

# **Best Practices in Nursing – Standardized Nursing Language**

**National Library of Estonia  
North Estonia Medical Centre  
Conference  
Tallinn, Estonia  
November 8–9, 2017,**

# **Using NNN Linkages as the Foundation of Building an Electronic Healthcare Record**

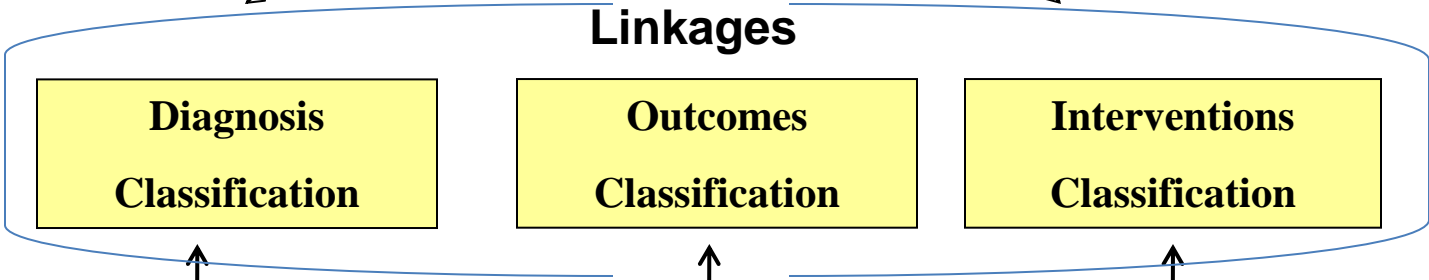
**Sue Moorhead PhD, RN, FAAN**  
**Associate Professor & Director Center**  
**for Nursing Classification & Clinical**  
**Effectiveness**

**University of Iowa, Iowa City, IA**

NANDA  
NIC  
NOC

nanda • nic • noc

**Nursing Knowledge**



**Clinical Reasoning**

**Choice**

**Choice**

**Choice**

- **Systematic assessment**
- **Diagnostic accuracy**
- **Patient priorities**

- **Measurement accuracy**
- **Longitudinal data**
- **Patient involvement**

- **Evidence base & Cost**
- **Patient preferences**
- **Competencies**

**Future Knowledge**

**Models of Care for Populations**  
**Predictive Care based on Practice Evidence**

# Definition of Linkage

- An association or relationship that exists between a patient, family, or community problem (nursing diagnosis) and a desired outcome (resolution or improvement of the problem).
- The change in the outcome is usually the result of an intervention by a nurse or other care provider.

Moorhead et al, 2013, p. 571

# Benefits of Linkages

**To help nurses address the complexity of patient care situations in a focused manner consistent with the nursing process**



# Benefits of Linkages

**Supports the development of NANDA-I diagnoses, NOC outcomes and NIC interventions thus increasing the knowledge base of nursing**



# Benefits of Linkages

**Prepares nurses to be knowledge workers in society and recognized for their expertise**





# Using NOC Measurement Scales: Case Study Example



# Case Study: Mr. K



- **80 year old man**
- **Lives in own home with his wife**
- **Treated for congestive heart failure**
  - **Taking 80 mg of Lasix each morning**
- **Reduced activity level**
  - **Loss of strength**
  - **Compromised mobility**

## Case Study: Mr. K



- **Often does not remove clothing at night and resists changing clothes more than once or twice a week**
- **Clothes are frequently wet with urine**
- **Urinary output over 1000 ml/day**
- **Mr. K reports he knows when he has to urinate but cannot reach toilet**
- **Reduced fluid intake except for coffee**

# NANDA-I



- **Following assessment, nurse documents signs and symptoms for two priority nursing diagnoses**
  - **Urge Urinary Incontinence**
    - **Inability to reach toilet in time to avoid urine loss**
    - **Urinary urgency**
  - **Toileting Self-Care Deficit**
    - **Impaired ability to reach toilet**
    - **Impaired ability to complete toilet hygiene**
    - **Impaired ability to manipulate clothing for toileting**

# NANDA-I

## Urge Urinary Incontinence



### NOCs

- Urinary Continence
- Knowledge:  
Prescribed  
Medication

### NICs

- Urinary Habit  
Training
- Urinary Incontinence  
Care
- Pelvic Muscle  
Exercise
- Teaching: Prescribed  
Medication

# NOC Baseline Rating



- **Overall NOC rating for Urinary Continence Indicators**
  - Responds to urge in timely manner
  - Gets to toilet between urge and passage of urine
  - Drinks adequate amount of fluid
  - Identifies medication that interferes with urinary control
- **Rated Mr. K as a “3”**

# NOC Urinary Continence--0502

**DEFINITION:** Control of elimination of urine from the bladder

---

	Never demonstrated	Rarely demonstrated	Sometimes demonstrated	Often demonstrated	Consistently demonstrated
<b>OUTCOME OVERALL RATING</b>	1	2	3	4	5

# NIC Implementation



- **Urinary Habit Training**
  - **Established interval of initial toileting schedule based on voiding pattern and usual routine**
  - **Encouraged patient to toilet and void at prescribed intervals**





# NOC Post Intervention Rating

- **Overall NOC rating Urinary Continence Indicators**
  - Responds to urge in timely manner
  - Gets to toilet between urge and passage of urine
  - Drinks adequate amount of fluid
  - Identifies medication that interferes with urinary control
- **Rated Mr. K as a “4”**



# NOC Urinary Continence--0502

**DEFINITION:** Control of elimination of urine from the bladder

---

	Never demonstrated	Rarely demonstrated	Sometimes demonstrated	Often demonstrated	Consistently demonstrated
<b>OUTCOME OVERALL RATING</b>	1	2	3	4	5

# Rating Indicators

- **It is possible to rate all indicators**
- **BUT we know some are more important than others**
- **SO.... we do not suggest adding the indicators to get an average**
- **More research is needed to identify the critical indicators for each outcome**

# **Strengths of NNN**

- **Recognized terminologies by ANA**
- **Clinical decision support framework**
- **Evidence-based plans of care**
- **Effective nurse staffing**
- **Effective student learning**
- **Effective staff education/evaluation**
- **Research-based nursing knowledge**
- **Evolves with changes in clinical practice**

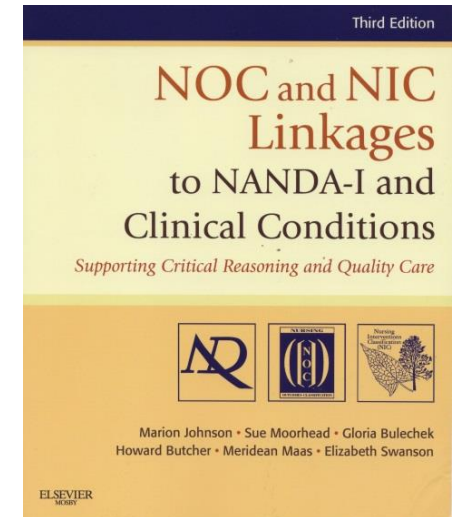
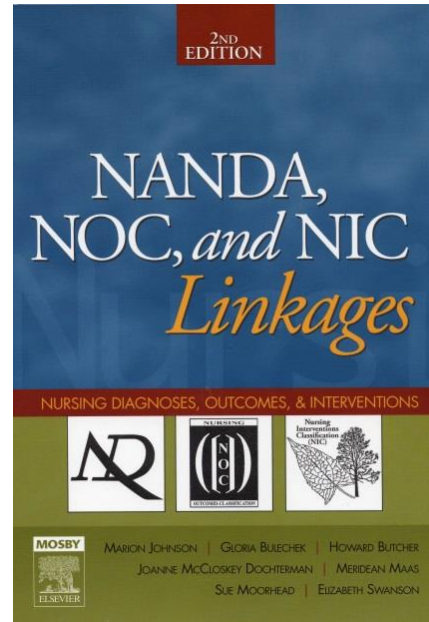
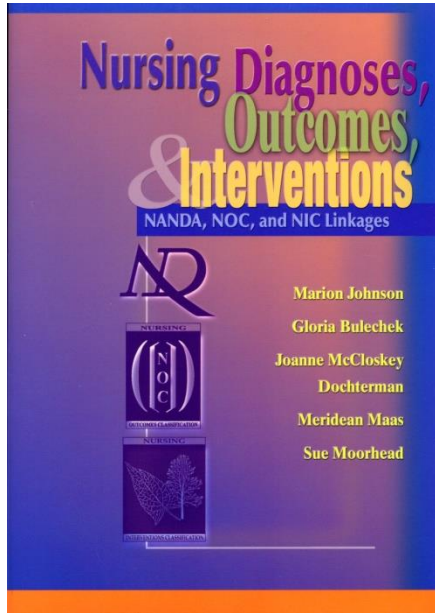
# Linkage Questions

- **What outcomes and interventions are selected for a specific nursing diagnosis?**
- **What interventions are selected most frequently for a specific outcome or diagnosis?**
- **What interventions achieve the best outcomes for a specific population of patients?**

# Linkage Questions

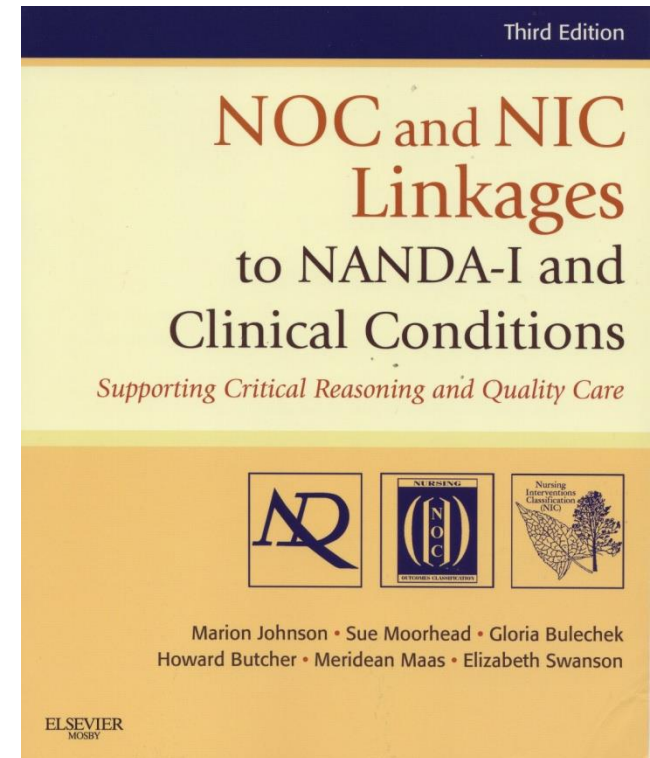
- **Does the effectiveness of an intervention vary with patient characteristics?**
- **Does the effectiveness of the intervention vary with provider characteristics?**
- **Are some interventions more effective when used in combination?**
- **Does the frequency of an intervention have an impact on the outcome?**

# Three Editions of NNN Linkages



# NOC and NIC Linkages to NANDA-I & Clinical Conditions

- Describes relationships among NANDA-I, NOC, and NIC terms
- Includes examples of clinical conditions
- Can be used in
  - Practice
  - Education
  - Research





# Working with Linkages

- **Select a Nursing Diagnosis and examine the list of NOCs and NICs**
- **Definitions are provided for all diagnoses and outcomes**
- **Some linkages have been validated with clinical research from actual patient data from EHRs**

# Examples of Linkages



# **Format**

- **A specific format has been designed to assist nurses to chose outcomes and interventions for a NANDA-I diagnosis**
- **A limited number of outcomes are included for ease of use**
- **Interventions are divided into 2 categories**
  - **Major**
  - **Suggested**

# **Nursing Diagnosis**

**Definition:**

## **NOC – NIC LINKAGES FOR DIAGNOSIS**

**Outcome &  
Definition**

**Major  
Interventions**

**Suggested  
Interventions**

<b>Outcome &amp; Definition</b>	<b>Major Interventions</b>	<b>Suggested Interventions</b>

# Nursing Data for Electronic Health Records

- **Important to capture nursing data to make the contributions of nurses to quality care visible**
- **Nursing terminologies provide the needed care plan data**
  - **Nursing diagnoses**
  - **Nursing interventions**
  - **Patient outcomes**

# Actual Problem Focused Nursing Diagnoses

- **Anxiety**
- **Impaired Skin Integrity**
- **Deficient Fluid Volume**



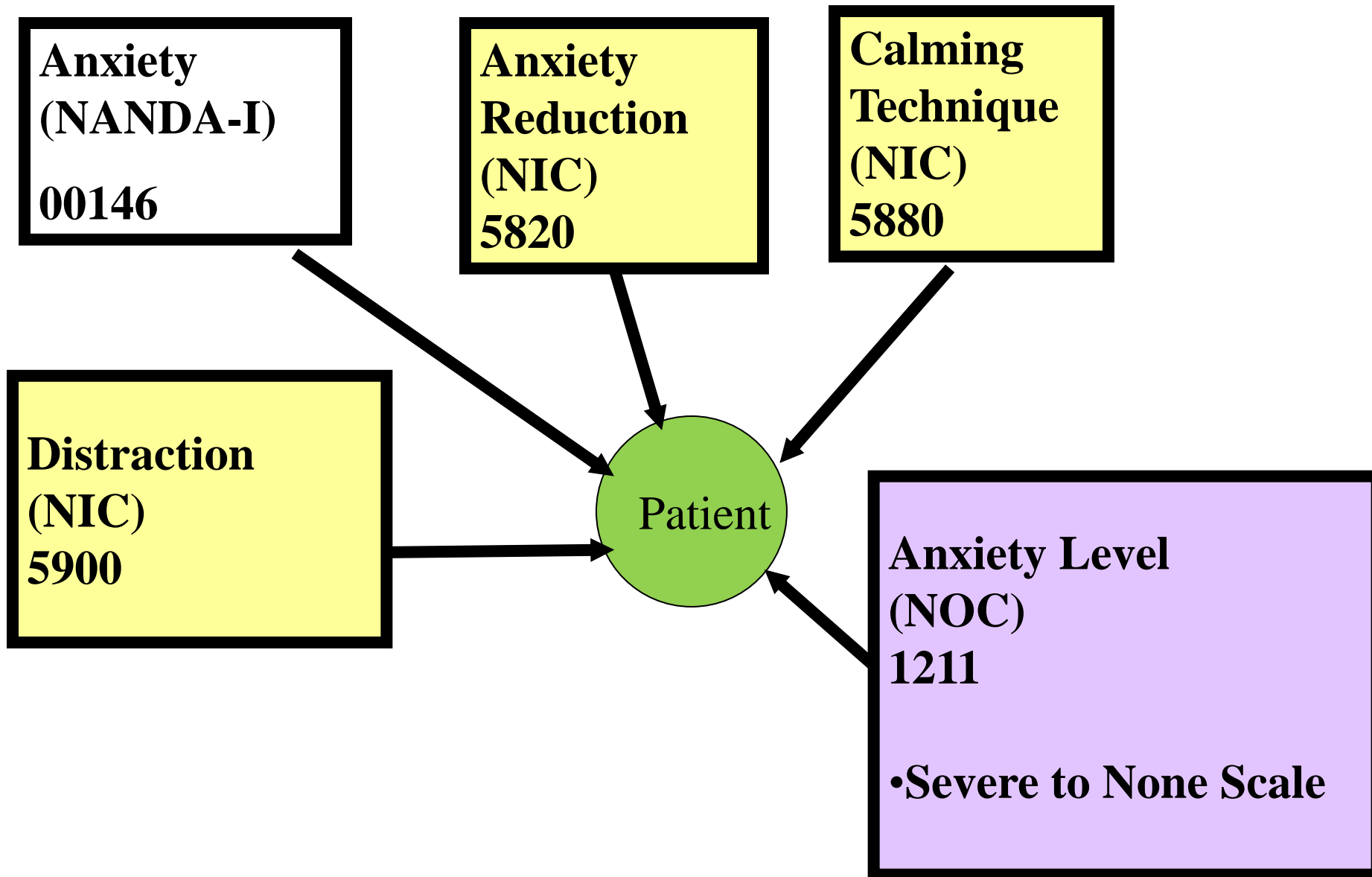
# Anxiety

**Definition:** Vague uneasy feeling of discomfort or dread accompanied by an autonomic response (the source often nonspecific or unknown to the individual); a feeling of apprehension caused by anticipation of danger. It is an altering signal that warns of impending danger and enables the individual to take measures to deal with that threat.

## NOC – NIC LINKAGES FOR ANXIETY

Outcome	Major Interventions	Suggested Interventions	
<p><b>Anxiety Level</b></p> <p><b>Definition:</b> Severity of manifested apprehension, tension, or uneasiness arising from an unidentifiable source</p>	<p><b>Anxiety Reduction</b></p> <p><b>Calming Technique</b></p>	<p><b>Active Listening</b></p> <p><b>Anger Control Assistance</b></p> <p><b>Aromatherapy</b></p> <p><b>Autogenic Training</b></p> <p><b>Coping Enhancement</b></p> <p><b>Crisis Intervention</b></p> <p><b>Decision-Making Support</b></p> <p><b>Distraction</b></p> <p><b>Dementia Management</b></p>	<p><b>Dementia Management:</b></p> <p><b>Bathing</b></p> <p><b>Medication Administration</b></p> <p><b>Music Therapy</b></p> <p><b>Relaxation Therapy</b></p> <p><b>Relocation Stress Reduction</b></p> <p><b>Sleep Enhancement</b></p> <p><b>Security Enhancement</b></p> <p><b>Vital Signs Monitoring</b></p>

# NANDA-I, NIC and NOC





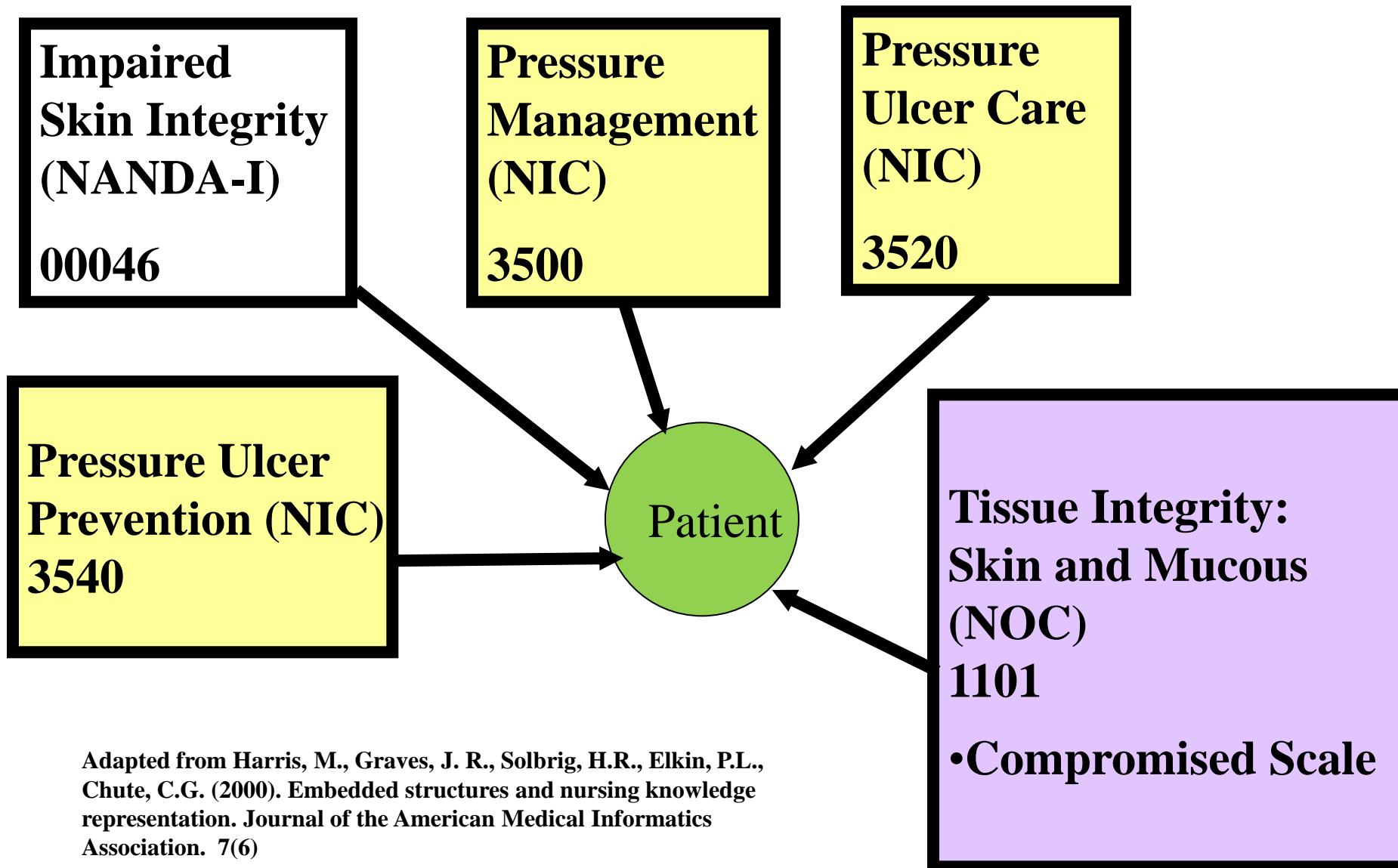
# Impaired Skin Integrity

**Definition:** Altered epidermis and or dermis.

## NOC – NIC LINKAGES FOR IMPAIRED SKIN INTEGRITY

Outcome	Major Interventions	Suggested Interventions	
<p><b>Tissue Integrity: Skin and Mucous Membranes</b></p> <p><b>Definition:</b> Structural Intactness and normal physiological function of skin and mucous membranes</p>	<p><b>Pressure Management Skin Surveillance</b></p>	<p><b>Amputation Care Circulatory Care: Arterial Insufficiency Circulatory Care: Venous Insufficiency Foot Care</b></p>	<p><b>Infection Protection Medication Administration: Skin Ostomy Care Positioning Pressure Management Pressure Ulcer Care Skin Care: Topical Treatments</b></p>

# NANDA-I, NIC and NOC



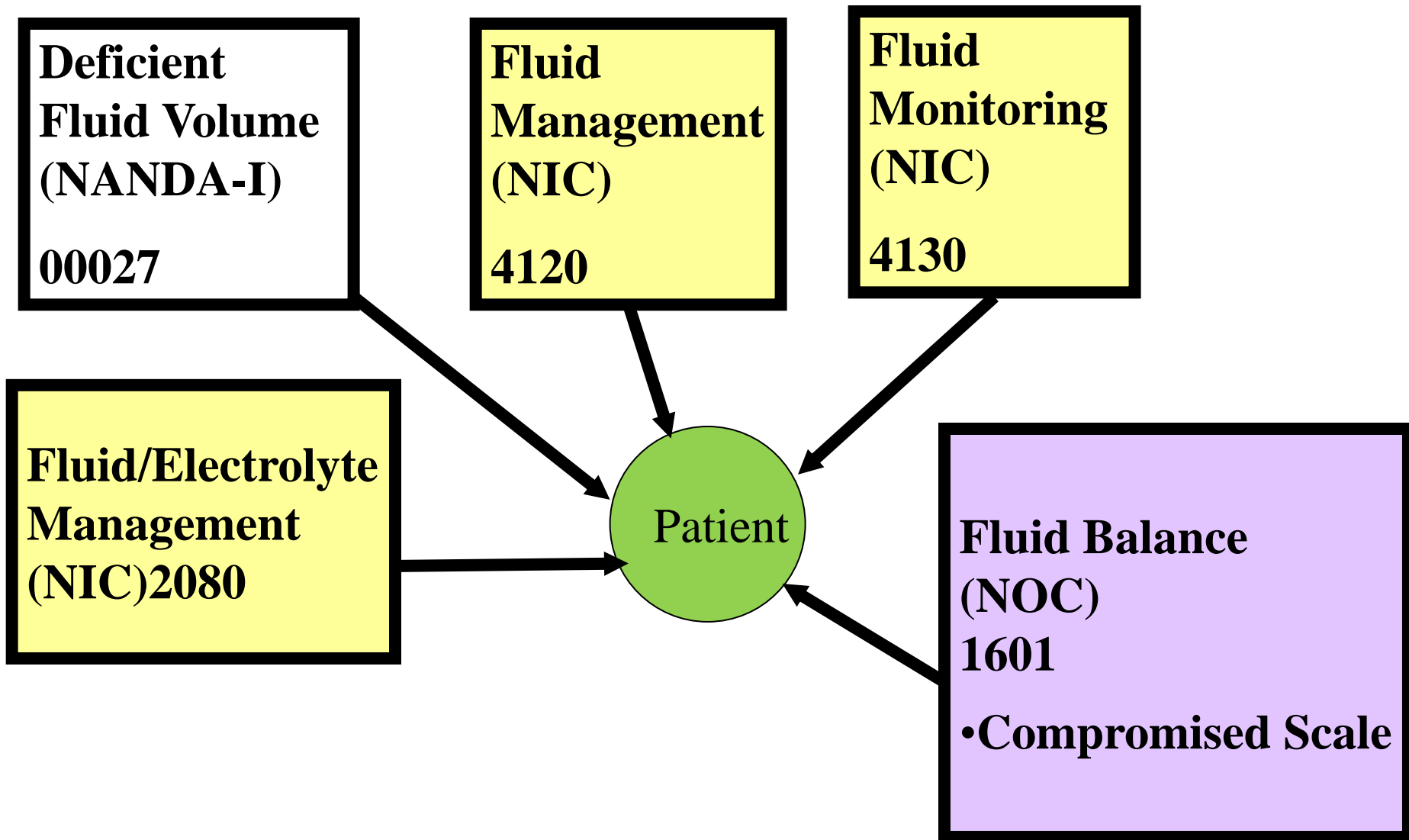
# Deficient Fluid Volume

**Definition: Decreased intravascular, interstitial, and/or intracellular fluid**

## NOC – NIC LINKAGES FOR DEFICIT FLUID VOLUME

<b>Outcome</b>	<b>Major Interventions</b>	<b>Suggested Interventions</b>
<p><b>Fluid Balance</b></p> <p><b>Definition: Water balance in the intracellular and extracellular compartments of the body</b></p>	<p><b>Fluid Management</b></p> <p><b>Fluid Monitoring</b></p>	<p><b>Enteral Tube Feeding</b></p> <p><b>Shock Prevention</b></p> <p><b>Fluid Management</b></p> <p><b>Vital Signs Monitoring</b></p> <p><b>Fluid Monitoring</b></p> <p><b>Fluid Resuscitation</b></p> <p><b>IV Therapy</b></p>

# NANDA-I, NIC and NOC



# Linkages: Risk for Nursing Diagnosis

- **Risk for Infection**



# Infection, Risk for

**Definition: At increased risk for being invaded by pathogenic organisms**

**NOCs to assess and measure actual occurrence of the diagnosis**

---

**Infection Severity**

**Infection Severity: Newborn**



# OUTCOMES ASSOCIATED WITH RISK FACTORS FOR INFECTION (19)

Burn Healing  
Community Risk  
Control: Communicable  
Disease  
Gastrointestinal  
Function  
Immune Status  
Immunization Behavior  
Maternal Status:  
Antepartum  
Maternal Status:  
Intrapartum  
Medication Response  
Nutritional Status:  
Nutrient Intake

Maternal Status:  
Postpartum  
Nutritional Status:  
Nutrient Intake  
Oral Hygiene  
Physical Injury Severity  
Risk Control: Infectious  
Process

Risk Control: Sexually  
Transmitted Diseases  
(STD)  
Tissue Integrity: Skin &  
Mucous  
Membranes  
Wound Healing:  
Primary Intention  
Wound Healing:  
Secondary Intention



# NICs ASSOCIATED WITH PREVENTION OF INFECTION

**Amputation Care**

**Cesarean Section Care**

**Circumcision Care**

**Communicable Disease  
Management**

**Cough Enhancement**

**Immunization/Vaccination  
Management**

**Incision Site Care**

**Infection Control**

**Infection Control:**

**Intraoperative**

**Infection Protection**

**Intrapartal Care**

**Intrapartal Care: High-Risk  
Delivery**

**Medication Management**

**Nutrition Therapy**

**Nutritional Monitoring**

**Oral Health Promotion**

**Oral Health Restoration**

**Perineal Care**

**Postpartal Care**

**Pregnancy Termination  
Care**

**Pressure Ulcer Care**

**Pressure Ulcer Prevention**

**Pruritus Management**

**Skin Care: Donor Site**

**Skin Care: Graft Site**

**Surveillance**

**Skin Surveillance**

**Teaching: Safe Sex**

**Tube Care: Urinary**

**Wound Care**

**Wound Care: Burns**

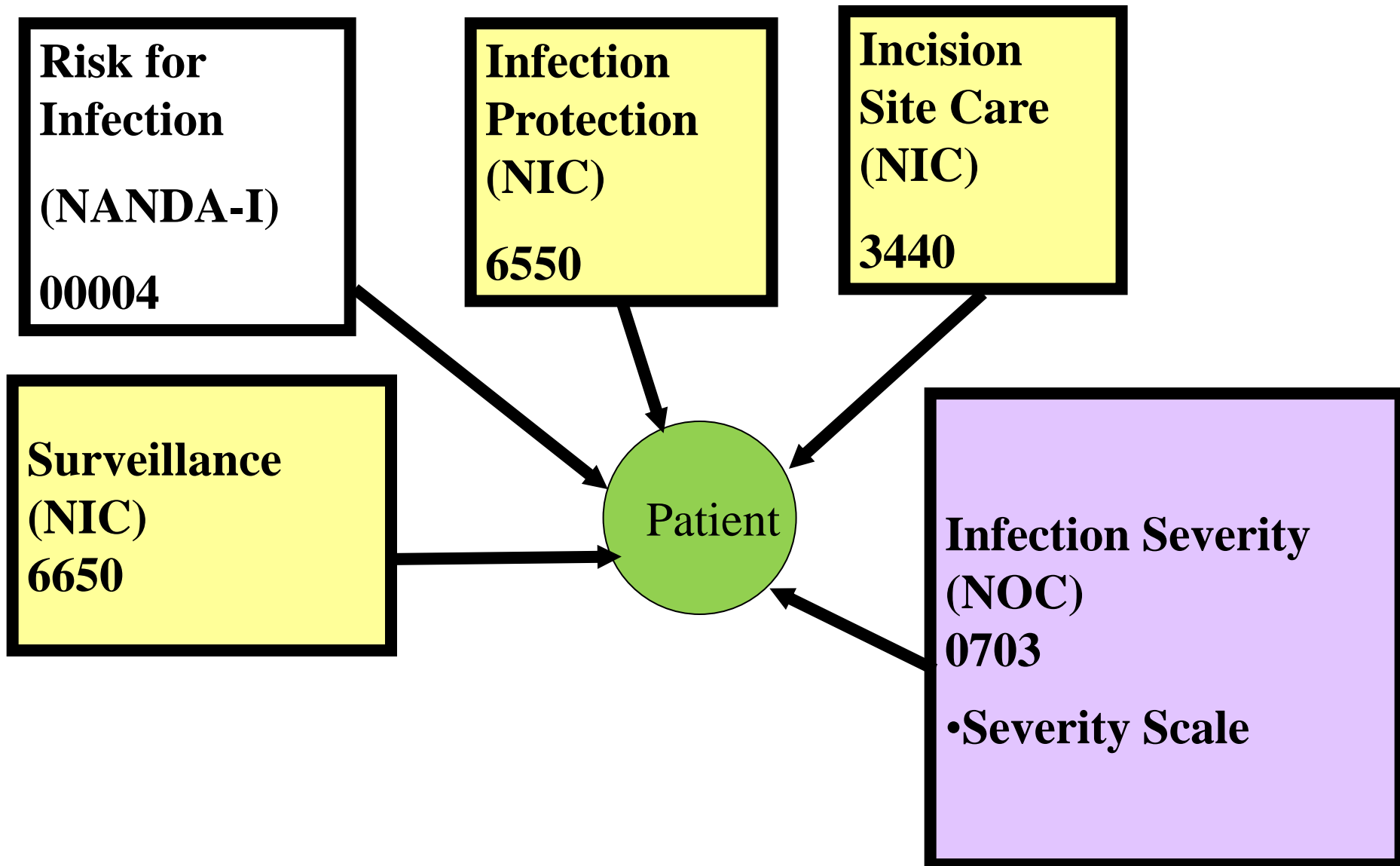
**Wound Care: Closed  
Drainage**

**Wound Irrigation**





# NANDA-I, NIC and NOC



# Linkages for Readiness Nursing Diagnosis

- **Readiness for Enhanced Knowledge**



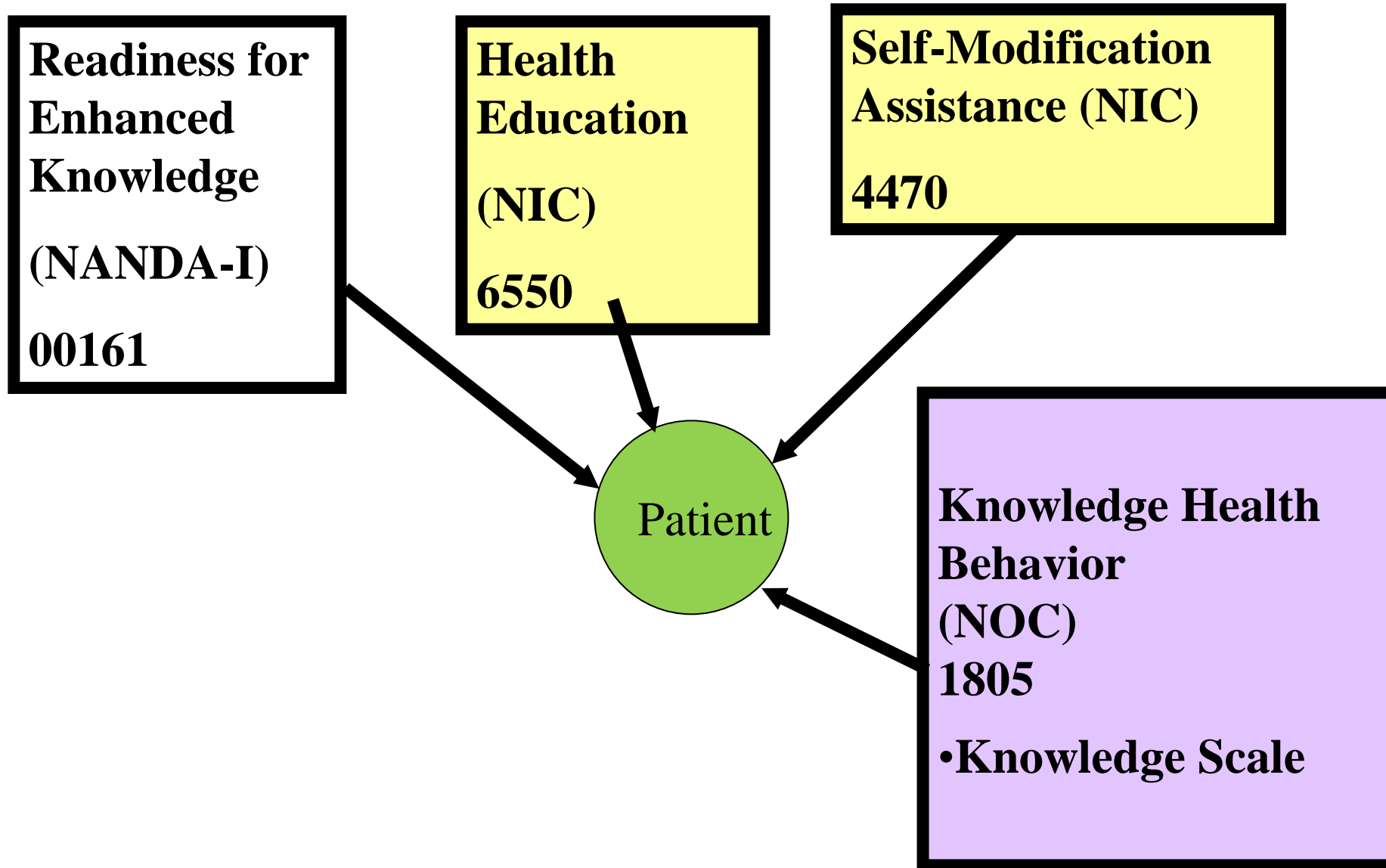
# Knowledge: Readiness for Enhanced

**Definition:** The presence or acquisition of cognitive Information related to a specific topic is sufficient for meeting health-related goals and can be strengthened

## NOC – NIC LINKAGES FOR READINESS FOR ENHANCED KNOWLEDGE

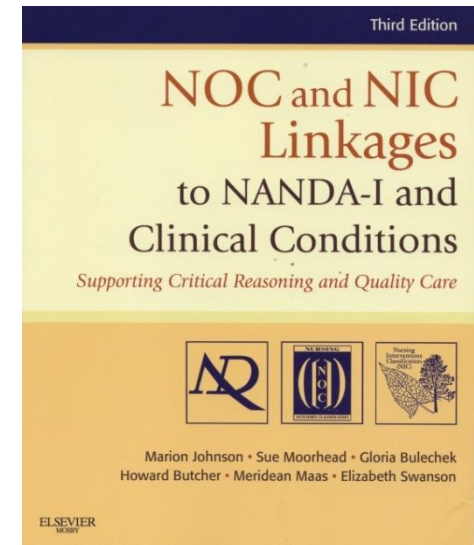
<b>Outcome</b>	<b>Major Interventions</b>	<b>Suggested Interventions</b>	
<p><b>Knowledge: Health Behavior</b></p> <p><b>Definition:</b> Extent of understanding conveyed about the promotion and protection of health</p>	<p><b>Health Education Learning Facilitation Learning Readiness Enhancement</b></p>	<p><b>Health System Guidance Immunization/ Vaccination Management Self-Modification Assistance Self-Responsibility Facilitation Smoking Cessation Assistance</b></p>	<p><b>Teaching: Safe Sex Substance Use Prevention Vehicle Safety Promotion</b></p>

# NANDA-I, NIC and NOC



# Clinical Conditions included in the Linkage Book

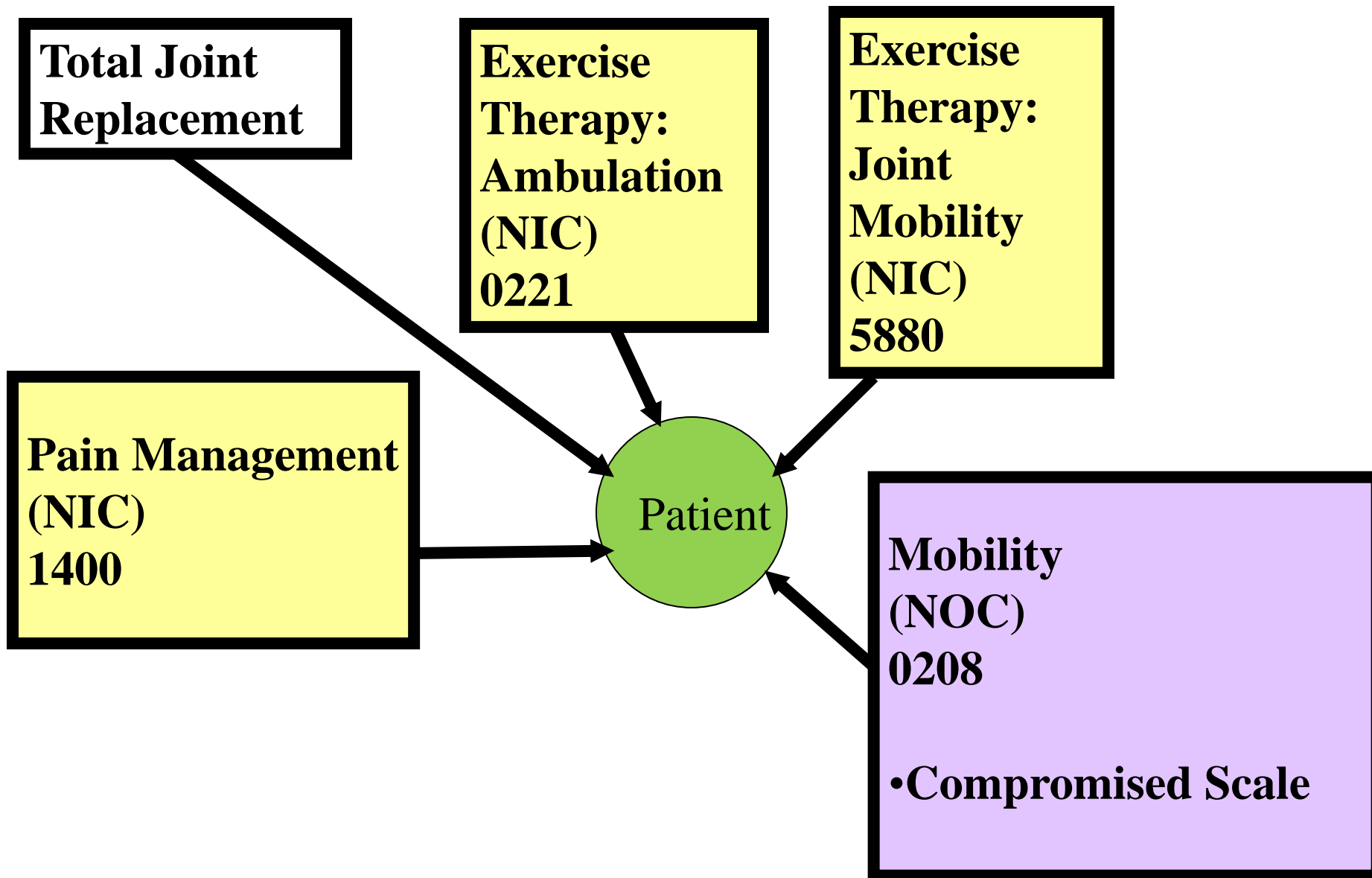
- Asthma
- Colon and Rectal Cancer
- Chronic Obstructive Pulmonary Disease
- Depression
- Diabetes Mellitus
- Heart Failure
- Hypertension
- Pneumonia
- Stroke
- Total Joint Replacement: Hip/Knee



# Total Joint Replacement

Outcome	Major Interventions	Suggested Interventions
<p><b>Mobility</b>            Definition: Ability to move purposefully in own environment independently with or without assistive device</p>	<p><b>Exercise Therapy:</b>  <b>Ambulation</b>  <b>Exercise Therapy: Joint Mobility</b></p>	<p><b>Body Mechanics Promotion</b>  <b>Environmental Management: Safety</b>  <b>Exercise Promotion</b>  <b>Exercise Promotion: Strength Training</b>  <b>Exercise Promotion: Stretching</b></p>
<p><b>Fall Prevention Behavior</b>            Definition: Personal or family caregiver actions to minimize risk factors that might precipitate falls in the personal environment</p>	<p><b>Environmental Management: Safety</b>  <b>Fall Prevention</b></p>	<p><b>Medication Management</b>  <b>Self-Care Assistance</b>  <b>Surveillance: Safety</b></p>

# Clinical Condition, NIC and NOC



# **Research Focused on Cancer Patients**

**In a dissertation by Hui-Chen Tseng (2012) data from patients admitted on 4 oncology units in a tertiary hospital were studied.**

**Unit G=Gynecology, Oral Surgery, & Otolaryngology**

**Unit H=Hematology/Oncology & Palliative Care**

**Unit M=Medical Surgical Oncology**

**Unit A=Adult Leukemia & Bone Marrow Transplant**



# Patients with Cancer

## Hui-Chen Tseng

Collect data  
from 4 units

```
graph TD; A[Collect data from 4 units] --> B[Select the first admission]; B --> C[Care plan]
```

Select the first  
admission

Care plan

**A total of 3,335 hospitalizations provided 2,671 unique patients due to some patients having multiple admissions over the study period (June 1, 2010 - December 31, 2010).**

**Only first admissions for patients with a care plan were entered into the study for analysis**

**A total of 2,237 unique patients with a care plan, discharged from four specialty units with a diagnosis of cancer or under investigation for a possible cancer diagnosis were included for analysis.**

# Methods

- **Descriptive retrospective design using care plan data**
- **A total of 3,335 hospitalizations provided 2,671 unique patients due to some patients having multiple admissions over the study**
- **Only first admissions for patients with a care plan were entered into the study for analysis**
- **A total of 2,237 patients with a possible cancer diagnosis were included for analysis**

# Most Frequent NANDA-I Diagnoses for 4 Cancer Units

<b>Rank</b>	<b>NANDA-I</b>	<b><i>n</i></b>	<b><i>%<sup>1</sup></i></b>	<b><i>%<sup>2</sup></i></b>
<b>1</b>	<b>Acute Pain</b>	<b>1,746</b>	<b>24.94</b>	<b>78.05</b>
<b>2</b>	<b>Risk for Infection</b>	<b>710</b>	<b>10.14</b>	<b>31.74</b>
<b>3</b>	<b>Nausea</b>	<b>591</b>	<b>8.44</b>	<b>26.42</b>
<b>4</b>	<b>Impaired Skin Integrity</b>	<b>410</b>	<b>5.86</b>	<b>18.33</b>
<b>5</b>	<b>Risk for Falls</b>	<b>387</b>	<b>5.53</b>	<b>17.30</b>
<b>6</b>	<b>Deficient Knowledge Pre/Post Procedure/Surgery</b>	<b>353</b>	<b>5.04</b>	<b>15.78</b>
<b>7</b>	<b>Activity Intolerance</b>	<b>263</b>	<b>3.76</b>	<b>11.76</b>
<b>8</b>	<b>Deficient Knowledge, Disease Process</b>	<b>206</b>	<b>2.94</b>	<b>9.21</b>
<b>9</b>	<b>Anxiety</b>	<b>192</b>	<b>2.74</b>	<b>8.58</b>
<b>10</b>	<b>Imbalanced Nutrition: Less than Body Requirements</b>	<b>192</b>	<b>2.74</b>	<b>8.58</b>

# Most Frequent NOCs for 4 Cancer Units

Rank	NOC	Outcomes for all units <sup>a</sup>		Patient with Outcome <sup>b</sup>	
		<i>n</i>	% <sup>a</sup>	<i>n</i>	% <sup>b</sup>
1	Pain Level	1815	22.14	1,793	80.15
2	Infection Severity	710	8.66	710	31.74
3	Nausea and Vomiting Severity	591	7.21	591	26.42
4	Knowledge: Treatment Procedure	547	6.67	540	24.14
5	Tissue Integrity: Skin and Mucous Membranes	526	6.42	476	21.28
6	Pain Control	519	6.33	520	23.25
7	Knowledge: Fall Prevention	382	4.66	382	17.08
8	Fall Prevention: Behavior	380	4.64	380	16.99
9	Activity Tolerance	263	3.21	263	11.76
10	Anxiety Level	192	2.34	192	8.58

# Most Frequent NICs for 4 Cancer Units

Rank	NIC	Nursing interventions for all units	
		<i>n</i>	%
1	Pain Management	2,351	19.91
2	Fall Prevention	742	6.28
3	Infection Protection	708	6.00
4	Infection Control	697	5.90
5	Nausea Management	584	4.95
6	Teaching: Procedure/Treatment	547	4.63
7	Analgesic Administration	521	4.41
8	Skin Surveillance	516	4.37
9	Wound Care	409	3.46
10	Pressure Management	398	3.37

# Most Frequently Used Linkages

#	NANDA-I	NIC	NOC	<i>n</i>
1	Acute Pain	Pain Management	Pain Level	1,735
2	Risk for Infection	Infection Protection	Infection Severity	708
3	Risk for Infection	Infection Control	Infection Severity	697
4	Nausea	Nausea Management	Nausea and Vomiting Severity	591
5	Acute Pain	Pain Management	Pain Control	514
6	Impaired Skin Integrity	Skin Surveillance	Tissue Integrity: Skin and Mucous Membranes	397
7	Impaired Skin Integrity	Wound Care	Tissue Integrity: Skin and Mucous Membranes	390
8	Risk for Falls	Fall Prevention	Knowledge: Fall Prevention	372
9	Risk for Falls	Fall Prevention	Fall Prevention: Behavior	370
10	Deficient Knowledge Pre/Post Procedure/Surgery	Teaching: Procedure/Treatment	Knowledge: Treatment Procedure	347

# Validated Outcomes From this Research



# NANDA-I Nausea Inpatient Cancer Patients

## Validated NOCs

- **Nausea & Vomiting Severity**

## Validated NICs

- **Nausea Management**





# NANDA-I Acute Pain Inpatient Cancer Patients

## Validated NOCs

- **Pain Level**
- **Pain Control**
- **Pain: Disruptive Effects**



## Validated NICs

- **Pain Management**
- **Analgesic Administration**
- **Emotional Support**

# NANDA-I Chronic Pain Inpatient Cancer Patients

## Validated NOCs

- Pain Level
- Pain: Disruptive Effects

## Validated NICs

- Pain Management
- Analgesic Administration
- Emotional Support



# NANDA-I Impaired Skin Integrity Inpatient Cancer Patients

## Validated NOCs

- **Tissue Integrity:  
Skin & Mucous  
Membranes**
- **Burn Healing**



## Validated NICs

- **Wound Care**
- **Skin Surveillance**
- **Pressure  
Management**
- **Pressure Ulcer Care**
- **Seizure Precautions**
- **Foot Care**

# **NANDA-I Risk for Falls Inpatient Cancer Patients**

## **Validated NOCs**

- **Knowledge: Fall Prevention**
- **Fall Prevention Behavior**

## **Validated NICs**

- **Fall Prevention**



# **Core Specialty Practice**

- **NOC provides outcomes for specialty practice**
- **Offer insight to the holistic view of nursing outcomes from all domains in taxonomy**
- **Defines important scope of practice of the specialty**
- **Basis of core curriculum for specialty areas**
- **Most specialties could identify a short list of 20 outcomes**

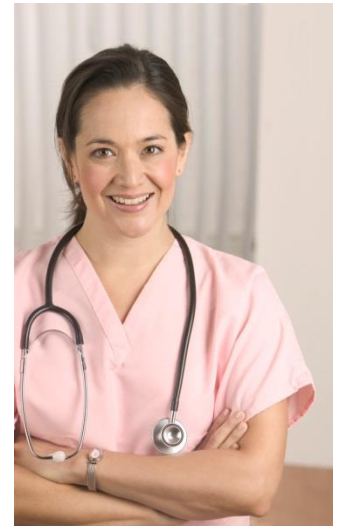
# Definition: Core Outcome

**A concise set of outcomes that capture the essence of specialty practice but is not comprehensive enough to include all outcomes used by nurses working in that specialty**



# Research Focused on Use of NOC in Specialty Practice

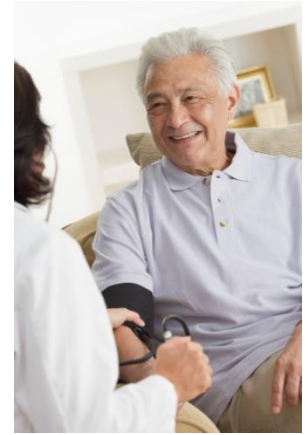
## Core Outcomes



# Gerontology Nursing

## Top 7 Outcomes

- **Nutritional Status**
- **Oral Health**
- **Nutritional Status: Energy**
- **Nutritional Status: Food & Fluid Intake**
- **Urinary Elimination**
- **Fall Prevention Behavior**
- **Vital Signs**





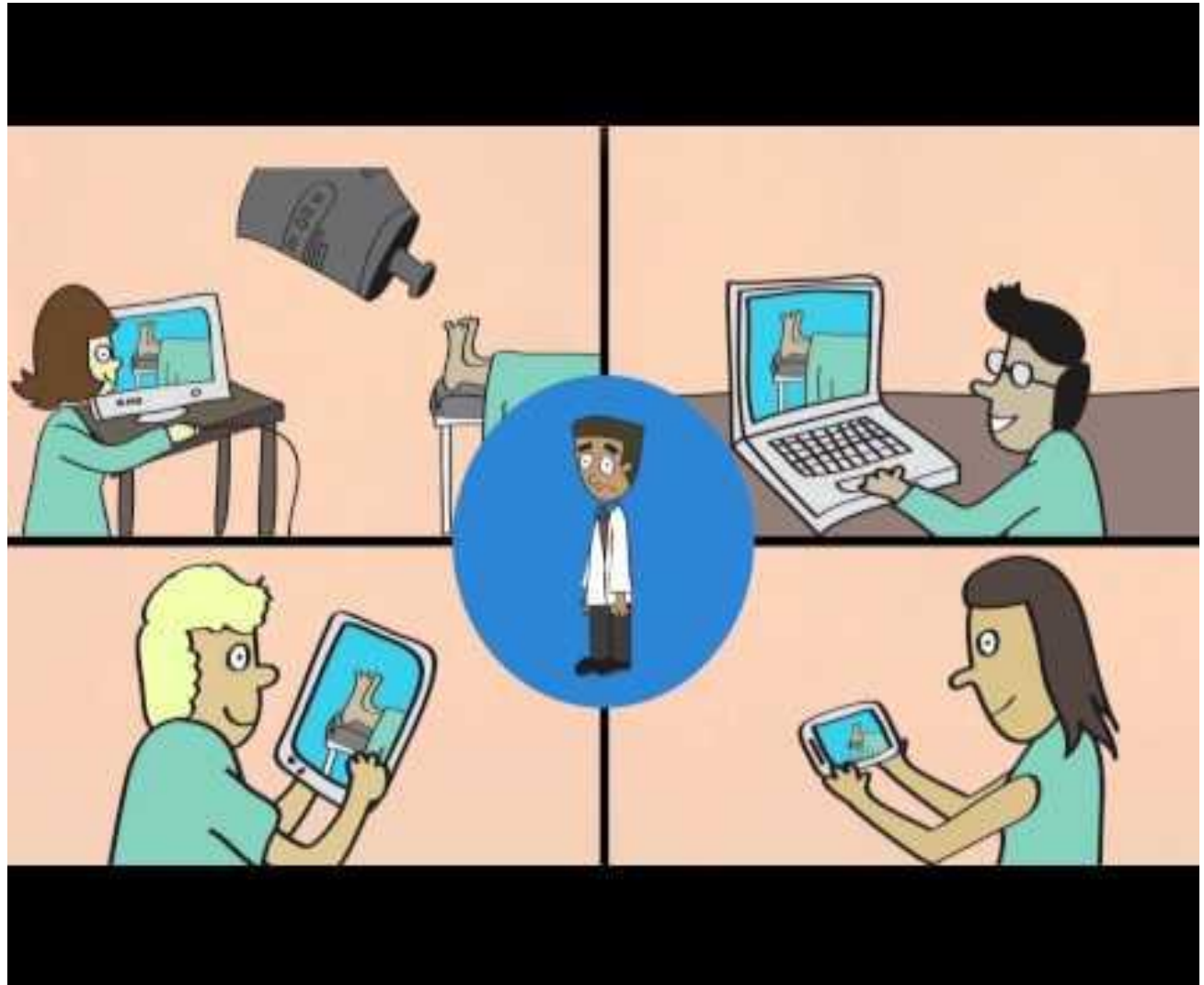
# Medical-Surgical Nursing

## Top 8 Outcomes

- **Vital Signs**
- **Self-Care: Toileting**
- **Nutritional Status: Food and Fluid Intake**
- **Knowledge: Medication**
- **Sleep**
- **Balance**
- **Ambulation: Walking**
- **Physical Aging Status**



# Technology is Everywhere in Our Personal Life





## 12 Strategies for Using NNN in Electronic Health Records

**No more paper charts!**



# Strategy #1 for Using NNN

- **Fact**
  - We know very little about the focus of nursing care in our organizations
- **Implications**
  - Identify the top 10 nursing diagnoses used in your organization & top 10 for each unit
  - Identify the most frequently used nursing interventions for the organization and each unit
  - Identify top outcomes for your organization and each unit

## Strategy #2 for Using NNN

- **Fact**
  - Identify key patient populations
- **Implications**
  - Develop plans of care using NNN
  - Use NNN linkages for orientation of new staff or students
  - Collect data to build evidence-based practice
  - Measure trends in outcomes for populations over time

## Strategy #3 for Using NNN

- **Fact**
  - For most organizations the top 10 nursing diagnoses account for 85% of the patients treated by the organization!
- **Implications:**
  - The EHR does not need to include all concepts from NANDA-I, NIC, and NOC. Start small, add as you identify other diagnoses, outcomes, and interventions you need

# Strategy #4 for Using NNN

- **Fact**
  - **Education on NNN is critical**
- **Implications**
  - **Plan for several sessions of orientation; double or triple the time allocated for learning the basics**
  - **Multiple sessions work better than long presentations; hands on best**
  - **Experience with computer applications does shorten the time**

## Strategy #5 for Using NNN

- **Fact**
  - Case studies developed by nurses in your organization are most useful
- **Implications**
  - The case studies need to fit the patients the nurses care for every day
  - Nurses need to have several opportunities to rate outcomes for a patient over the hospital stay as the situation changes
  - Measuring outcomes will be the biggest challenge



# Strategy #6 for Using NNN

- **Fact**
  - For most hospitals teaching interventions are close to 50% of treatments
- **Implications**
  - Include teaching interventions in every care plan
  - Customize the teaching strategies to the patient's knowledge
  - Customize the teaching to the patient's preferred learning style

## Strategy #7 for Using NNN

- **Fact**
  - **Unit Champions are useful as change agents**
- **Implications**
  - **May want to include nurses that will resist the change**
  - **Prepare Champions for answering basic questions about NNN**
  - **Use Champions to build unit case studies**
  - **In general, younger nurses handle the IT issues more easily**

## **Strategy #8 for Using NNN**

- **Fact**
  - Outcomes can be used and shared across disciplines- they are about the patient**
- **Implications**
  - Use of NOC can increase interdisciplinary practice collaboration**
  - Provides a focus on a team approach to care**
  - Evaluate outcomes of current practice quarterly**

## Strategy #9 for Using NNN

- **Fact**
  - Patients need to be able to care for their chronic health conditions after discharge
- **Implications**
  - Knowledge outcomes for specific conditions help the patient learn about their health challenges
  - Self-Management outcomes support behavior changes that improve health
  - Patient can measure their progress post discharge

# Strategy #10 for Using NNN

- **Fact**
  - Nurse competencies need to be evaluated
- **Implications**
  - NIC can be used to measure nurse competency (yearly or at time of hire)
  - Competency evaluation should be consistent with nurses work setting
  - Nurses who work in multiple settings should maintain a longer competency list
  - Competency can determine who “floats”

# Strategy #11 for Using NNN

- **Fact**
  - Nurses want to get feedback on their performance that has meaning
- **Implications**
  - Outcomes of individual nurses can be shared
  - Nurses with the best patient outcomes can share their strategies in meeting patient needs
  - Nurses can be rewarded for their care- to increase satisfaction

# Strategy #12 for Using NNN

- **Fact**
  - Focus is on getting data in the EHR
- **Implications**
  - Need to focus also on getting data out
  - Share reports you want with the vendor

# The Key to the Future

- ❖ **Our efforts in language development have placed nursing in a key position to provide important key concepts for the electronic health record**
- ❖ **Opportunities exist to use actual nursing data to conduct outcome evaluation, quality improvement, and effectiveness research**
- ❖ **Nursing is poised to be a leader in this endeavor!**



# References

- Bulechek, G., Butcher, H., Dochterman, J., & Wagner, C. (Eds.). (2013). *Nursing interventions classification (NIC) (6th ed.)*. St. Louis: Elsevier.
- Herdman, T. H. & Kamitsuro, S. (Eds.). (2015). *NANDA International nursing diagnoses: Definitions and classification 2015-2017*. Oxford, UK: Wiley-Blackwell.
- Johnson, M., Moorhead, S., Bulechek, G., Butcher, H., Maas, M., & Swanson, E. (Eds.). (2012). *NOC and NIC linkages to NANDA-I and clinical conditions: Supporting critical reasoning and quality care (3rd ed.)*. Maryland Heights, MO: Elsevier Mosby.
- Moorhead, S., Johnson, M., Maas, M., & Swanson, E. (Eds.). (2013). *Nursing outcomes classification (NOC): Measurement of health outcomes (5th ed.)*. St. Louis: Elsevier.

# Questions?





**Sue Moorhead, PhD, RN, FAAN**

**Associate Professor & Director Center for  
Nursing Classification & Clinical Effectiveness**

**The University of Iowa College of Nursing**

**Iowa City, Iowa 52242 USA**

**sue-moorhead@uiowa.edu**

**classification-center@uiowa.edu 319-335-7051**