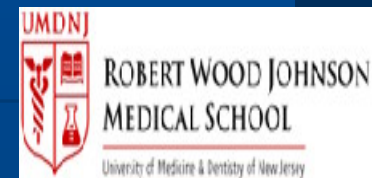
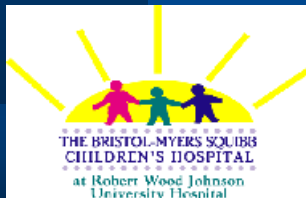




Nurse Practitioners in the NICU and PICU

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Definition of APN

Nurse Practitioner and Advanced Practice Roles are emerging and being identified worldwide. A NP/APN 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. A Masters degree is recommended for entry level – ICN 2002

Advanced Clinical Practice Definition

- Graduate degree in Nursing.
- Conduct comprehensive health assessments
- Demonstrate a high level of autonomy
- Possess expert skills in the diagnosis and treatment of complex responses of individuals, families and communities
- Integrate education, research, management, leadership and consultation
- Collegial relationships with nursing, physicians and other health care professionals

ANA Congress of Nursing Practice - 1992

Characteristics of NP

- Educational Preparation
- Nature of Practice
- Regulatory Mechanisms

Educational Preparation

- Educational Preparation at the advanced level
 - advanced clinical competencies
 - Preparation for full extent of role
 - Facilitate lifelong learning & maintenance of competencies
- Formal recognition of educational programs preparing nurse practitioners/APN practice roles accredited or approved
- Formal system of licensure, registration, certification and credentialing
- Preferably at Master's level

NP Education

- Not focused on 1 disease or body system
 - extensive knowledge pathophysiology, pharmacology
- Clinical management not currently undertaken by nurses
 - already have a background in professional nursing practice. Focus is in the medical model – including differential diagnosis, clinical decision making, medical therapeutics and pharmacology.
 - new skills, knowledge
- Collaborative, not independent, practice
 - trust
- Need for supervised clinical practice

Nature of Practice

- Integrates research, education, practice and management
- High degree of professional autonomy and independent/collaborative practice
- Caseload- focused on specific group of patients
- Advanced health assessment skills, decision-making skills and diagnostic reasoning skills
- Recognized advanced clinical competencies
- Perform and prescribe therapeutic measures
- Provision of consultation services
- Plans, implements and evaluates

Regulatory Mechanisms

- Right to diagnose
- Authority to prescribe medication
- Authority to prescribe treatment
- Authority to refer clients to other professionals
- Authority to admit patients to hospital
- Legislation to confer and protect the title “Nurse Practitioner/ Advanced Practice Nurse”
- Legislation or some other form of regulatory mechanism specific to advanced practice nurses
- Officially recognized titles for nurses working in advanced practice roles

APN Statistics

- International Council of Nurses – estimates nearly 40 countries have established or emerging advanced practice roles.
- Almost 140,000 APNs in the USA
- NPs in the U.S.A:
 - 115,000 in the year 2006
 - 3295 certified NNPs in 2003
 - Approximately 150 NPs practicing in Pediatric Critical Care
- New Zealand: 25 NP in 2006 (including NNP)
- Australia: introduced NP role in 2001
- UK: NP not a protected title- no uniform regulations for educational preparation or professional standards
- ICN *International Nurse Practitioner/Advanced Practice Network*- 68% of advanced practice nursing has research functions as part of their role

Nurse Practitioners in the World

The World



North American Experience

- Historically

- Nurse Practitioner
 - primary care, “medical model”

- Recently

- NPs into acute, specialist areas
 - NNP, ACNP, PCCNP

Elements of Advanced Practice

- Clinical practice
- Education
- Leadership / Management
- Research

Role Expectations of NPs

- Five broad areas of care management
 - Coordination of care
 - Recording the history and performing the physical exam
 - Ordering diagnostic tests
 - Performing therapeutic procedures
 - Prescribing medications

Shah H, et al. An evaluation of the role and practices of the acute care nurse practitioner. AACN Clinical Issues 1997;8: 147-155.

Roles and Responsibilities

- Involved in physical and technical aspects of care
- Engaged in critical thinking and decision making
- Provide continuity of care
- Also involved in education, research and support of systems

Kleinpell, 1997; Richmond & Keane, 1996; DeNicola, 1993; Spisso, 1990; Bissinger, 1997; Schultz, 1993; Verger, 1997

Where did we come from?

Practice influences...Environment

- Increasing need for skills of an advanced practice nurse in specialties and in hospitals
 - Changing reimbursement policies
 - Shortening length of hospital stay
 - Number of patients rapidly moving through the health care system
 - Changes in medical training program regulations
 - Focus on well child care
- Pediatricians familiar with working with NPs
- Team approach in hospitals

Development of NP Role in NICU

- Acute care role of NNP developed in mid 1970's
- Education incorporated-technical and diagnostic skills
- Manage population of infants in NICU-premature thru neonatal age group
- Impetus: Gap between expanding service needs, decreasing house staff availability

Evolution of NNP Role

- Original concept based on hospital's needs at bedside- highly professional and skilled professionals necessary
- Over past 30 years- shift from certificate to graduate degree required
- Standardizations of educational programs
 - USA: National Association of Neonatal Nurses (NANN)
 - NCC (certifying body for NNPs)- graduate degree required 2000
- NNP shifted from strictly clinical role to:
 - Clinical
 - Research
 - Nursing and medical education
 - Administration

Role Responsibilities

- Direct provider of care for infants and neonates
- Teacher
- Researcher
- Advocate
- Consultant
- Manager of systems
- Leader

Research on NNP Role

- NNPs perform at least comparably and in some cases better than physicians in training

- Trotter, 1994; Bissinger, et al, 1997; Carzoli, 1994; Schultz, 1994; Mitchell, et al, 1995; Mitchell-DiCenso, et al., 1996

- Role viewed favorably by nurses, physicians and parents

- Trotter, 1994; Beal, 1997; Ruth-Sanchez, 1996

Responsibilities, roles & staffing patterns of nurse practitioners in the neonatal intensive care unit

- Design: prospective descriptive study in conjunction with regional multi-site outcomes study
- Methods: 22 NPs surveyed, 5 regional level II/III NICUs NE US
- Results:
 - NP roles included all levels of NICU care as well as antepartal consultation, delivery room management, transport, outpatient follow-up
 - NPs equally involved with all degrees of complexity and birthweights
 - Some NPs cared for smaller and sicker babies
- Implications: NP provide invaluable contribution with parent support and teaching, post- NICU follow-up care, professional research and education
- NP role in NICU should not be viewed as a substitution for resident physicians

The Nurse Practitioner Role in the NICU as perceived by Parents

- Purpose: understand and describe the nature of NP care delivery in the NICU as perceived by parents of critically ill neonates
- Methods: 8 parents; phenomenological method
- Results: NPs consistently perceived as:
 - effectively manage the medical care
 - “being positive and reassuring”
 - “being present”
 - “caring”
 - “translating information”
 - “making parents feel at ease”

Advantages of NNP Role

- Consistent care providers-particularly with extremely premature neonates
- Enhanced communication
- Improved discharge planning
- Role in follow-up care
- Reduction in overall cost of care

Development of NP Role in PICU

Practice influences....APN roles

- PNP in primary care
 - Well child care in outpatient setting
- Masters prepared nurses in specialty practice (CNS)
 - Inpatient with direct and indirect care responsibilities for patients and families
- Neonatal nurse practitioners
 - Acute and critically ill neonates
- PNPs in-patient and out-patient
 - Responsibility for patients in pediatric specialty areas

Where did we come from?

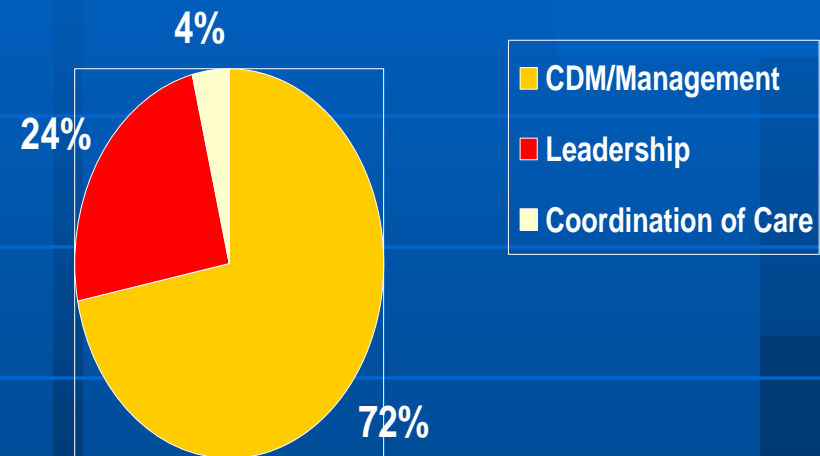
■ Education

- Acute care (36%);
CNS to postmasters
acute/critical care
NP (27%); Primary
care (37%)

■ Experience

- PNP in critical care
3 yrs. (1-7 yrs);
Nursing 14.4 years
(5-26 yrs)

Role Responsibilities PNP Critical Care



Nurse Practitioners in Pediatric Critical Care - Methods

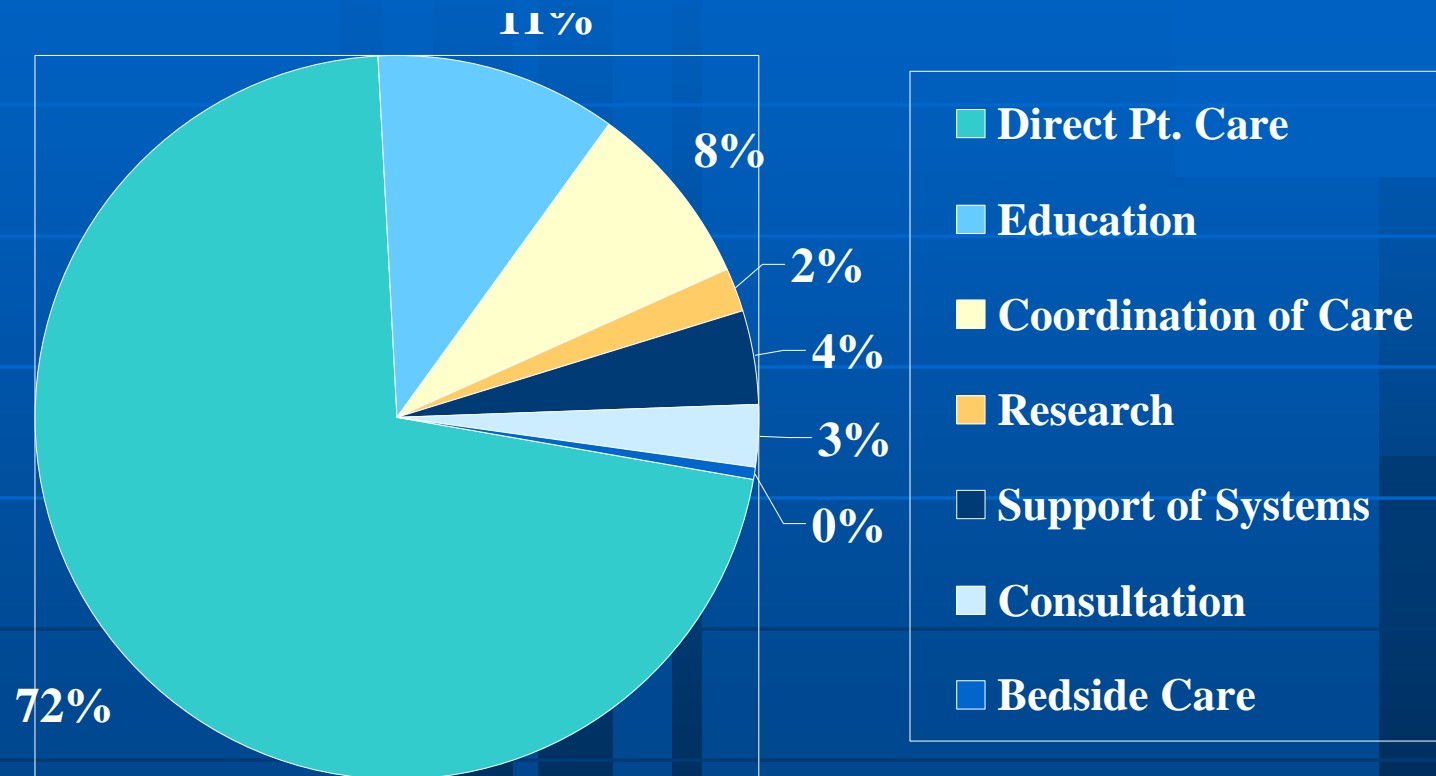
- Convenience Sample
 - Distributed via internet, postal mailing and personal contact to 81 individuals
 - Part of larger study looking at APNs in Pediatrics
- Multi-item survey (61 questions)
 - Examining education & experience, practice environment, administrative issues, role responsibilities, clinical skills

Nurse Practitioners in Pediatric Critical Care - Results

- 74 respondents
- Master's prepared
- 18 states represented
- 29 Hospitals
 - 35 Units

Verger, J.T., Marcoux, K.K., Madden, M.A., Bojko, T., and Barnsteiner, J. (2005). Nurse Practitioners in Pediatric Critical Care: Results of National Survey. *AACN Clinical Issues: Advanced Practice in Acute and Critical Care* 2005; 16(3): 396-408.

Nurse Practitioners in Pediatric Critical Care - Activities



Verger, J.T., Marcoux, K.K., Madden, M.A., Bojko, T., and Barnsteiner, J. (2005). Nurse Practitioners in Pediatric Critical Care: Results of National Survey. *AACN Clinical Issues: Advanced Practice in Acute and Critical Care* 2005; 16(3): 396-408.

Nurse Practitioner in Pediatric Critical Care -Responsibilities

■ Clinical Practice

- History/Physical Exam-100%
- Order Medications-100%
- Order/interpret Lab Test-100%
- Interpret ECG-100%
- Order Blood Therapy-97%
- Adjust Mechanical Ventilation-97%
- Titrate Vasoactive Drugs - 91%

■ Technical Skills

- Peripheral IV- 98%
- Feeding Tube Placement-93%
- Endotracheal Intub.-84%
- Arterial Lines-83%
- Chest Tube Removal-81%
- Central Lines- 80%

■ Caring Practices

- Administer Sedation-93%

Nurse Practitioner in Pediatric Critical Care -Responsibilities

■ Clinical Inquiry

- Participate Research-60%

■ Facilitator of Knowledge

- Patient/Family Educ. -100%
- Nursing Education-90%
- Medical Education-82%

Model for Advanced Practice:

- Direct Comprehensive Care
- Support of Systems
- Research
- Education
- Publication & Professional Leadership

Ackerman M., Norsen L., Martin B. (1996) American Journal of Critical Care;5: 68-73.

Mick D., Ackerman M., (2000) Heart and Lung; 29(3): 210-221.

Where are we now?

Practice models....

- Direct clinical management of a few patients or overall accountability and influence for a group of patients
- Protected time for continuing education, clinical research, integrate into the leadership of the unit
- Inpatient and outpatient responsibilities
- Coverage M-F days to 24/7
- Supervision

Practice models

- Work in a team, highly collaborative roles
- Authority rests with competence
- APNs distinct group by training and experience..interchangeable with other health care providers is not an effective model
 - Set of skills distinguish from MDs, PAs
- Dependent on individual's education, certification, years of experience and characteristics of the practice setting
- 1-2 years to function independently

Nurse Practitioners in Intensive Care - Conclusions

- Growing segment of APNs
 - Represents increasing areas around the world
 - Practice settings varied
- Role components include Clinical Practice and other APN responsibilities
 - Including Education, Support of Systems, Research
 - Variability of % of time spent

Thank You



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