



Assessing DNP Outcomes

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Purpose

- To assess the outcomes of a post-master's DNP program in light of the DNP *Essentials*
- Phase I of our longitudinal study of USD's first DNP graduating cohort



Transition to Doctoral APRN Practice

- Challenges for students
 - Identifying additional clinical competencies that will enhance their current expertise
 - Incorporating a population, policy, systems, & technology perspective to their individual care focus
- Challenges for faculty
 - Fostering leadership skills in APRNs



Diffusion of Innovation Theory – Why Change? (Rogers, 1962)

- DIT suggests that the rate that innovations are adopted depends upon:
 - Advantage created by innovation
 - Compatibility with one's life
 - Complexity or how difficult it is to change
 - How easy it is to trial the innovation
 - Visibility to others



Diffusion of Innovation Theory – Who Changes? (Rogers, 1962)

- Innovators
- Early Adopters
- Early Majority
- Late Majority
- Laggards



Diffusion of Innovation Theory – Stages of Change (Rogers, 1962)

- Knowledge – awareness of innovation but not convinced to change
- Persuasion – interested in innovation
- Decision – weights pros & cons then accepts or rejects innovation
- Implementation – tries out innovation
- Confirmation – commits to innovation

Note: Need to achieve a “critical mass” of adopters in order for innovation to become self-sustaining



Levels of DNP Student Innovation- What We Intended

- Develop greater expertise in a defined area of practice
- Focus more on prevention
- Incorporate evidence into clinical practice with individual patients & populations
- Improve systems of care & patient outcomes by leading colleagues in practice improvement projects
- Adopt policies & technologies to improve access to quality care



Program Description

- Post-master's DNP
- NP and CNS foci
- 21 months
- 34 semester units
- 10 units of practice residency over 5 semesters
 - Clinical practice in APRN role
 - DNP evidence-based project
 - Other activities to achieve program outcomes

Program Outcomes & DNP Essentials

Program Outcome	DNP Essential
1. Demonstrate advanced levels of clinical practice	VIII. Advanced nursing practice
2. Synthesize nursing and other scientific and ethical theories and concepts to create a foundation for advanced nursing practice.	I. Scientific underpinnings for practice
3. Demonstrate leadership in collaborative efforts to develop and implement policies	V. Health care policy for advocacy in health care VI. Interprofessional collaboration
4. Incorporate research into practice	III. Clinical scholarship and analytic methods
5. Design, implement, and evaluate health care delivery systems and information systems	II. Organizational & systems leadership IV. Information systems/patient care Technology
6. Employ a population health focus in primary, secondary, and tertiary prevention	VII. Clinical prevention and population health
7. Incorporate ethical, regulatory, and legal guidelines in the delivery of health care and the selection, use, and evaluation of information systems and patient care technology.	IV. Information systems/patient care Technology



Data Collection Methods and Sources

- Admission applications
- Statement of purpose
- Admission interviews
- Student logs
- Student portfolios
 - Opening statement
 - Final logs
 - Evidence of outcome achievement
 - Closing statement
- Faculty evaluation forms
 - DNP project evaluation form
 - Verification of Completion of Program Outcomes
 - DNP Student evaluation
- Written and verbal comments from clinical mentors



Student Cohort

- 14 of 16 graduated on schedule
- Gender
 - 10 women
 - 4 men
- APRN role
 - NP – 10
 - CNS – 2
 - NP & NM – 1
 - NP & CNS – 1
- Years of APRN practice
 - Range: 1-26 years
 - Mean: 9.9 years
 - > 10 years: 6 (43%)



Student Cohort

- Prior certification
 - National APRN certification
 - NPs: 10
 - CNSs: none
 - Specialty certifications: 8
- Practice hours entering program
 - Range: 270 – 2500
 - Mean: 747
- Validation mechanisms



Student Cohort

- Practice hours during program
 - Range: 206-807
 - Mean: 506
- Total program hours
 - Range: 1000-2706
 - Mean: 1253



Student Cohort

- Project setting
 - Primary employment setting: 9
 - Secondary employment setting: 5
- Prior professional involvement
 - Professional organization membership
 - Professional organization leadership
- Other leadership/advocacy roles
- Other preprogram achievements



Reasons for the DNP

- Practice emphasis
- Advanced technical and clinical competence
- Improve leadership skills
- Increase credibility
- Develop business/management skills



Practice Emphasis

- “Passion for clinical nursing”
- “I never thought I was the doctoral type of clinician as my emphasis was to care for patients the best way possible tending to physical and emotional needs of my patients in a practice setting. Having this opportunity to complete a doctoral program was never truly a goal I had for myself until the DNP program was obtainable at USD. Finally, a nursing doctoral program suited my goals and values as a clinician”
- “The creation of the DNP as the terminal degree in the discipline that focuses on clinical practice was a perfect fit.”



Advanced Expertise

- “I knew I needed to become more of an expert”
- “For me, the choice (of pursuing a DNP) was one of self-enhancement, being able to do what I do, even better.”
- “It was the goal of my residency to improve my skills as a CNS in all three spheres of influence (direct patient care, nursing and nursing practice, and organization and systems) through the marriage of the CNS roles and the ‘essentials’ elements.”



Leadership Skills/Credibility

- “I can have a much greater impact on healthcare delivery by assuming a leadership role and transitioning from the mentee to the mentor.”
- “I wanted to be able to affect change in my clinical area of practice on a medical-surgical unit.”



Business/Management Skills

- An “additional focus was given toward medical practice management and forward planning.”
- Development of business plans



Speaking to the *Essentials*

- Only two students referred to the DNP *Essentials* in their application/interview
- But others addressed concepts inherent in the *Essentials*
 - Focus on evidence-based practice
 - Advocacy
 - Policy formation



Findings: Outcome 1, Expert Clinical Practice (DNP Essential VIII)

- Advanced knowledge: Care of individuals
 - Mentored clinical practice experiences
 - Additional course work
 - Continuing education
 - Professional conferences



Findings: Outcome 1, Expert Clinical Practice (DNP Essential VIII)

- Advanced knowledge: Systems level
 - Leadership training programs
 - Readiness skills training
 - Quality assurance program
 - Reimbursement education program



Findings: Outcome 2, Synthesis and Use of Theory (DNP Essential I)

- Use of EBP models
- Use of evaluation theory and models
- Evaluation and use of existing guidelines and protocols



Findings: Outcome 3, Leadership and Collaboration (DNP Essentials V & VI)

- Leadership
 - Unit level
 - System level
 - Community level
 - Professional organization level
 - National level



Findings: Outcome 3, Leadership and Collaboration (DNP Essentials V & VI)

- Collaboration

- Within systems

- Staff (nursing and ancillary), other providers

- Intersystem

- Community agencies, higher education institutions, community agencies, school systems, hospitals



Findings: Outcome 3, Leadership and Collaboration (DNP Essentials V & VI)

- Policy Development
 - Unit level
 - System level
 - County-wide
 - State level
 - Legislative initiatives
 - National




Findings: Outcome 3, Leadership and Collaboration (DNP Essentials V & VI)

- Mentoring/Teaching
 - Local
 - Career ladder candidates
 - APRN students
 - Prelicensure students
 - Other providers/staff
 - Clients
 - National
 - Oncology providers
 - USPHS applicants



Findings: Outcome 4, Incorporate Research into Practice (DNP Essential III)

- Development/Implementation of evidence-based guidelines
- Ability to critique evidence base
- Review and selection of existing guideline vs. creation of new guidelines
- Use of research strategies



Findings: Outcome 4, Incorporate Research into Practice (DNP Essential III)

- Development/implementation of evidence-based protocols in practice
 - **DNP** projects
 - Other areas of practice



DNP Evidence-based Projects -1

- Routine diabetes screening in a Hispanic population
- ED admission pathways
- Hearing screening in young and difficult to test children
- Simulation for staff competency
- Chemotherapy education
- Prevention of CIPN



DNP Evidence-based Projects - 2

- Depression screening in pregnant refugee women
- Routine HIV screening in college students
- Nursing morbidity and mortality review conferences to decrease VAP incidence
- Obesity reduction in a Hispanic population



Other Practice Areas

- Gardasil administration
- H1N1 response
- Diabetes management
- MRSA outbreak control
- Use of sepsis bundles
- Pre-employment processes
- Risk pregnancy triage
- ICU sedation
- ICU nursing protocols




Sample Project Outcomes

- Warfarin management:
 - Significantly increased percentage of INRs in therapeutic range
 - Generated practice revenue
- Chemotherapy video education
 - Successfully educated patients
 - Decreased nursing time spent in education
- Depression screening: Positive results in 2/3 of pregnant refugees
- VAP incidence decreased by 50% at estimated \$100,000 cost savings




Sample Project Outcomes

- Routine HIV screening
 - Program expanded to other schools in system
 - Resulted in changes in policy on access to student health records
- Otoacoustic emissions testing
 - Identified hearing loss in several previously untestable children



Findings: Outcome 4, Incorporate Research into Practice (DNP Essential III)

- Use of Research Strategies
 - Baseline data collection
 - Measurement strategies
 - Selection
 - Translation/validation
 - Development of relevant cut-off scores
 - Pilot testing interventions
 - Evaluating intervention effects
 - Statistical analysis
 - Data interpretation
 - Dissemination of findings



Findings: Outcome 5, Systems Design, Implementation, Evaluation

(DNP Essentials II and IV)

- Development of care services
- Education of others
- Economic considerations
 - Grant proposals
 - Business plan development
 - Marketing plan development
 - Reimbursement/billing strategies
 - Economic effects of projects
- Role development



Findings: Outcome 6, Population Health Focus (DNP Essential VII)

- Use of population health data
 - Epidemiologic bases for evidence-based projects
 - National/regional
 - Setting-specific
 - Outside of projects
 - H1N1 response plans
 - MRSA outbreak
 - CAP outbreak
 - Synthesis workshops



Findings: Outcome 7, Ethical, Regulatory, Legal Perspectives (DNP Essential IV)

- Ethics
 - IRB process(es)
 - Confidentiality
 - Advocacy
 - Individual
 - Population
- Legal/regulatory
 - NP scope of practice
 - School nurse scope of practice



Findings: Outcome 7, Technology (DNP Essential IV)

- Patient care technology
- Educational technology
- Information management technology
- Organization websites



Other Findings

- Clinical mentor comments
- Additional certifications
- Publications/presentations
- Recognition/awards
- Organizational involvement
- New employment/other opportunities



Mentor Comments

- Graduate outcomes
 - Enhanced clinical competencies
 - “Uses big picture thinking”
 - “Incorporated research into practice”
 - “Could have benefited from closer supervision and guidance in working with others”
 - “Brings back evidence from classmates”
 - Good collaboration



Mentor Comments

System outcomes

- “Her DNP project has given us a critical evaluation of the current literature as we look at the problem of patients deteriorating within 24 hours of admission to the hospital from the ED.”
- “They began to understand the importance of this strategy in potentially reducing the incidence of HIV infection in this population.”
- “We are also evaluating the usefulness of other varied assessment tools...We became increasingly aware of the comorbidities.”
- “achieved something we have been trying to do for years.”
- “vast contribution to system”
- “really helped improve practice”
- “Taken over multiple outreach activities, created linkages to other providers and systems”
- Potential for expansion to other areas



Additional Certifications

- Five NPs achieved national certification in specialty areas
- One certification in Medical Education Research related to Simulation
- Two CNSs pursuing National CNS certification



Publications/Presentations

- Publishable manuscript required of all students
- All required to present at a regional or national professional conference
- All required to present projects to local stakeholders
- Several students published/presented in additional venues within and outside of their systems



Recognition/Awards

- Two awards for contribution to system
- Local CNS practice award
- Best poster in multidisciplinary research venue
- Runner up for best poster at WIN
- Sigma Theta Tau induction
- 2nd best poster at ACE-STAR conference



Organizational Involvement

- Two students became members of three new professional organizations
- One student ran for office in a state NP organization



Other Opportunities

- Appointments to simulation positions/ advisory committees
- Faculty positions
- Additional responsibilities
 - “Such responsibility is already being requested by my current place of employment...[I have] recently been asked to consult and evaluate on the ongoing research and policy projects in the department from both medical and nursing perspectives.”
- Textbook chapter authorship
- Selection for special training programs



Student Perceptions of Outcomes

- “We were like long awaited and eagerly anticipated ‘first children’”
- “My confidence as an advanced practice nurse has grown. Utilization of evidence-based practice is a daily occurrence. I question why things are done that way and I am not afraid to question other health care providers.”
- The DNP program “motivated me to be engaged in self-directed learning.”
- The DNP “has been an amazing process through which multiple doors have opened and professional opportunities have abounded.”



Student Perceptions of Outcomes

- “As a clinician, the DNP program has helped me to look at patient care with a wider lens. I now understand the importance of advocacy for our profession, implementing evidence-based practice into patient care, and having a doctorate to sit at the same table with physicians and law makers to affect future health care policies and legislature.”
- “I can PICO, reflect, research, plan, finance, implement, evaluate, understand statistics, find appropriate assistance...I can cut, paste, and attach anything now, too.”
- “Completion of the DNP program has contributed to a change in practice focus and growth as a nurse educator, advocate, clinical, and leader in both the nursing community and local healthcare community. I no longer limit my focus to that which occurs in the individual patient encounter; instead I am looking at a broader sphere of influence on patient needs, resources, and community health outcomes.”



Future Plans

- “I can only imagine the tremendous opportunities that await....It is my intention to utilize my new and newly enhanced skills to have a direct and deliberate impact on the next generation of nursing professionals. Is that not the job of a clinical nurse specialist in a nut shell?”
- “As I embark on a geographical move..., I am confident that as a doctorally prepared practice-focused practitioner, I have the knowledge and ability to enter a leadership role in today’s changing health care system.” I feel prepared and confident ... ready to face the new challenges the next portion of life has to offer.”



Summing Up

- “I can honestly say I am a better clinician, consultant, and nursing professional as a result of my residency experience.”
- “The last eighteen months have been the most stressful, wearing, long-commuting, friend-making, skit-producing, joyous, most wonderful time of my life.”
- “My residency has been a varied experience. Was it what I expected when I started? Probably not. Was it worthwhile? Absolutely! Would I do it again? In a heartbeat!”



Lessons Learned

- Require opening statement in first residency semester
 - Reasons for seeking DNP
 - Expected personal outcomes of DNP program
- Need for portfolio organizing framework
- Closing statements reflecting back on initial purpose and its achievement
- Need to simplify log format
- Need to begin drafting final manuscript early in the program



Phase II Study

- Interviews/focus groups with graduates
 - Changes in practice
 - DNP Role integration
 - Issues faced
- Interviews with employers