing levels included three registrars on day shift and two registrars on night shift, intermittent fellow/senior registrar cover and a single consultant on call. There were a high number of long term patients whose complexity and acuity meant they were unable to be cared for in the ward environment, hence they remained in the PICU, sometimes for months. Transition to the ward was often a protracted process, and once discharged from the PICU, many of these same children were responsible for calls to the ward liaison and consultation service which at the time was covered by a fellow or registrar and senior nurse from the PICU.

The PICU NP role commenced in 2003, with the appointment of two Advanced Practice Nurses (APNs) with a focus on case management of complex long term high dependency patients. These two APNs undertook tertiary study at a postgraduate Masters level and were endorsed as NPs over the ensuing two years, beginning a clinical leadership journey in providing case management of complex PICU patients and establishing a nurse practitioner coordinated outreach service. The initial job description for the APNs emphasised the role as an integral part of the PICU team with a clinical focus of direct patient care, case management and ward liaison.

As a care coordinator, the role took form with responsibilities of initiating and maintaining continuity of care; providing expert clinical assessment and guidance to patients, families and the health care team; working autonomously in a leadership role to coordinate and facilitate patient care; complex problem solving and decision making; and ensuring smooth transition of children and families to the wards following discharge from PICU.

These responsibilities formed the basis of the initial scope of practice for the PICU NP, which incorporated many of the hospitals practice guidelines, and included accountability for the evolving ward liaison service. Professional and clinical reporting lines were established – the PICU NP was accountable professionally to PICU nursing management and clinically to the intensivist on call for the PICU. An early focus on good communication to ensure clear understanding between the NPs and intensivists regarding the activity of the NPs both within the PICU as well as outside was recognised as essential for the role to succeed.

During the early period of the PICU NP role (2003 – 2005), an innovative model of care to enable long term ventilated children to be transferred to a newly established Long Term Ventilation Unit was developed by the PICU NPs; with case management of these children a core function of the initial role. The PICU NPs developed expertise in long term ventilation, in particular non-invasive ventilation as well as caring for children with a tracheostomy and other complex medical needs. This aspect of the role whereby the NP is utilised throughout the hospital as a resource for the care of children with complex and chronic health needs continues to this day. Figure 1 outlines a timeline of the NP role.

Development of the Paediatric Intensive Care Outreach Service (PICOS) and Rapid Response Team Capability

The advent of intensive care outreach, rapid response teams and early warning systems is a compelling facet of quality and safety in acute care at present. Across the globe an array of systems, team compositions, and governance have been established, although there is considerable debate on the evidence of their performance and validity (18-20).

The Pediatric Critical Care Nurse Practitioner - an Australian Perspective

Essentially two limbs are necessary for an effective system – a tool for early recognition and a timely response mechanism of appropriately skilled team members (21).

Prior to the development of the PICU NP role, arrest calls and ward consultations were attended by a fellow or registrar and a senior nurse on shift in the PICU. There was a designated arrest team pager carried by these staff members; however ward referrals were requested by an *ad hoc* system of a telephone call or corridor conversation with PICU staff. Documentation of PICU consultations was performed in patient progress notes, which stayed with the patient. The NP coordinated PICOS was established in 2005 with a designated PICU referral pager and the development of a ward referral form. Initially a paper form (Appendix 1), this enabled the beginning of data collection of the episodes of service provided by the PICOS. This was transformed into an electronic form in 2008, accessible in the patient's electronic medical record. Further developed to incorporate system changes for recognition and management of the deteriorating patient, this electronic form has been adopted at a state level as a rapid response data form now used throughout NSW Public hospitals.

The PICU referral calling criteria (Figure 2) was promoted throughout the hospital's clinical areas and staff members with concerns of patient deterioration were encouraged to page the PICU referral service. Initially, medical staff were the predominant users of the service, however nurse initiated calls increased as the PICOS became a more familiar resource. The PICOS preserves the original aims of the ward liaison service, namely: to extend critical care services beyond the walls of the PICU; to develop the skills of the ward health care team in the assessment and care of acutely ill children; to prevent or facilitate transfer to the PICU; 'pre-emptive' transfer of patients requiring high dependency rather than intensive care; and to decrease unplanned admissions from the wards to the PICU. With no dedicated high dependency facilities, the PICU is currently the only location to care for patients with complicated nursing and medical needs. Routine provision of follow up assessments is a feature of the PICOS that distinguishes it from other organisational systems designed to respond to deteriorating patients such as METs which, as a general rule, will only see a patient as a one off visit for deterioration (17).

By maintaining skills in nursing practice; the NP coordinated PICOS offers several benefits over a typical MET team, which include provision of a consistent high quality workforce (since NPs do not rotate regularly like doctors); a high level of awareness of organisational policy and procedures as well as the day to day running of the hospital; understanding of staff ratios and patient acuity in relation to the strengths and weaknesses of individual ward area specialties; knowledge of equipment and monitoring; and the ability to commence intensive care management outside of the PICU and care for patients on the ward whilst awaiting a PICU bed. The PICU NPs principal responsibility is providing a dedicated outreach service with care and management plans appropriately contextualised to available local resources and expertise as well as patient need and trajectory of illness. The PICU NP does not have a direct patient load in the PICU; therefore there is less impact on PICU resources when a prolonged amount of time is required to be spent on the wards with deteriorating patients.

Following the recommendations from an inquiry into the preventable death of a paediatric patient in a NSW hospital (22), a state wide program (Between the Flags) incorporating an early warning system and guidelines for appropriate response to deteriorating patients was developed (23). In February 2011, this program was introduced across the Children's Hospital at Westmead as the pilot centre for paediatric patients in NSW. The PICU NPs were heavily involved throughout this process, from the development of the standardised track and trigger paediatric observation charts through to the local implementation of the rapid response team. This system is now well established with the PICU NPs coordinating the PICOS, and the service is an integral component of the rapid response and arrest teams. Consequently, there has been a continuing shift in the focus of the PICU NP role from complex case management of PICU patients to coordinating PICU outreach and triaging deteriorating patients.

The Pediatric Critical Care Nurse Practitioner - an Australian Perspective

The number of clinical reviews carried out by the PICOS since its commencement is shown in Figure 3. The total numbers are inclusive of arrest calls, rapid response calls, outreach calls to the wards and the emergency department, and patient follow-up after initial review. The sharp increase in calls from 2010 to 2011 corresponds with the introduction of the Between the Flags program.

Though coordinated by NPs, the PICOS is not covered by NPs twenty-four hours a day. As a result of increases in PICOS activity and PICU NP team size, the NPs now provide cover from 07:30am to midnight Monday to Friday and between 0730-1730hrs on weekends and public holidays. Outside of these hours, the PICOS is staffed by a PICU registrar and a senior PICU nurse. Data collected on PICOS and the forms used for data collection have evolved since 2005; however there are several steadfast elements that have been tracked since the program commenced. These include the reason for activation/referral, the timing and location of the patient and the subsequent outcome. The timing of calls provides a measure of the resources required, particularly outside of NP hours when a registrar and senior nurse respond from the PICU. Between 20-30% of PICOS activity occurs outside of the NP coverage.

Patient outcomes are categorised into four groups - remaining on the ward; PICU admission for high dependency care; PICU admission for intensive care; or death. The data in Figure 4 shows the breakdown of these outcomes for all PICOS activity since its establishment. Despite the increasing activity of the service, the majority of children remain on the ward and the majority of those admitted to PICU are for high dependency care rather than for intensive care.

Current PICOS NP Role

The NP role within the PICU has continued to evolve. Although the main responsibility is leadership of the PICOS, the NPS are also involved in education and training, simulation, safety and quality projects, incident management, policy and procedure development and research at a PICU, Hospital and State level. In addition to holding relevant memberships with various external professional organisations, the PICU NPs are all certified Advanced Paediatric Life Support (APLS) instructors and collectively and individually have utilised the role's expertise to contribute to chapter authorships in a statewide training manual for detection, management and escalation of potentially deteriorating hospitalised children (24). The PICU NP scope of practice incorporates a range of clinical skills including advanced assessment, diagnostic ordering and reasoning, decision making, prescribing, intra-venous access, airway management, and team leading acute situations.

The PICU/HDU has increased to be a 21 bed unit with an average of 1250 admissions per year and there are now more than 2000 PICOS calls each year. Medical staffing levels remain unchanged since 2005 and complex long-term high dependency patients, who have a prolonged PICU stay and are difficult to transition to the ward with multiple readmissions, remain a feature of the PICU caseload. The case management element of the PICU NP role continues and is currently being redefined, though it has become increasingly difficult to provide consistency for these patients in the PICU due to the ever increasing activity of the outreach service taking priority and current NP shift patterns and rosters.

The PICOS continues to focus on early recognition and management of the acutely unwell patient outside of the PICU and also aims to provide clinical support to the general wards for patients after a period of critical illness. The PICU NP service has continued to expand and currently consists of five endorsed NPs in four funded full time equivalent positions.

The Pediatric Critical Care Nurse Practitioner - an Australian Perspective

Evaluation and future direction

Over the past decade, professional acceptance of the NP role from both medical and nursing staff within PICU and throughout the hospital has varied. As a new role, with a developing scope of practice, initial challenges faced were in terms of justification of the role and perceptions of what a PICU NP role should encompass. Similar integration challenges for NP roles have been reported internationally, naming three influencing themes of involvement, acceptance and intention (25-26). As the PICU NP role has evolved it has become accepted throughout the hospital as the face of the PICOS. Evaluation of the role is challenging – is a cost benefit analysis quantifiable? How can comparisons be made and with whom?

Evaluation of the PICOS for quality improvement by means of an electronic survey was undertaken in 2014. Although not specifically evaluating the NP role, the survey questions were aimed at assessing observed difference between service delivery outside of NP hours. Two surveys were distributed to nursing and medical staff – one throughout the hospital excluding ED, Theatres and Outpatients and one specifically to the PICU staff. The hospital wide survey received 104 responses; unfortunately the response rate is unknown due to local distribution factors.

Of the responses, there was an even distribution of nursing and medical responses, with a high portion of staff specialists (30%) responded. 40% of respondents were long term hospital employees (> 10years). Of the PICU staff, there was a response rate of only 48% with 22 completed surveys, nearly 80% of these completed by senior nursing staff who were long term hospital employees. Open questions for improvement feedback were asked with responses confirming that over the years, ward nursing staff have increasingly utilised the service and have come to rely upon the NPs as nursing clinical leaders. Feedback also indicated a high level of engagement and availability, coupled with organisational awareness and support for the individual user.

The survey also demonstrated a perceived difference in service delivery outside of NP hours when the PICOS activity is managed utilising PICU resources that predated the development of the NP role. The increasing demand for PICOS services has necessitated discussion on the resources utilised from the PICU outside of NP hours to maintain staff support and patient safety across the hospital and may warrant an extension of the NP service hours. Overall, the NP role was recognised for its leadership of a high quality PICOS. With the importance of continuing to evaluate practice through research, there is a plan to resurvey with a bigger sample size in the future.

Conclusions

Following its establishment as the first paediatric intensive care NP role developed in Australia, the PICU NP role now encompasses an array of skills and expertise within paediatric critical care. Having evolved initially to bridge the gap between the intensive care and ward environments, particularly in the supervision and management of care for complex and long-term critically ill children, the focus of the role has evolved to coordinate a wider range of activity within the PICOS. The current role appears to be highly valued and accepted across the organisation and has a greater emphasis on enhancing the timely recognition and management of the deteriorating child in hospital.

As activity increases, the future of the PICU NP role lies in continuing leadership of the broad range of activities of the PICOS whilst maintaining individual practitioners' critical care and complex case management skills. The team of PICU NPs face future challenges in refinement of the role within the PICU and beyond its four walls, and in continuing to share their knowledge and skills through education, research, publication and presentation whilst managing the team's growing caseload and clinical responsibilities.

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The Pediatric Critical Care Nurse Practitioner - an Australian Perspective

Figure Legends

1. Timeline of PICU NP role evolution
2. PICU referral service calling criteria
3. PICOS activity in number of clinical reviews
4. PICOS outcomes

Figure 1

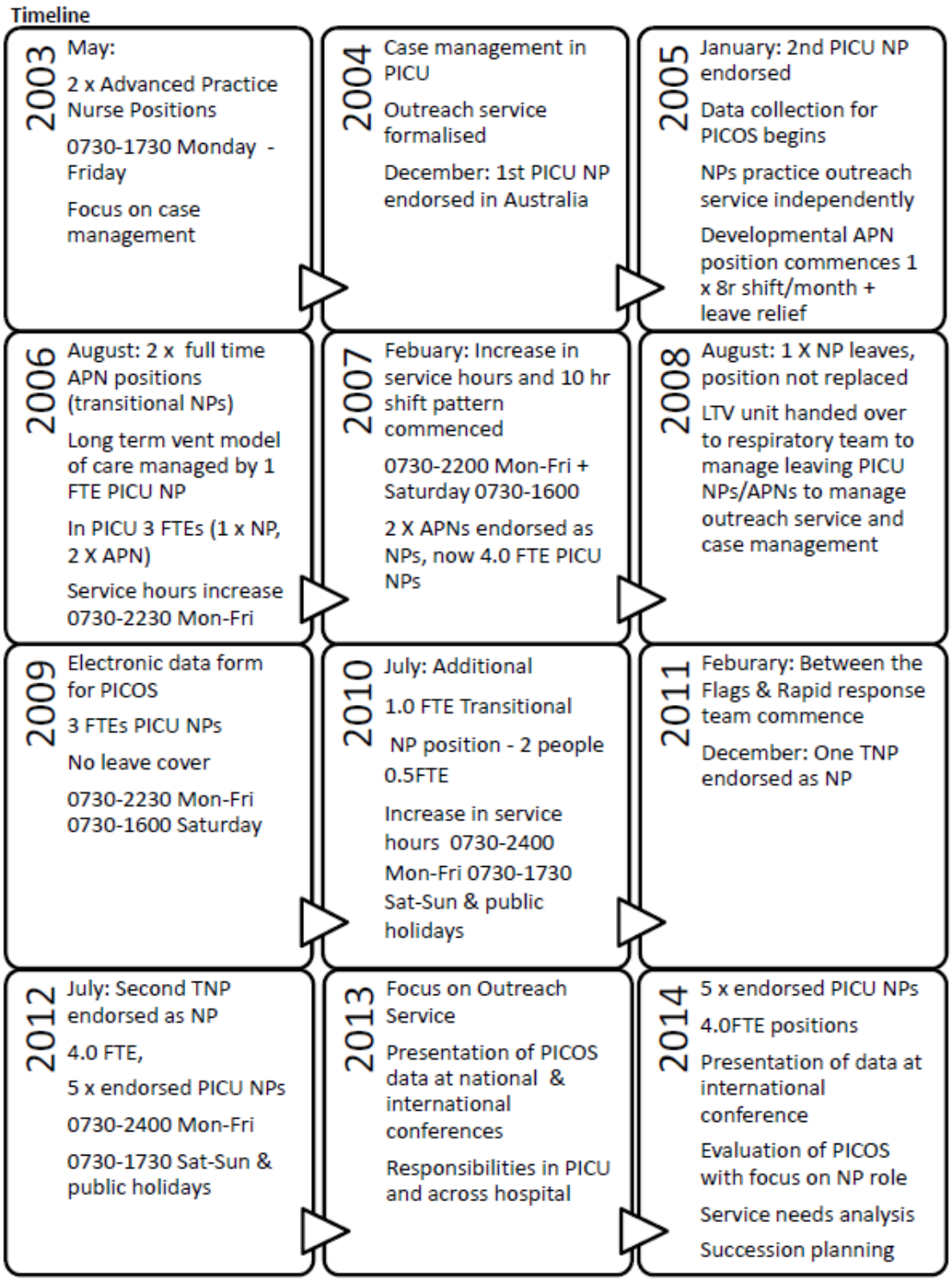

Figure 2

RECOGNITION OF THE DETERIORATING CHILD

❑ Any Health Care Team Member Worried About Clinical State

A. AIRWAY DIFFICULTIES

- **Onset of increased secretions**
  - Requires suction more than hourly
- **Difficulties with tracheostomy**
- **Early signs of airway obstruction**
  - Stridor

❖ Patient Not Able To Protect Own Airway – Call 444

B. BREATHING

- **Tachypnoea with any of the following**
  - Recession
  - Grunt
  - Accessory muscle use
  - Cyanosis
  - Head bobbing
- **Increase in oxygen requirements**
  - Desaturation continues despite increased oxygen
  - Saturation < 92% in oxygen

❖ Patient Not Breathing Call 444

C. CIRCULATION

- **Tachycardia / Bradycardia with any of the following**
  - Pale
  - Cool/cold
  - Sweaty
  - Fever
  - Poor peripheral perfusion - capillary refill > 3 seconds
  - Weak pulses
  - Blood pressure outside age-adjusted range

❖ No Palpable Pulse – Call 444

D. NEUROLOGICAL

- **Altered level of consciousness including**
  - Confusion
  - Agitation
  - Irritability
  - Difficult to rouse
  - Seizures
  - Increasing headache

Page 6664 for PICU review

❖ Seizures - If Unresponsive To Treatment Call 444

Normal Ranges for Age

Age (yrs)	Resp rate	Heart rate	Systolic blood pressure
<1	30-40	110-160	70-90
1-2	25-35	100-150	80-95
2-5	25-30	95-140	80-100
5-12	20-25	80-120	90-110
>12	15-20	60-100	100-120

Figure 2
PICU referral service calling criteria

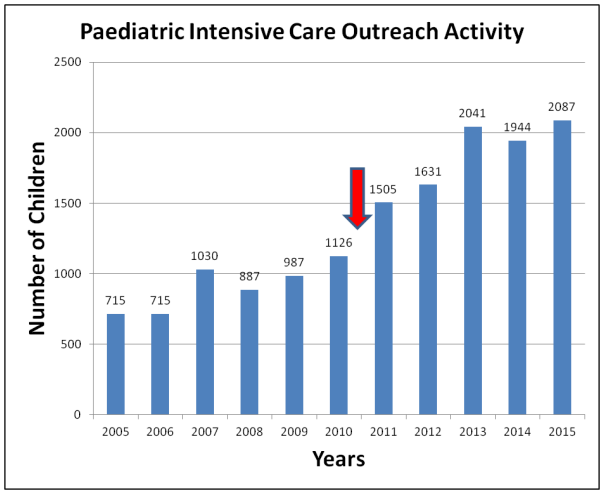

Figure 3
PICOS activity in number of clinical reviews

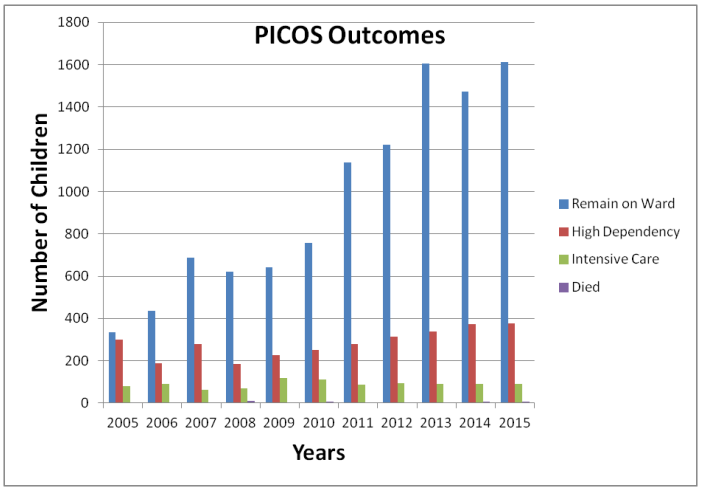

Figure 4
PICOS outcomes

Appendix

Ward referral data collection

WARD_____ MRN_____

REFERRALDATE:_____ NAME_____

REFERRAL TIME:_____ DOB _____/_____/_____ SEX_____

CALL BY (CIRCLE): RR ARREST PICOS PICOS to ED Affix Patient sticker

STAFF ACTIVATED/ DESIGNATION ARRIVALTIME ADMISSION DIAGNOSIS:_____

PICU (CIRCLE) : RN CNS TNP NP _____:_____ PROBLEM (CIRCLE):
Name:_____ AIRWAY BREATHING CIRCULATION DISABILITY

PICU (CIRCLE): REG FELLOW CONSULTANT _____:_____ ARREST OTHER (SPECIFIY):
Name:_____

HISTORY:_____

WT:	Time	RR	SaO2 / Air / O2 DEVICE	HR	BP	CR	GCS / AVPU	Temp	BSL
Phone call									
First look									
Stabilisation									

ASSESSMENT:_____

IMPRESSION:_____

TEAM PLAN/SUGGESTION:_____

Remain on ward ☐ PICU- High Dependency Care ☐ Transfered to another ward ☐
Follow up required ☐ PICU- Intensive Care ☐ Pt Deceased ☐

Print Name :_____

Sign:_____ STANDOWN TIME:_____:_____

Please file original form in the medical record. Copy to PICU / HDU

PICU/HDU REFERRAL FORM TRIAL M6B

The Pediatric Critical Care Nurse Practitioner - an Australian Perspective

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Multicultural Care in European Intensive Care Units - an Erasmus+ Project

THE LATEST EUROSTAT DATA DEMONSTRATE THAT THE POPULATION ACROSS EU-28 INCREASED BY 1.3 MILLION PEOPLE IN 2015 ALONE AND MIGRATION HAS BECOME ONE OF THE KEY DRIVERS OF POPULATION CHANGE. THIS DATA CONFIRMS THE THESIS OF DR A. BISCHOFF FROM SWISS FORUM FOR MIGRATION AND POPULATION STUDIES (2003) AND SCIENTISTS FROM LONDON`S GLOBAL UNIVERSITY (2011) WHO NOTICED, THAT THE CULTURAL DIVERSITY WILL BE ONE OF THE MOST IMPORTANT FACTOR IN HEALTH-CARE AREA.

The role of nurses working in intercultural environments, especially those that work in Intensive Care Units, seems to be very sensitive. As they often work with unconscious patients, whose family might not be in reach, they are expected to know how to care for a patient depending on culture and religion.

Lack of cultural awareness may be a danger to patient's dignity. Due to this, it is important to equip medical personnel with proper competencies. As an answer to the above needs, the project aims at improving the knowledge, skills and competencies of the ICU nurses when caring for a culturally dissimilar patient. This aim will be achieved through in-depth analysis of intercultural training needs and intercultural competencies of ICU Nurses, development of specialist and accredited multicultural course for ICU Nurses, preparing recommendations for medical documentation to be used by ICU Nurses, wide dissemination of the outputs across whole Europe.

The main aim of the project will be the development of a specialist and accredited multicultural course for ICU Nurses. The project will directly involve 520 ICU Nurses. 400 of them will take part in the intercultural training needs and competencies analysis, and 120 will test the e-learning course designed especially for them. Other ICU Nurses and Experts from different medical areas will participate in working groups organised in each country in order to consult the developed material.

This project is running from 2016 - 2018 and has been funded with support from the European Commission. The European federation of Critical Care Nurses association (EfCCNa) is participating as a strategic partner in this project. More information can be found on www.mice-icu.eu

Upcoming Congresses

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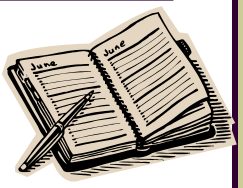

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Manuscripts must be written in English; either American or British spelling may be used but must be consistent throughout. Manuscripts should be typed double-spaced, using Arial or Times New Roman font in at least 11-point, with margins of at least 2 cm or 1 inch. Number pages consecutively beginning with the title page. The preferred length for research, clinical and review papers is 1000-2500 words, excluding references. Submissions to Spotlight on PICU should not exceed 1500 words. The sections of the manuscript should be in the following order.

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- Title should be concise and informative, and typed in bold capitals.
- Names (first name, initial(s) and family names) of authors in the order in which they are to appear.
- Include a maximum of 4 qualifications for each author
- Institutional affiliation(s) of each author
- Address, telephone and fax numbers and email address of corresponding author

Abstract

An abstract not exceeding 250 words is required for all submissions except those for Spotlight on PICU. For research studies, the abstract should be structured under the following headings: Background, Methodology, Results (or Findings), Conclusions.

Body of text

Use headings to structure the paper. The type of paper will determine the headings, e.g. for research papers the main headings will be Introduction, Background, Methodology/Methods, Results/Findings, Discussion, Conclusion. Up to 2 levels of headings may be used. Papers reporting research conducted in humans or animals should include a statement that the study was approved by the relevant body or bodies.

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