


	<h2>Impact of Physician Assistant Residents in Neonatology</h2>
	<p>Eric Reynolds, MD Program Director, Physician Assistant Residency in Neonatology</p> <p>Tim Bricker, MD Chairman of Pediatrics</p> <p>University of Kentucky</p> <p>Physician Assistant Education Association Annual Meeting Oct 2007</p> <p>Loews Ventana Canyon Tuscon AZ</p> 

	<h2>Disclosure</h2>
	<ul style="list-style-type: none"> ■ Nothing to disclose

	<h2>Factors Affecting NICU Workforce</h2>
	<ul style="list-style-type: none"> ■ More preterm infants with longer hospital stays ■ Regional variations in physician supply ■ Increased non-medical obligations related to patient care <ul style="list-style-type: none"> - Documentation - Billing - Teaching ■ Limited resident duty hours ■ Limited resident critical care months ■ Inability of some institutions to recruit/retain nurse practitioners

	<h2>Non-Physician Clinicians</h2>
	<ul style="list-style-type: none"> ■ Important for healthcare delivery in many cultures for centuries ■ Includes <ul style="list-style-type: none"> - Nurse Practitioners - Physician Assistants - Clinical Nurse Specialists - Certified Nurse Midwives <ul style="list-style-type: none"> ■ Chiropractors, Acupuncturists and Naturopaths

	<h2>Models for training NPs and PAs</h2>
	<ul style="list-style-type: none"> ■ Nursing Model <ul style="list-style-type: none"> - Nursing Theory - Observations, environment, factors to promote healing - "put the patient in the best condition for nature to act upon him" - Focus on patients' response to illness and health and the mechanisms that allow nurses to empower patients to ensure better outcomes - Patient is part of larger system - Nurse is not subordinate to physician - Move from "Grand" abstract constructs to problem-focused concrete concepts

	<h2>Models for training NPs and PAs</h2>
	<ul style="list-style-type: none"> ■ Medical Model <ul style="list-style-type: none"> - Intensive didactic lecture series <ul style="list-style-type: none"> ■ Traditional health science topics - Hands-on clinical experience similar to medical school curriculum. - Goal is to prepare the student academically and clinically to provide healthcare services under the direction of a physician - Many tools now common in medical education originated in PA schools <ul style="list-style-type: none"> ■ Virtual patients ■ Problem-focused learning modules

Blurring the Lines

- Some institutions have combined NP/PA lecture series and course work
- In the NICU
 - NPs are taught to become proficient at diagnosis, treatment and technical skills
 - “Family-Centered Care” puts more emphasis on the patient-parent-family unit rather than traditional diagnosis and treatment

PAs in the NICU

- Neonatology has historically been a nursing dominated profession
 - Relatively few PAs work in the NICU
- Most PAs that do work in Neonatology receive on-the-job training with varying results

NPCs in the NICU

- 1981: USC Medical Center instituted a 9-month residency training program for PAs in the NICU.
 - Curriculum included clinical and research requirements
 - Remained active into the mid-1990s
- 1993: Albert Einstein College of Medicine/ Montifiore Medical Center removes residents from the NICU in favor of NPCs. Minimal impact on hospital revenue and no effect on quality of care.

NPCs in the NICU

- 1995: Survey shows 60% of teaching hospitals have replaced or augmented resident coverage with NPCs
- 2005: University of Kentucky begins 1-year training program for PAs in Neonatology
 - October 2007 3rd entering class begins training

Curriculum

- The 1-year program includes
 - Rigorous clinical rotation
 - 8-9 months of NICU
 - 2 weeks each of Newborn Nursery and High Risk OB
 - 2 weeks of NICU Nursing
 - 3-5 2-week blocks of “other” services
 - Peds Surg, Cardiology, PICU, Radiology
 - Intensive didactic sessions
 - Regularly scheduled division and department conferences
 - Additional 1(2)-on-1 lecture time
 - Attendance at a national and regional clinical conferences

Barriers

- Acceptance
 - Faculty, Nursing Staff
 - Initial resistance by some people
 - Resistance to anything new
 - Turf War
- Overcome by hiring the “right” people for the job

	Barriers
	<ul style="list-style-type: none"> ■ Budget <ul style="list-style-type: none"> – Salary, Benefits, Printing, Advertising, Recruiting, Conference and Travel <ul style="list-style-type: none"> ■ Total cost per year is about \$140,000 ■ Currently paid from clinical income of the Division – Billing <ul style="list-style-type: none"> ■ PA <i>could</i> bill for services <ul style="list-style-type: none"> – PA Resident is a “trainee” – Attending must write an independent note. Can not link to PA note for billing purposes

	Barriers
	<ul style="list-style-type: none"> ■ GME <ul style="list-style-type: none"> – Impact on accredited residency program <ul style="list-style-type: none"> ■ GME required assurance that procedures and patients would still be available for the medical (Pediatric, Med-Peds and Triple Board) residents. ■ Procedure monitoring ■ Patient distribution

	Barriers
	<ul style="list-style-type: none"> ■ State <ul style="list-style-type: none"> – KY has no definition for a PA resident – Requires working closing with Board of Medical Licensure to ensure compliance with existing standards

	Barriers
	<ul style="list-style-type: none"> ■ National <ul style="list-style-type: none"> – No accreditation process for PA residency – It’s coming! – Limitation to PA mobility <ul style="list-style-type: none"> ■ Concern that formal residency programs will limit access to certain specialties <ul style="list-style-type: none"> – Some medical practice areas may require techniques or concepts not covered in PA school

	Impact
	<ul style="list-style-type: none"> ■ Quality Improvement questionnaire administered to Pediatric Residents after 6 months to assess the impact of the PA residents <ul style="list-style-type: none"> – 12 respondents had worked with a PA resident in the NICU – Overall impression favorable <ul style="list-style-type: none"> ■ 7 “completely” favorable, 3 “mostly” favorable, 2 neutral ■ Similar to NNPs (7, 4, 1)

	Impact
	<ul style="list-style-type: none"> ■ I served as a valuable teaching resource for the _____. <ul style="list-style-type: none"> – PA Resident: 10 agree, 1 disagree – NNP: 0 agree, 11 disagree ■ The ____ served as a valuable teaching resource for me. <ul style="list-style-type: none"> – PA Resident: 7 agree, 4 disagree – NNP: 10 agree, 1 disagree

	Impact
	<ul style="list-style-type: none"> ■ At what level will a PA resident function after 1 year of training <ul style="list-style-type: none"> – Intern: 12 – Senior Resident: 12 – NNP: 8 – Fellow: 4 – Attending: 0

	Impact
	<ul style="list-style-type: none"> ■ Procedures <ul style="list-style-type: none"> – 1 respondent stated an expected procedure was given to a PA Resident – PA Residents make up 10-30% of the NICU team <ul style="list-style-type: none"> ■ Depends on the number of residents for the month, number of PA residents or NNPs that are working on a particular day. ■ They are performing about 11% of the procedures

	Conclusion
	<ul style="list-style-type: none"> ■ Regional workforce shortages in Neonatology will continue <ul style="list-style-type: none"> – Resident work hour limitations, recruiting and retaining skilled persons ■ PAs are an underutilized resource in neonatal intensive care but require extensive training in concepts and methods not covered in PA school ■ Our PA residency will help us train skilled individuals for a career in the NICU ■ Our program has made an immediate and positive impact on training in our NICU. ■ Pediatric resident opinions of the PA residents are similar to their opinions of NNPs