Making Nursing Visible: Researching Nurse-Sensitive Indicators in the Land between Nursing and Technology.

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How is nurse quality captured? What lies between the lands of nursing and technology?

Few people really understand this area. This presentation starts assembling the jigsaw for the first time.

This presentation is about nurse sensitive indicators, where they live and what they do.
Measuring Nurse quality: interventions and outcomes.

It is logical to assume that structures residing in this middle ground have the capability to record data within a framework and act as an interface between nursing and technology.

It turns out they exist as:
• Data measurers, represented by nurse sensitive indicators in the
• Donabedian Framework which communicate between
• Framework domains
What is a nurse sensitive indicator?

Nurse sensitive indicators are a computer/human readable measurement metric for nursing activity. They may be likened to a computer readable “capsule” which stores a ‘snap shot” (frame) of particular nurse activity in a moment in time.

The concept of frames based knowledge is interesting and underpins the display and organisation of nursing data.
What does a nurse sensitive indicator look like?
(a purely conceptual view)
Name: Hand Washing frequency

Identifier: NURSE_PROCESS1879534

Data Type= Date Time Stamp
Format= DDMMYYHHMM
Max Length= 10
Null Character= _
Description= Date Time

Data Type= Alpha Numeric
Format= AAAAANNNN
Max Length= 9
Null Character= _
Description

Status: In use, redundant or replaced by

Collection Source: Administrative Data base, Clinical Documentation, observation

Evidence Base

Usage description

Formal definition

The Donabedian Framework

- generated from hospital databases, they are appealing to researchers because,
- they are easily procured and expedient.

(Naylor, 2007)

Process measures are generally rule based and governed by protocol.
(Eddy, 1998), (Pringle & Doran, 2003)

- generated from hospital databases, appealing to researchers
- often used as proxy measures for patient outcomes and nursing processes

(Needleman et al., 2007)
Three examples of studies which explore nursing indicators in the Donabedian framework.

They demonstrate Donabedian nurse/patient indicators, usage and relationships.

- Aiken
- Doran
- Duffield

Doran, et al., (2002). A cross-sectional design was used to collect data on the structure, process, and outcome variables. Data were collected through structured questionnaires and chart audit, involving a total of 372 patients and 254 nurses from 26 general medical-surgical units in a Canadian tertiary care hospital.

The Duffield study

**Structure**
- Nurse staffing
  - Casual
  - Not my usual ward
  - Is my ward
  - RN,EN,AIN

**Process**
- Nurse workload
  - Patient Casemix
  - Patient Acuity
  - Admission/Discharge turnover: Pt on a unit per day/actual beds
  - Nursing demand/Supply, (PRN-80/actual hours)

**Outcome**
- LOS
- Falls
- Medication errors
- Tasks left undone
- Patient education
- Comforting
- Communication

Duffield, et al., (2011). Data was obtained from the NSW public hospital system. A design combining longitudinal retrospective and concurrent cross-sectional methods was used to analyse 5 years of administrative data and one overlapping year of primary unit-level data collected from 80 randomly selected patient nursing units in 19 NSW hospitals.
Where do nurse sensitive indicators come from?

- Existing data bases
- Nursing literature
- Taxonomies, ontologies and hierarchies
- Clinical documentation
- Electronic logging

The problem is that every time a study is undertaken indicators are manufactured “on the spot” which can take up to 1 researcher/year.
Shameless plug for my study and grovelling plea for nurse participants.

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http://on.fb.me/Mm0ATM
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