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Objectives
- Identify the gap between primary care Nurse Practitioner (NP) education preparation and current practice
- Examine current approaches in NP education programs for advanced diagnostic skills and procedures (ADSP)
- Discuss implications for curricular change policy and guidelines

Background
- The Bureau of Labor Statistics Occupational Outlook Handbook identifies there is a 36% increase in demand for NPs from 2016-2026
- Physician shortages, an aging population, and insurance expansions contribute to the increased need for primary care NPs in the U.S.
- Consensus document requires core APN (advanced practice nurse) education include the 3Ps but does not currently include the 4th P: Procedures
- American Association of Colleges of Nursing Essentials and NONPF competencies provide a foundation for APN education and competencies to help prepare APNs to work to their full scope of practice
- Advances in state practice acts reflect increase in autonomous practice
- Procedural training and diagnostic interpretation are core competencies of advanced practice nursing
- In practice, > 93% of all NPs order, perform, and interpret lab tests, x-rays, EKGs, and other advanced diagnostic studies regularly
- Over 26% perform procedures regularly
- Many NPs feel unprepared to perform full scope of practice at graduation
- It is essential that APNs work to their full scope

Systematic Review of the Literature
- Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines followed
- Literature search consultation with JHU Welch Medical Informatics
- Data bases: PubMed, Cochrane, Scopus, CINAHL

Inclusion and exclusion criteria

- Protocols: 2 reviewers title and abstract
- 10 reviewers full text
- Included study summary table
- 9 articles reviewed (all from U.S.)
- 8 descriptive survey design
- 1 utilized actual claims data for analysis
- Due to limited statistical analysis in selected studies, meta-analysis was not completed

Question: Among primary care NPs, does current program curriculum align with current procedures, skills & performance in the clinical setting, with competent, independent skill level

PICOT

Population
Intervention
Comparison
Outcome

Results
Two common themes emerged:

Education
- Perceptions of importance to teach during initial education program
- Faculty (3 studies)
- State level professional organization (1 study)
- Procedure taught in program (5 studies)
- Due to limited statistical analysis in selected studies, meta-analysis was not completed

Employment
- Frequency of procedures performed
- Self-reported ADSP in clinical practice (2 studies)
- Actual ADSP in clinical practice
- Billing claims (1 study)
- NP Perceptions about procedures performed
- Importance of ADSP skill on the job (2 studies)
- Need for additional training post-graduation (1 study)

Conclusions
- There is scant research on the current state of educational preparation of ADSP for APNs
- Findings indicate that primary care NP programs are not teaching all the procedures that program directors found to be important
- The studies provide implications for APN educators regarding the need to review the scope of ADSP training in APN programs
- Educating APNs about ADSPs should be congruent with those regularly used in clinical practice
- A survey of primary care NPs regarding the scope and depth of their education, practice and competency in ADSP preparation at graduation is critical to determine whether additional guidelines relative to a “4th P” is indicated for APN education
- One strategy may be to offer a structured approach for minimal ADSP education, practice and competency in ADSP preparation at graduation is critical to determine whether additional guidelines relative to a “4th P” is indicated for APN education
- There is a need for additional research to determine the best approach for ADSP education, practice and competency in ADSP preparation at graduation is critical to determine whether additional guidelines relative to a “4th P” is indicated for APN education
- Critical to determine whether additional guidelines relative to a “4th P” is indicated for APN education

Insert figure: Intra-Disciplinary PhD/DNP Project

- Pathophysiology
- Pharmacology
- Physical Assessment
- Procedures

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