Assessing Discharge Readiness as a Nurse Sensitive Indicator

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Why should we study Discharge Readiness?...
The ‘So What” question

- Research to build evidence about Discharge Readiness
  - Is discharge readiness a predictor of hospital outcome or an outcome?
  - How should we measure discharge readiness?
  - What are predictors and outcomes of Discharge Readiness?
  - Who knows best about Discharge Readiness?
  - What difference does it make if patients are ‘not ready’ for discharge?

- Practice Change Research: The READI study
Why study readiness for discharge? – in the beginning

Patients are discharged from the hospital in an intermediate rather than later stage of recovery.

(Korttila, 1991)
Why study readiness for discharge - now?

- More than 35 million discharges annually from acute care hospitals.
- 65% are discharged to home
- Inadequacies of discharge preparation are well documented.
- Readmission rates range from 8 to 15% in the 1st 30 days after discharge; 20% for age 65+
- Readmissions are costly and many are no longer reimbursed.
- Opportunities for process and outcome improvements
Why should nurses study discharge readiness?

► An everyday nursing practice question:
  ► Is my patient ready to go home?

► Discharge preparation is a **primary function** of hospital-based nursing (Nosbusch et al., 2010).

► Discharge readiness is an important **nurse-sensitive** outcome of hospitalization.
Measuring discharge readiness: Who determines readiness?

- **Physician**
  - Clinical criteria
  - Medical necessity for continuation of hospitalization

- **Nurse**
  - Discharge preparation – knowledge and skills

- **Patient**
  - Readiness for self management

- **Family**
  - Family readiness to assume care responsibility
The year.... 1996

The healthcare landscape:
- HMOs driving shorter lengths of stay
HEAVE MOM OUT
Our first study

Socio-demographics

Readiness for discharge

LOS

Maternal-Neonatal Problems

Maternal-Neonatal Utilization
A Journey of Discovery about Readiness for Discharge

- Socio-demographics
- Maternal-Neonatal Problems
- LOS
- Maternal-Neonatal Utilization

Readiness for discharge
Length of Stay after Vaginal Birth: Sociodemographic and Readiness-for-Discharge Factors

Marianne Weiss, DNP, RN, Polly Ryan, PhD, RN, Lisa Lokken, MSN, RN, and Magdalena Nelson, ISSN, MSN, RN

ABSTRACT Background: The impact of reductions in postpartum length of stay has been widely reported. Few studies focusing on length of hospital stay after vaginal birth have recently been published. The study purpose was to compare the sociodemographic characteristics of women with discharge readiness for discharge at 24 vs. 36 hours postpartum, and to determine the effect of sociodemographic variables on postpartum length of stay. Methods: A total of 118 women who were discharged at either 24 or 36 hours postpartum were enrolled in the study. Sociodemographic and clinical characteristics were assessed by self-report and from a computerized hospital information system. Findings: Sociodemographic and clinical characteristics that were significantly associated with postpartum length of stay included age, parity, smoking status, and breastfeeding intention. Conclusions: These findings suggest that discharge readiness for discharge at 24 hours postpartum is possible with minimal clinical and psychosocial risk factors. Further research is needed to identify predictors of discharge readiness at 24 hours postpartum.

Validity and Reliability of the Perceived Readiness for Discharge After Birth Scale

Marianne E. Weiss, Polly Ryan, and Lisa Lokken

Objective: To assess the psychometric properties of a scale measuring mothers' perceptions of readiness for discharge after birth.

Design: Psychometric analysis including content validity, factor analysis, and known group comparisons.

Setting: Tertiary-level perinatal center in the United States.

Subjects: D1,202 postpartum mothers.

Data collection: Postpartum discharge.

Main Outcome Measures: Perceived Readiness for Discharge After Birth Scale scores, attitude, knowledge, and self-efficacy scores for discharge.

Results: Exploratory factor analysis identified a 2-factor structure. The scale had good internal consistency (Cronbach's alpha = 0.82). Known group comparisons indicated acceptable discriminant validity. The scale was found to be a reliable and valid measure of maternal readiness for discharge after birth.

Keywords: Outcomes, Readiness, Discharge, Birth, Scale.
And one conversation led to another......
Study Model: Predictors and Outcomes of Readiness for Discharge

Hospitalization
- Patient Characteristics

Discharge
- Nursing Practices: Discharge Teaching
- Care Coordination

Post-Discharge
- Coping (difficulty)
- Use of post-discharge support and services

Readiness for Hospital Discharge
Developing tools to study the discharge transition

- Readiness for Hospital Discharge Scale
- Quality of Discharge Teaching Scale
- Care Coordination
- Post-Discharge Coping Difficulty Scale
### Personal Status
- Physically ready
- Energy
- Emotionally ready
- Physically able

### Knowledge:
- Caring for yourself
- Medical needs
- Problems to watch for
- What happens next

### Personal needs
- Restrictions
- Who and when to call
- Community resources

### Perceived Coping Ability
- Handle demands at home
- Perform personal care
- Perform medical care

### Expected Support
- Emotional support
- Help with personal care
- Help with household activities
- Help with medical care
Psychometric Properties of the Readiness for Hospital Discharge Scale

Marianne E. Weiss, RN, DNSc
Linda B. Piacentini, RN, MS, ACNP
Marquette University
Milwaukee, WI

The purpose of the study was to assess the psychometrics of the Hospital Discharge Scale (HDS), a 23-item instrument to measure the readiness for discharge. Data were obtained from 635 patients from two urban tertiary medical centers (adult and children's) in Florida.

Readiness for Discharge in Parents of Hospitalized Children

Marianne Weiss, DNSc, RN
Norah Louise Johnson, MSN, PhD(c), RN, CPNP
Shelley Malin, PhD, RN
Teresa Jerofke, BSN, RN
Cecilia Lang, MSN, CPNP
Eileen Sherburne, MSN, APRN, FNP

Predictors and Outcomes of Postpartum Mothers’ Perceptions of Readiness for Discharge after Birth

Marianne E. Weiss and Lisa Lohden
A Journey of Discovery about Readiness for Discharge

Patient and Hospitalization Characteristics

Quality of Discharge Teaching: Content, Delivery

PT: Readiness for Hospital Discharge

Post-Discharge Coping Difficulty

Readmission ED Visits
And one conversation led to another......

Readiness for Discharge

Costs

Unit –level Nurse Staffing
RWJF INQRI Study

**Staffing** ($\uparrow$ RN hrs, $\downarrow$ RN overtime hrs)

$\uparrow$ Quality of Discharge Teaching

$\uparrow$ Readiness for Hospital Discharge

$\downarrow$ Readmissions & $\downarrow$ ED visits

**Structure**

**Process**

**Outcome**
Important Conclusions

1. Linked unit level nurse staffing to patient outcomes beyond discharge

2. Proposed significant return on investment from increased nurse staffing in emerging payment models

3. Established the trajectory of influence from staffing through quality of discharge teaching and readiness for discharge to post-discharge utilization

4. **Recommendation**: Implement discharge teaching evaluation and discharge readiness as standard nursing practices.
Quality and Adverse Events

Quality and Cost Analysis of Nurse Staffing, Discharge Preparation, and Postdischarge Utilization

Marianne E. Weis, Olga Yakushova, and Kathleen L. Babey

Objectives. To determine the impact of mid-level nurse staffing on quality of discharge teaching, patient perception of discharge readiness, and postdischarge readmission and emergency department (ED) visits, and cost-benefit of adjustments to unit nurse staffing.

Data Sources. Patient questionnaires, electronic medical records, and administrative data for 1,092 medical-surgical patients from 16 nursing units within four acute care hospitals between January and July 2003.

Design. Nested panel data with hospital and unit-level fixed effects and patient and unit-level control variables.

Data Collection/Extraction. Registered nurse (RN) staffing was recorded monthly in hours-per-patient-day. Patient questionnaires were completed before discharge. Thirty-day readmission and ED use with reimbursement data were obtained by cross-examining electronic records.

Hospital discharge and the transition home are critical phases in the trajectory of acute care. Readmission and emergency department (ED) utilization within 30 days following hospitalization represent unmet, adverse treatment needs that may be associated with postdischarge preparation. Lack of patient-family readiness and support with discharge coordination and continuity may worsen the demands of self-management at home.

More than 14 million patients are discharged annually. Discharge planning and their care teams have discussed discharges. Patients and their care teams have described discharge planning. Discharges are associated with rapid recovery. The number of emergency department visits and ED use may be a marker of postdischarge preparation. Discharges are associated with rapid recovery. The number of emergency department visits and ED use may be a marker of postdischarge preparation.
The Journey of Discovery about Readiness for Discharge

- Patient and Hospitalization Characteristics
- Quality of Discharge Teaching: Content, Delivery
- Unit Nurse Staffing
- PT: Readiness for Hospital Discharge
- RN: Readiness for Hospital Discharge
- Post-Discharge Coping Difficulty
- Readmission ED Visits
One conversation led to another....

We can’t use this if you don’t shorten the scale!!

RNs

Researchers

Administrators
### RHDS Scale Statistics

<table>
<thead>
<tr>
<th>Scale</th>
<th>Max score</th>
<th>Mean</th>
<th>SD</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT-RHDS/SF</td>
<td>80</td>
<td>67.6</td>
<td>10.9</td>
<td>.80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(item mean=8.5/10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RN-RHDS/SF</td>
<td>80</td>
<td>67.7</td>
<td>9.6</td>
<td>.81</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(item mean=8.5/10)</td>
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</tbody>
</table>
Association and Agreement

- **Correlations between RHDS & RN-RHDS**
  - 0.32 (p<.01)

- **Agreement using cutoff score of <7 item mean**
  - Agree ready: 76.0%
  - Agree not ready: 3.5%
  - Disagree - patient ready, nurse not ready: 9.1%
  - Disagree - patient not ready, nurse ready: 11.4%
## RN-Assessment of ‘Low Readiness’

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Unadjusted Models</th>
<th></th>
<th>Adjusted Models</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ED</td>
<td>R</td>
<td>ED</td>
</tr>
<tr>
<td>RN-RHDS/SF categories</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(8 – 8.9)</td>
<td>0.691</td>
<td>2.118</td>
<td>0.925</td>
</tr>
<tr>
<td></td>
<td>(0.654)</td>
<td>(0.364)</td>
<td>(0.920)</td>
</tr>
<tr>
<td>(7 – 7.9)</td>
<td>1.044</td>
<td>1.398</td>
<td>2.162</td>
</tr>
<tr>
<td></td>
<td>(0.960)</td>
<td>(0.645)</td>
<td>(0.337)</td>
</tr>
<tr>
<td>(&lt; 7)</td>
<td>0.137*</td>
<td>6.293**</td>
<td>0.092</td>
</tr>
<tr>
<td></td>
<td>(0.081)</td>
<td>(0.030)</td>
<td>(0.271)</td>
</tr>
<tr>
<td>Patient controls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of stay (days)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>4+ Discharge meds</td>
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</table>

*P value in parentheses, ***p<0.01, **p<0.05, *p<0.1.
Validation of Patient and Nurse Short Forms of the Readiness for Hospital Discharge Scale and Their Relationship to Return to the Hospital

Marianne E. Weiss, Linda L. Costa, Olga Yakusheva, and Kathleen L. Bobay

**Objective.** To validate patient and nurse short forms for discharge readiness assessment and their associations with 30-day readmissions and emergency department (ED) visits.

**Data Sources/Study Setting.** A total of 254 adult medical-surgical patients and their discharging nurses from an Eastern US tertiary hospital between May and November, 2011.

**Study Design.** Prospective longitudinal design, multinomial logistic regression analysis.

**Data Collection/Extraction Methods.** Nurses and patients independently completed an eight-item Readiness for Hospital Discharge Scale on the day of discharge. Patient characteristics, readmissions, and ED visits were electronically abstracted.

**Principal Findings.** Nurse assessment of low discharge readiness was associated with a six- to nine-fold increase in readmission risk. Patient self-assessment was not associated with readmission; neither was associated with ED visits.

**Conclusions.** Nurse discharge readiness assessment should be added to existing strategies for identifying readmission risk.

**Key Words.** Discharge readiness, readmissions, emergency visits
From observational studies, we know that:

- Discharge readiness assessed by the nurse is associated with risk of adverse post-discharge outcomes including readmission.

For translation to practice, we don’t yet know:

- if implementing discharge readiness assessment as a standard nursing practice on the day of discharge can result in improved discharge transition care leading to improved outcomes, specifically fewer readmission and ED visits.
Implementing Discharge Readiness Assessment As A Standard Nursing Practice For Hospital Discharge
34 Participating Hospitals
ANCC invited Magnet Hospitals to participate in this study.

ANCC goals:

1. Leverage the power of Magnet Hospitals to engage in large scale research on topics of importance to nursing practice.

2. Engage clinical nurses in research about their practice

3. Create learning opportunities about nursing research in clinical practice settings.
The READI Study

- Implementation of discharge readiness assessment as a standard nursing practice for discharge.

- Outcome variables: Readmissions / ED visits
Study Design

- **Unit level implementation** of discharge readiness assessment protocols

- **Randomization** of implementation and control units within each hospital

- Test **modifications** of a discharge readiness assessment protocol **in sequence** to identify the optimal and most efficient protocol for achieving outcomes
## Study Design

### Stepped sequential implementation:

<table>
<thead>
<tr>
<th>Study Units</th>
<th>Steps</th>
<th>Baseline 4 months</th>
<th>Step 1 4 months</th>
<th>Step 2 4 months</th>
<th>Step 3 4 months</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Implementation</strong></td>
<td>Baseline</td>
<td>Discharge Readiness Assessment protocol using RN-RHDS</td>
<td>Modifications to the Discharge Readiness Assessment protocol</td>
<td>Modifications to the Discharge Readiness Assessment protocol</td>
<td></td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>Baseline control</td>
<td>Concurrent control</td>
<td>Concurrent control</td>
<td>Concurrent control</td>
<td></td>
</tr>
</tbody>
</table>
## Multi-level Design Framework

<table>
<thead>
<tr>
<th>Donabedian's Quality Model</th>
<th>Study Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit level</strong></td>
<td></td>
</tr>
<tr>
<td>Structure</td>
<td>Context variation</td>
</tr>
<tr>
<td></td>
<td>Discharge Model of Care</td>
</tr>
<tr>
<td></td>
<td>Nurse Staffing</td>
</tr>
<tr>
<td><strong>Patient Level</strong></td>
<td></td>
</tr>
<tr>
<td>Nursing Process</td>
<td>Discharge Readiness Assessment</td>
</tr>
<tr>
<td><strong>Patient Outcomes</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Readmissions</td>
</tr>
<tr>
<td></td>
<td>ED visits post-discharge</td>
</tr>
</tbody>
</table>
## Multi-level Sample

<table>
<thead>
<tr>
<th>Level</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>34 hospitals</td>
</tr>
<tr>
<td>Units</td>
<td>2 per hospital Implementation and Control</td>
</tr>
<tr>
<td>Nurses</td>
<td>RNs on the implementation unit (no RN-specific data or evaluation)</td>
</tr>
<tr>
<td>Patients</td>
<td>All patients 18+ years who are discharged to home</td>
</tr>
</tbody>
</table>
Tool

- RN -Readiness for Hospital Discharge Scale – Short Form
  - 8 questions
  - 0-10 point scale
  - Higher scores = greater readiness
  - Completed by the discharging nurse on the day of discharge (within 4 hours before discharge)
  - Assessment should be used by the nurse in conjunction with all other nursing assessments to determine individualized nursing interventions as needed.
Timeline

- 3 year study period began July 1, 2014
- 13 months of on-unit data collection
  - Starts between February and May 2015 for most hospitals
- Training about the study protocol will occur in the 2 weeks before on-unit implementation. Short trainings will happen as modifications are introduced.
- After 1 year of data collection
  - Electronic data retrieval
  - Focus groups
  - Hospital specific and total study results.
Other Research Data

- Electronically abstracted data on
  - Outcome measures
    - Readmission and ED use within 30 days post-discharge
  - Patient and Hospitalization characteristics
    - Demographic data
    - Diagnoses
    - Length of stay
    - ICU admissions
  - Nurse staffing data
- All data will be de-identified
Role of the Clinical Nurse on the Implementation Unit

- Complete training on study protocol prior to implementation of Discharge Readiness Assessments

- Complete a Discharge Readiness Assessment on every patient going home from the implementation unit. (There is no on-unit activity on the control unit)

- Focus groups – on discharge process and participation in research
Researching Nursing Practice

‘where the organization meets the patient’
Implementation as a Standard of Nursing Practice

Health Team Communication about Discharge

Patient  Nurse  Physician

Predictors  Outcomes  Staffing  Cost-Benefit

Quality of teaching  Scales  Post-discharge

New mothers  Adult med-surg  Parents/children

Discharge Readiness
Compelling clinical questions for Nursing Research

What nurses do (independently or in inter-professional teams) to make a difference in:

- Patient experience of care
- Health Outcomes
- Cost of care
References


References


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