Measuring Outcomes of APN Practice

Ruth Kleinpell PhD RN FAAN FCCM
Rush University Medical Center
Chicago Illinois USA
Why Measure Outcomes?

What do you do as an APN?
What is your impact on:
- Clients
- Health care
- Costs of care
- Other measures
APNs: Invisible Champions?

Nursing Management May. 2007 www.nursingmanagement.com
Overview

• Measurement of outcomes:
  ◊ No longer an option
  ◊ A mandated component of providing healthcare

Expectations of today:
- High quality health care
- Cost effective
- Good outcomes
Factors to Consider

• What are role components of APN that may impact outcomes?
• How easily can the outcome be measured?
• Can a relationship be established between APN care and the outcome?
Measuring Outcomes in APN practice

Many studies have been conducted assessing outcomes of APN practice

Results:

- APN care was of equivalent quality to physicians
- Patients were satisfied with care
- Outcomes were similar
Overview of APN Outcome Studies

Studies have explored a variety of factors including:
Impact of APN care on patients
Patient satisfaction with care
Quality of care provided by APN
Comparison of APN care to other providers
How do APNs Impact Outcomes?
Acute Care Nurse Practitioner Practice: Results of a 5-Year Longitudinal Study

By Ruth M. Kleinpell, RN-CS, PhD, ACNP. From Rush University College of Nursing and Our Lady of the Resurrection Medical Center, Chicago, Ill.

5 year study of 437 NPs certified in acute care working in ICU and acute care settings
Measuring Outcomes of APN Practice

What outcomes are most affected by your interventions as an APN

- Continuity of Care
- Patient Satisfaction
- Length of Stay
- Patient Education

Measuring Outcomes of APN Practice

- Length of stay
- Health care costs
- Readmission rates
- Complications
- Resource utilization

Measuring Outcomes of APN Practice

↑ Continuity of care
↑ Patient access to care
↑ Patient satisfaction
↑ Patient and family education
↑ Staff education

Measuring Outcomes of APN Practice

↑ Adherence to best practice guidelines

• Improve management of medical problems

Degree of Impact 0=Low
5= High

APN Impact on Outcomes

Outcome Measure

↓ LOS  ↓ Health care costs  ↓ Readmission rates  ↑ Best practice adherence

Kleinpell R. Am J Crit Care 2005; 14:211-219
APN Impact on Outcomes

Degree of Impact
0=Low
5=High

Outcome Measure
- Improve medical mgmt
- ↓ Complications
- ↓ Resource utilization
- ↑ Continuity of care

Kleinpell R. Am J Crit Care 2005; 14:211-219
Degree of Impact 0=Low 5=High

APN Impact on Outcomes

Outcome Measure

Kleinpell R. Am J Crit Care 2005; 14:211-219
Percent Measuring Outcome

↓ LOS ↓ Health care costs ↓ Readmission rates ↑ Best practice adherence Improve medical mgmt

Kleinpell R. Am J Crit Care 2005; 14:211-219
Percent Measuring Outcome

↓ Complications  ↓ Resource utilization  ↑ Continuity of care  ↑ Patient access to care

Kleinpell R. Am J Crit Care 2005; 14:211-219
Percent Measuring Outcome

↑ Patient satisfaction | ↑ Patient education | ↑ Family education | ↑ Staff education

Kleinpell R. Am J Crit Care 2005; 14:211-219
Systematic literature review of NP and PA roles in ICU

145 articles were reviewed of which 31 were research based
Outcomes of APN Care

- Synthesis review of the literature
  - Over 145 articles were reviewed on the role of the NP and PA in acute and critical care settings
  - Of 28 research studies, 19 were focused on NP care
    - Variety of settings: ICU, ER, trauma, & management of patients with specific conditions including stroke, pneumonia and CHF

Outcomes of APN Care

Studies have revealed that APN care results in:

- Increased patient satisfaction
- Patient compliance with treatment
- ↓ LOS, readmission rates
- ↑ patient education
- And a long list of other outcomes!

Research on APN Outcomes

Studies of APN care have examined a variety of outcomes:

- Length of stay
- Use of lab tests
- Infection rates
- Ventilator weaning
- Skin breakdown
- Patient and family satisfaction
- Coordination of care
- Adherence to best practices

Enhancing Continuity of Care

Patient care management
  Rounding, H&P, differential diagnosis, initiating orders, often under protocols, procedures/treatments

Practice guideline implementation

Education
  Staff, patients, families

Communication

Research/quality improvement

Discharge planning

Retrospective (n=402) and 6 month prospective (n=122) evaluation of impact of ACNP care in Neuroscience ICU

Focused on evidence based care for respiratory care, nutrition, pain management
Prospective study in semi-closed ICU

- Assessed impact of ACNP care on promoting adherence to best practices in SICU
  - DVT/PE prophylaxis
  - Stress ulcer prophylaxis
  - Anemia management
Clinical Practice Guideline

Compliance rate, %

<table>
<thead>
<tr>
<th>Clinical Practice Guideline</th>
<th>Without ACNP</th>
<th>With ACNP</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVT/PE</td>
<td>60%</td>
<td>90%</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Stress Ulcer</td>
<td>55%</td>
<td>85%</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Anemia</td>
<td>65%</td>
<td>95%</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Gracias et al. J Nurs Care Quality 2008;23:338-344
Purpose

To implement and evaluate the efficacy of a multidisciplinary initiative to reduce CAUTIs in a Medical ICU by decreasing urinary catheter device use.
Table 1
Indications for use of an indwelling urinary catheter

<table>
<thead>
<tr>
<th>Appropriate indications</th>
<th>Inappropriate indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urinary tract obstruction</td>
<td>Incontinence without any of the appropriate indications</td>
</tr>
<tr>
<td>Urinary retention</td>
<td>Diuresis</td>
</tr>
<tr>
<td>Patient to undergo prolonged (&gt;2 hours) procedure</td>
<td>Frequent, but nonessential, determination of urinary output</td>
</tr>
<tr>
<td>Recently underwent surgical/invasive procedure</td>
<td>Nurse’s concern about patient’s discomfort</td>
</tr>
<tr>
<td>Epidural catheter in place</td>
<td>Diarrhea, without any of the appropriate indications</td>
</tr>
<tr>
<td>Frequent monitoring (every 1-2 hours) of urinary output required</td>
<td>Patient’s preference</td>
</tr>
<tr>
<td>Deep sedation/paralysis</td>
<td></td>
</tr>
<tr>
<td>Stage III or IV skin ulcers</td>
<td></td>
</tr>
<tr>
<td>Surgical repair of decubitus ulcer</td>
<td></td>
</tr>
<tr>
<td>Movement intolerance due to terminal illness or severe impairment</td>
<td></td>
</tr>
</tbody>
</table>

During 6 month period, reinforced assessment of appropriate use of urinary catheters and monitored catheter device days and rates of CA-UTI’s compared to prior 11 month timeline.
Figure 1  Number of urinary catheter device days by month.
Figure 2  Rates of catheter-associated urinary tract infections by month.
REVIEW

Nurse practitioners’ communication styles and their impact on patient outcomes: An integrated literature review

Cody R. Charlton, MS, APRN, FNP-C (Family Nurse Practitioner)¹, Karen S. Dearing, PhD, APRN-C (Assistant Professor)², Judith A. Berry, DNSc, APRN, FNP-C (Assistant Professor)³, & Mary Jayne Johnson, PhD, APRN, FNP-C (Assistant Professor)⁴

1 Department of Corrections, State of Utah, Draper, Utah
2 534 SWKT, College of Nursing, Brigham Young University, Provo, Utah
3 458 SWKT, College of Nursing, Brigham Young University, Provo, Utah
4 Intercollegiate College of Nursing, Washington State University, Spokane, Washington

2008;20:382-388

Abstract

Purpose: The purpose of this review was to examine the published research from 1999 to 2005 describing nurse practitioner (NP)–patient interactions and to determine the best practice to enhance patient outcomes.

Implications for practice: The results of this review indicate that patient-centered communication incorporated into the NPs’ practice is associated with improving patient outcomes such as (a) improved patient satisfaction, (b) increased adherence to treatment plans, and (c) improved patient health. Future research needs to be performed in order to fully study the relationship between NPs using patient-centered communication style and its impact on patient outcomes. Clinical recommendations are made based on findings of the integrated literature review.
REVIEW

The influences of postdischarge management by nurse practitioners on hospital readmission for heart failure

Patricia Delgado-Passler, MSNc, RN (Adjunct Faculty for Cardiovascular Nursing) & Ruth McCaffrey, ND, ARNP-BC (Assistant Professor)

Christine E Lynn College of Nursing, Florida Atlantic University, Boca Raton, Florida

Abstract

Purpose: The primary purpose of this literature review is to examine advanced practice nurse (APN)–directed versus registered nurse (RN)–directed telemanagement programs for heart failure patients.

Data sources: Research articles identified through CINAHL and OVID databases.

Conclusions: Implementing a telemanagement program directed by an APN after hospital discharge decreases the costs and frequent rehospitalizations associated with heart failure and improves the patient’s quality of life. While APNs are more costly than RNs, it is important to understand that this level of provider has a more significant impact on the outcomes of patients who use the services provided in the comprehensive discharge programs.
National Survey of Academic Medical Centers assessing use of NPs and PAs
N= 26 organizations
Organizational demographics
  Active physicians: 350-2,700; median 885
  Nurse practitioners: 48-352; median 101
  Physician assistants: 2-181; median 40

All were utilizing NPs and PAs in a variety of models of care
All identified value of the roles
Majority (69%) did not track outcomes
APN-Sensitive Outcome Indicators

- Patient satisfaction
- Symptom resolution or reduction
- Compliance/adherence
- Patient/family knowledge
- Collaboration among care providers
- Functional status
- Patient self-esteem

Ingersoll G. Outcome Evaluation and Performance Improvement. 2008 in Hamric et al APN. Elsevier
APN-Sensitive Outcome Indicators

- Knowledge and skill of other care providers
- Length of hospital stay
- Staff satisfaction with work
- Patient preparedness for interventions

Ingersoll G. Outcome Evaluation and Performance Improvement. 2008 in Hamric et al APN. Elsevier
APN-Sensitive Outcome Indicators

- Urinary tract infection
- Ventilator days
- Pressure ulcers; skin breakdown
- Smoking cessation
- Patient/family knowledge
- Patient/family satisfaction

Ingersoll G. Outcome Evaluation and Performance Improvement. 2008 in Hamric et al APN. Elsevier
Measuring APN Outcomes

Steps:

- Identifying the objectives of the outcomes management plan
- Selecting outcome parameter(s)
- Select measurement tools
- Determine methods
- Gather Data

Oerman & Huber, 1999; Blanchett & Flarey 1998
Collecting the Data

- Determine what data are currently available to you
  - What are current hospital databases that exist?
    - Patient medical record
    - Critical pathway data
    - Financial reports
    - Discharge database
    - Information systems department data
Timeline for outcome assessment of APN practice

Identify indicators

Baseline data

Review literature: develop path, protocols, orders, data collection tool

Choose processes: educate and implement

Review initial data monthly. Adjust and reevaluate plan.

Review data quarterly. Adjust and reevaluate plan.

1 month

2 months

3 months

1 month

(monthly (over 3 months))

Identifying Measurable Indicators

• No one set of indicators is appropriate for all APNs
• Indicators should be selected that are:
  ▪ Easily Identifiable
  ▪ Measurable
  ▪ Practical
Conduct further research on
the “value-added” of advanced practice nursing roles
their impact on healthcare costs

Clinical Nurse Specialists and Nurse Practitioners in Canada
A Decision Support Synthesis
June 2010

Alba DiCenso, RN, PhD
Denise Bryant-Lukosius, RN, CNS, PhD,
http://www.chsrf.ca/Libraries/Commissioned_Research_Reports/Dicenso_EN_Final.sflb.ashx
Summary

APNs have been demonstrated to impact a number of outcomes.
The number of APN outcome studies is increasing.
However, the studies on APN outcomes that exist are not enough to describe the full scope of outcomes that result from APN care.
Additional Resources

**AN ASSESSMENT OF THE SAFETY, QUALITY, AND EFFECTIVENESS OF CARE PROVIDED BY ADVANCED PRACTICE NURSES**

Meta-analysis conducted by investigators at John Hopkins University (Newhouse, Stanik-Hutt et al.)
International Resources

- Advanced Practice Nursing Toolkit
  http://apntoolkit.mcmaster.ca
  tools used in APN outcomes research