

Nursing Quality Metrics

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Nursing Quality Metrics

Canada: **C-HOBIC** (Canadian Health Outcomes for Better Information and Care)*

- **Acute care**

ADL; Bladder continence; Pain (frequency/intensity); Fatigue; Dyspnea; Nausea; Falls; Pressure ulcers; Therapeutic Self Care (TSC)

All converted to scores: range 0-67; higher = dependent

- **Long term care/Complex Continuing Care**
Same fields without TSC.

* www.cna-aiic.ca/c-hobic/about/default_e.aspx

Nursing Quality Metrics

NDNQI: The National Database of Nursing Quality Indicators (www.nursingquality.org)

Other indicators

NSQIP and specialty-specific indicators

Epidemiology - reportable conditions

Healthy People 2020

Patient Satisfaction surveys

Employee opinion surveys

Outcomes Potentially Sensitive to Nursing (OPSN)

NDNQI: The National Database of Nursing Quality Indicators

Proprietary product of the American Nurses' Association in collaboration with the University of Kansas School of Nursing (since 1998)

NDNQI indicators are part of the National Quality Forum

Associated with the Magnet Hospital Program

Present Indicators (2011-12)

- Nurse staffing
- RN Education/Certification
- Nurse Turnover
- Falls
- Pressure ulcers
- Restraint use
- Physical/sexual assault
- Peripheral Intravenous (PIV) Infiltrations (peds only)
- Pain Assessment/Intervention (AIR) cycles (peds only)

Present Indicators (con't)

- Healthcare –associated infections
 - Central Line Associated Blood Stream Infections
 - Umbilical Catheter Associated Blood Stream Infections
 - Catheter Associated Urinary Tract Infections
 - Ventilator Associated Pneumonia (newborns only)

NDNQI services

- **Unit-level** comparison data, deidentified, data suppressed if < 5 cases or units reporting
- Benchmarks to academic medical centers, hospitals with beds > 500 and/or Magnet hospitals
- Quarterly reports benchmarked to mean, median, 25% and 75%
- Staff support; client input; data available for research
- Cost: >\$10,000 per hospital per year

Details

- Unit level data by **unit type**
 - Adult Critical Care
 - Adult Step Down
 - Adult Medical
 - Adult Surgical
 - Adult medical/surgical combined
 - Adult (physical) rehab

(con't)

Unit types (con't) Adult only

Adult Medical

Cardiac

Neurology

Oncology

Adult surgical

Cardiothoracic

Neurosurgery

Orthopedic

Adult Medical/surgical

Cardiac

Neuro/Neurosurgery

Oncology

Unit types (con't) Adult Only

- Burn Unit
- Cardiothoracic ICU
- Coronary ICU
- Medical ICU
- Neuro ICU
- Pulmonary ICU
- Surgical ICU
- Trauma ICU

Unit types con't

- Pediatric Critical Care
- Pediatric Step Down
- Pediatric Medical
- Pediatric Surgical
- Pediatric Med-Surg combined
- Pediatric Rehab
- Level I, II, or III Neonatal
- Well baby nursery
- Adult Psychiatric
- Geripsych
- Child and/or Adolescent Psychiatric
- Other psychiatric
- Critical Access Unit
- Obstetrics
- Emergency Department

Issue: fit with individual
hospital's units

Nurse staffing metrics: 1

Nursing Hours **Worked per Patient Day** by job category

RN

LPN/LVN

Unlicensed assistive personnel

Total



Requires census
three times/day

Only “productive” hours counted

“Patient days are adjusted for short stay patients when hospitals are able to do so.”

Nursing staffing metrics: 2

Skill mix: distribution of nursing hours by job category

% RN

% LPN/LVN

% UAP

“Agency hours” are included and then separated by job category

RN Education

% BSN or higher degree

% with national certification

Issue: collecting and updating this information and
attributing nurses to units

Patient Metrics: Falls

Falls (by unit) per 1,000 patient days

Injury falls per 1,000 patient days (all fall categories)

% of falls that were moderate or greater injury

Falls characteristics (assisted/unassisted)/1,000 pt days

Nursing process for fall prevention

- Prior fall risk assessment

- Risk assessment within last 24 hours

- At risk

- At risk and fall protocol

- Restraints in use at time of fall

Patient Metrics: pressure ulcers

All collected by **prevalence study** once per quarter

% of patients with pressure ulcers

% of patients with hospital acquired pressure ulcers

% of patients with hosp. acq. PU Stage II and above

% of patients with UNIT acquired PU

% of patients with UNIT PU Stage II and above

Pressure ulcer prevention for patients at risk (24 hrs)

Skin assessment, pressure reducing surface, repositioning, nutritional support, moisture mgmnt

Process Metrics: Restraints

% of patients with physical restraint (prevalence)

Restraint characteristics:

Limb

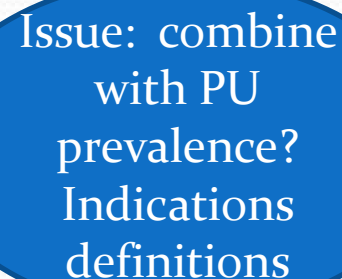
Vest

Limb and vest

Medical/surgical indications for restraint

Behavioral indications for restraint

Clinical justification for restraint



Issue: combine
with PU
prevalence?
Indications
definitions

Nurse Turnover

- Nursing Unit turnover rate as % of employed FTE
- Nursing Unit turnover rate as % of employed staff
- **Voluntary** nursing unit turnover rate by job class
- Average years of tenure of staff who leave

- Controllable/uncontrollable reasons (only for Magnet)

Physical/Sexual Assault

- Injury assault rate per 1,000 patient days
- Total assault rate
- Patient characteristics (age, gender, involuntary admission)
- Characteristics of injury assaults
 - Median time since admission
 - % within 24 hours of admission
 - % repeated assaults
 - Mean number of assault victims per episode
 - % nurse victims

Assault con't

- Job classification of injured persons (incl. visitor)
- Injury level most severely injured person (RN, non RN)
- Characteristics of nurse victims
 - Years psych nursing experience
 - % with assault management training
- Post assault interventions
- Restraint types and duration of restraint and seclusion

Peripheral IV infiltration

Prevalence study

- % of PIV sites with infiltrations
- Peripheral IV characteristics

Total patients with PIV

% of patients with > 1 PIV site

% of PIV sites with a vesicant solution

IV site distribution

Issue: combine
with PU and
restraint
prevalence?

Pain Assessment/AIR Cycles

Quarterly one-day retrospective chart review

- Average number of pain assessments per patient
- Nursing process for patients assessed for pain
 - Number of pain assessments
 - Percent of cycles completed
 - Components missing from incomplete cycles
- Pain intervention profile

Healthcare associated Infections

- Central line associated blood stream infections (CLABSI) per 1000 Central line days
- CLABSI by birthweight category
 - <750 gm
 - 751-1000 gm
 - 1001-1500 gm
 - 1501-2500 gm
 - >2500 gm

Issue: how get central line days if no EMR?

Healthcare associated infections (con't)

- Umbilical catheter associated blood stream infections per 1000 umbilical catheter days
- Same birthweight categories

Healthcare associated infections (con't)

- Non-umbilical central line associated blood stream infections per 1000 non-umbilical central line days
- Same birthweight categories

Healthcare associated infections (con't)

- Catheter associated urinary tract infections (CAUTI) per 1000 catheter days
- Ventilator associate pneumonia (VAP) per 1000 ventilator days
- VAP by birthweight categories



Where are we going with
this?

The Very Big Picture

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WORKLOAD

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Nurse
Outcomes

Organizational
Outcomes



NURSING **UNIT**
DATA
FOR
QUALITY AND
SAFETY

Data on Nursing Resources I

- Nursing hours (caregiver hours) per patient day
Payroll or rostering system
By shift, day of week
- Nursing qualifications (degrees, experience, certification)
Need to build data systems for this
- Vacancies and turnover
HR data systems



Benchmarked

Data on Nursing Resources II

- Support available:

- Non-licensed staff

- Access to specialized nurses/NP's

- Ward secretarial support

- Facilities support

- Business support

Payroll, rostering, HR systems

Data on Nursing Workload I

- “Acuity” measurement
 - Homegrown or purchased systems*
- “Churn”
 - Patient activity systems*
- Number of patients in isolation
 - EMR; hospital epidemiology; prevalence study*
- Number of different case types (DRGs)
 - NZHS submission? Unit level data?*

Data on Nursing Workload II

- Number of physicians or physician teams
EMR or patient medical records
 - Presence of learners (housestaff; nursing students)
Personnel records
 - Psychiatric or substance abuse secondary diagnoses
EMR or medical records coding
 - Number of patients awaiting placement
EMR or retrospective discharge and LOS data
- Etc. Etc.*

Data on the Working Environment

- Nursing Work Index (NWI) or similar surveys
- Geography of the unit
- Perception of potential for violence/assault
- Organizational “health” (from observation)
- Leadership
- Interprofessional relationships
- “Economics” of the unit – over/under budget?
- Employee satisfaction surveys
- Etc. Etc.

Data on Process

- Evidence based practice protocols/guidelines
- Models of care
- QI/process improvement strategies/tactics
- Patient/family orientation
- Cultural safety
- Interdisciplinary rounds
- Shared governance
- Etc. Etc.

Data on Patient Outcomes

- Adverse events
- Nursing-sensitive measures
 - NDNQI-type measures*
 - Initiation of breast feeding*
 - Waiting times in ED*
 - Antibiotics before surgery or C-section*
 - Readmission rates*
 - Outcomes Potentially Sensitive to Nursing (OPSN)*
- Patient satisfaction

Data on Nurse Outcomes

- Intent to stay/leave the position (surveys)
- Intent to stay/leave nursing (surveys)
- Employee satisfaction surveys
- Work injuries
- Assaults/patient violence toward staff
- Time to fill vacant positions
- Leadership turnover

Etc. etc.

Data on Organizational Outcomes

- Length of stay
- Readmission rates
- Transfers to other facilities
- Ambulance diversions
- ED waiting times
- Cost per case
- Cost per day
- Results of inspections
- Etc. Etc.

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WORKLOAD

**Working
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**Nurse
Outcomes**

**Organizational
Outcomes**



Questions?



Comments?



Thank you for your attention