The impact of adding nursing support workers on patient, nurse and system outcomes

REDESIGNING THE NURSING WORKFORCE

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Introduction & Context

Nurse Outcomes

Patient Outcomes

System Outcomes

Summary & Conclusion

Nursing Support Worker Titles

- Unregulated nursing workers are known by a range of titles including:
  - Unlicensed assistive personnel (United States)
  - Health care assistants (United Kingdom and Australia)
  - Personal care attendants or assistants in nursing (Australia)
  - Medical assistant, patient care technician, care extender, nurse aide, nursing orderlies and attendants
- In our study we will talk about **assistants in nursing** (AINs) or **nursing support workers**
  - They undertake delegated nursing tasks under the supervision of regulated/licensed nursing staff within a nursing team
  - They have limited educational preparation – at most a few weeks of theory followed by clinical practice
  - In some jurisdictions in Australia they may be pre-registration undergraduate nursing students

Redesigning Nursing Work

- Two ways to introduce nursing support workers to a ward or unit
  - Either can potentially change the mix of staff, approach to care on a ward/unit, and impact on patients and staff
- The first is a substitutive model of nurse staffing whereby regulated staff (RNs) are ***replaced*** by unregulated nursing support workers
  - Hours of care remain the same but provided by less qualified staff (Roche et al., 2012)
- The second is a supportive or complementary model whereby unregulated nursing support workers are ***added*** to ward staffing
  - The total number of hours of patient care provided increases and the number of hours provided by RNs is maintained (Carrigan, 2009)
- Both methods have implications for the way patients are assigned to caregivers and the work caregivers may then undertake

Implications for the Model of Care (Duffield et al. 2010)

- Task assignment was used:
  - With a poorer skill mix (fewer RNs)
  - When staff were unfamiliar with the ward and patients
- Can lead to issues with continuity of care because work is divided into tasks and different staff members undertake different tasks for the same patients
- Usually the RN addresses more complex tasks, whereas lesser skilled staff (nursing support workers) undertake more routine tasks

- Patient allocation was used when staffing included:
  - More RNs
  - More RNs with degrees
  - More advanced practice clinical nurse consultants

Drivers for Change (1)

1. Workforce shortages

- Nursing workforce "sustainability" is "…a focus on maintaining numbers in the workforce, or achieving a predefined target of net growth in staffing, or reducing the relative level of reliance on international recruitment" (Buchan, 2015 p. 6)
- In this context workforce supply in Australia is unsustainable (Duffield in Buchan, 2015)
  - Australia continues to rely on migration
- Projections of nursing shortages estimated to be 123,000 nurses by 2030 (Health Workforce Australia, 2014)
  - AINs account for 25% of the Australian health workforce (ABS, 2013; AIHW 2008, 2012, 2014)
    - We will require a 16.5% increase (13600) in AINs by 2016/2017

Drivers for Change (2)

2. Increased workload:

- Limits the time nurses have for patient contact (Duffield et al., 2011; Williams et al., 2008)
- Results in insufficient time to provide care to patients
- Critical tasks such as the administration of pain relief, hygiene and skin care undone/delayed (Duffield et al., 2011; Roche et al., 2016)
- Decreases opportunity to deliver quality emotional-care (Williams et al., 2008)
- Contributes to nurses' job dissatisfaction, influencing their decision to resign from their positions (Duffield et al., 2009; Roche et al., 2015a, 2015b)

Potential Outcomes of *Adding* AINs on Nursing Work

- **Task shifting** between regulated and unregulated roles such as:
  - A decrease in the amount of time registered nurses spend on non-value adding tasks (e.g. administration and transport)
  - Increased direct patient care activities for registered nurses (e.g. assessment, clinical procedures)
  - Reduced nurses' workloads
  - Increased patient contact and the provision of emotional care

Potential Outcomes of *Adding* AINs on Approach to Care

- **Rounding**
  - Scheduled visits made to patients in hospital rooms to address immediate patient needs
  - A common use of nursing support workers
  - Associated with positive patient outcomes & improved patient safety:
    - Reduced patient falls (Woodard, 2009)
    - Reduced use of the call bell (Woodard, 2009)
    - Fewer work interruptions (Shepard, 2013)
    - Consistency and continuity of patient care (Meade, Bursell, & Ketelsen, 2006)
    - Improved patient satisfaction (Meade, Bursell, & Ketelsen, 2006)

Background to Research

- Increasing registered nurse numbers to mitigate work intensification is unlikely given projected workforce shortages
- Previous studies have looked at the ***replacement*** of registered nurses with nursing support workers
- No study was found which examined the impact of the ***addition*** of nursing support workers to existing staffing in acute care settings
- The potentially positive aspects of adding nursing support workers to the quality of care patients receive and staff perceptions of changes to workload, job satisfaction and the work environment have not been systematically evaluated
- Western Australia is the first and only State to ***complement*** nurse staffing with AINs

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PROTOCOL

A protocol to assess the impact of adding nursing support workers to ward staffing

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Abstract

Aim. To assess the impact of adding nursing support workers to ward staffing.

Background. Nurses' capacity to provide safe care is compromised by increased workloads and nursing shortages. Use of unregulated workers is an alternative to increasing the number of regulated nurses. The impact of adding nursing support workers on patient, nurse and system outcomes has not been systematically evaluated.

Design. A mixed longitudinal and cross-sectional design using administrative data sets and prospective data from a sample of wards.

Methods. Payroll data will identify wards on which unregulated staff work. To assess the impact on nursing-sensitive outcomes, retrospective analysis of morbidity and mortality data of all patients admitted to Western Australia hospitals for over 24 hours across 4 years will be undertaken. For the cross-sectional study, a sample of 20 pairs of matched wards will be selected: 10 with unregulated workers added and 10 where they have not. From this sample the impact on patients will be assessed using the Patient Evaluation of Emotional Care during Hospitalisation survey. The impact on nurses will be assessed by a nurse survey used extensively which includes variables such as job satisfaction and intention to leave. The impact on system outcomes will be explored using work sampling of staff activities and the Practice Environment Scale. Interviews will determine nurses' experience of working with nursing support workers.

Discussion. The study aims to provide evidence about the impact of adding nursing support workers to ward staffing for patients, staff and the work environment.

Keywords: assistants in nursing, nursing support workers, nursing work organization, nursing workload, skill mix

Aims

Determine the impact of the addition of AINs to nursing wards on…

- Nurse outcomes
- Patient outcomes
- System outcomes

The Study

- Longitudinal
  - Two years of data ***before*** and two years ***after*** the addition of AINs

- Prospective
  - 5 pairs of wards
    - 5 wards where AIN resources were ***added***
    - 5 wards where AIN resources were ***not added***
      - 3 pairs of wards (6 wards) from large teaching hospitals
      - 2 pairs of wards (4 wards) from smaller non-teaching & regional hospitals

Ward Matching – Prospective Data

Hospital	NHpPD Category
X	B
Y	D
Z	B
Z	B
Z	C

- For prospective data collection, wards were ***matched*** using workload categories:
  - e.g. a Category B ward with no added AIN staff was matched with a Category B ward where AIN resources had been added

System Outcomes

System Outcomes

Nurse Survey

- Prospective Data
  - Practice Environment Scale (Lake, 2002)
  - Quality of Care
  - Tasks Delayed/Not Completed
  - Violence
    - n=154

Work Sampling

- Prospective Data
  - Observation (Pelletier & Duffield, 2003; Urden & Roode, 1997)
  - 25 work activity categories
    - n=452 nurses
    - n=81,594 observations
    - 13,781 nurse-hours
    - (AIN wards: 7,695 / Non-AIN wards 6,122)

Potential Outcomes of *Adding* AINs on System Outcomes

- **Task shifting & changed work activities**
  - Decreased RN time on administration and transport, etc.
  - Increased RN direct patient care activities (assessment, clinical procedures)
- **Fewer delays & improved quality of care**
  - Decreased use of the call bell
  - Fewer work interruptions
  - Consistency and continuity
- **Changes to the practice environment**
  - Nurse-doctor relationships, foundations for quality care, etc

- Nurses may need to spend more time delegating and supervising
- AINs may not be effectively integrated into the workplace

Impact of the Practice Environment

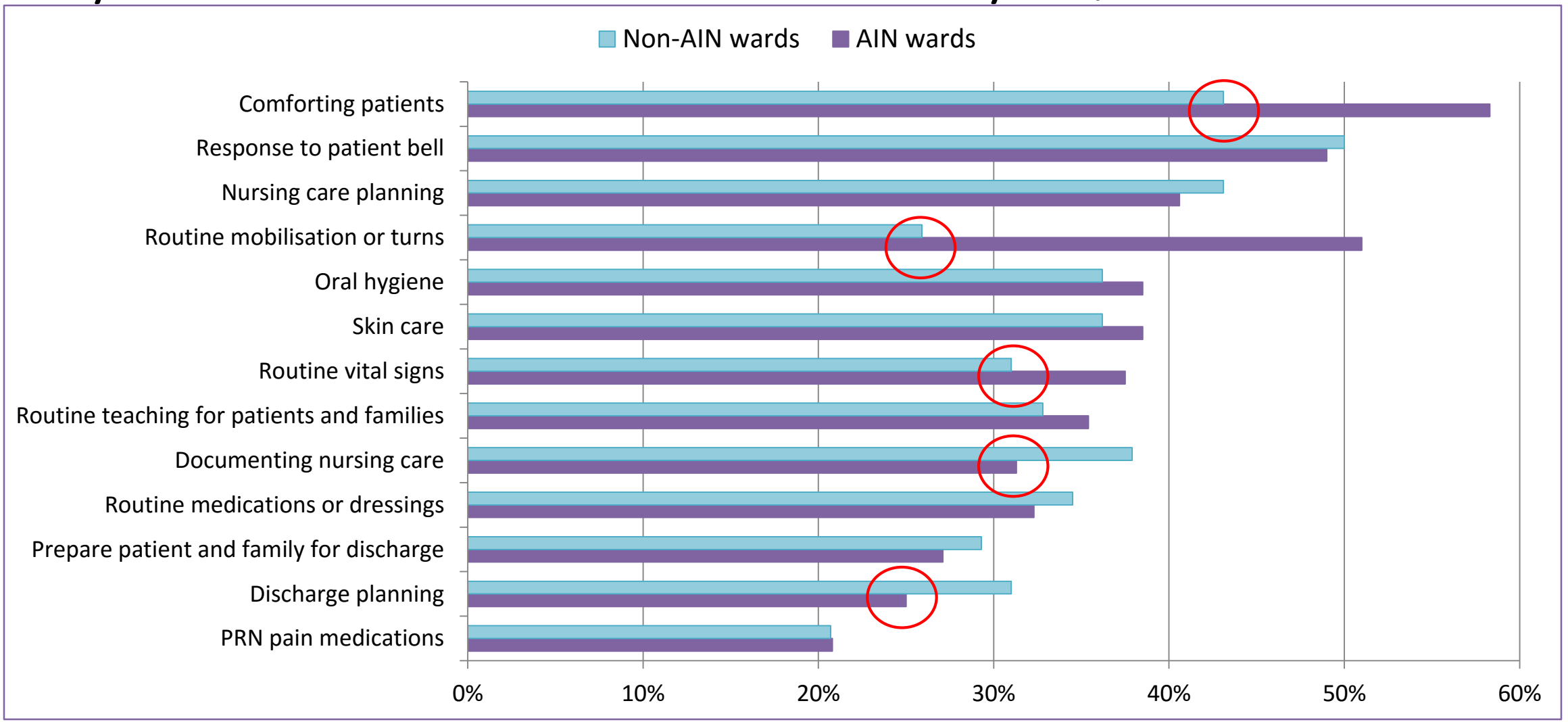
- The elements of the practice environment are significant in the promotion of positive patient outcomes such as:
  - Fewer patient falls, pressure ulcers and venous needle disconnects and better pain management in patients
  - Less burnout, job dissatisfaction and intention to leave in nurses (Duffield et al., 2011; McHugh and Ma, 2014; Prezerakos et al., 2015; Roche et al., 2015; Stalpers et al., 2015).
- Improving staffing levels by lowering the nurse to patient ratio will have virtually no effect on patient outcomes in hospitals with poor work environments (Aiken et al., 2011)

The Practice Environment Scale of the Nursing Work Index

- Nurses' perceptions of:
  - Collegial Nurse-Doctor Relationships
  - Nurse Management, Leadership and Support
  - Staffing & Resource Adequacy
  - Nurse Participation in Hospital Affairs
  - Nurse Foundations for Quality of Care
- 30 item questionnaire
  - (adapted from Lake, 2002)
- Scores 1 to 4
  - Mean scores less than 2.5 'negative'
  - Mean score 2.5 or above 'positive'
    - (Lake & Friese, 2006)

System Outcomes: Practice Environment

System Outcomes: Tasks Delayed/Not Done



System Outcomes: Self-reported Tasks

	AIN wards			Non-AIN wards	
	RN	EN	AIN	RN	EN
Delivering / retrieving trays	21.70%	12.50%	45.50%	29.10%	0.00%
Arranging discharge referrals and transportation	50.70%	37.50%	0.00%	54.50%	33.30%
Performing ECGs, routine phlebotomy and starting IVs	84.10%	93.80%	18.20%	94.50%	100.00%
Transporting patients	11.60%	0.00%	45.50%	14.50%	0.00%
Housekeeping duties	33.30%	25.00%	27.30%	40.00%	66.70%

System Outcomes: Quality of Care

Last Shift	AIN wards	Non-AIN wards	Overall
Excellent	23 (24.2%)	**17 (29.3%)**	40 (26.1%)
Good	55 (57.9%)	**39 (67.2%)**	94 (61.4%)
Fair	14 (14.7%)	2 (3.4%)	16 (10.5%)
Poor	3 (3.2%)	0 (0%)	3 (2%)
Last 12 Months			
Improved	26 (30.6%)	11 (20.8%)	37 (26.8%)
Remained the same	38 (44.7%)	33 (62.3%)	71 (51.4%)
Deteriorated	21 (24.7%)	9 (17%)	30 (21.7%)

System Outcomes: Violence

	AIN wards	Non-AIN wards	Overall
Physical assault	**25 (26.3%)**	2 (3.4%)	**27 (17.6%)**
Threat of assault	**36 (39.1%)**	11 (19%)	**47 (31.3%)**
Emotional abuse	**34 (36.2%)**	11 (19%)	**45 (29.6%)**

Sources:

- Physical assault
  - Patients 96.3%
- Threat of assault
  - Patients 93.9%, Family 6.1%
- Emotional abuse
  - Patients 48.3%, Co-workers 28.3%, Family 18.3%

Nursing Activities

- Self Reported Activities
  - Nurse Survey
- Work Sampling Tool
    - (Duffield & Wise, 2003; Pelletier & Duffield, 2003; Urden & Roode, 1997)
- Randomly selected two-hour time blocks over a 6-month period.
  - 6 observations per nurse per hour
    - ~82000 observations
  - 107-154 hours observations per ward
    - ~13800 nurse-hours

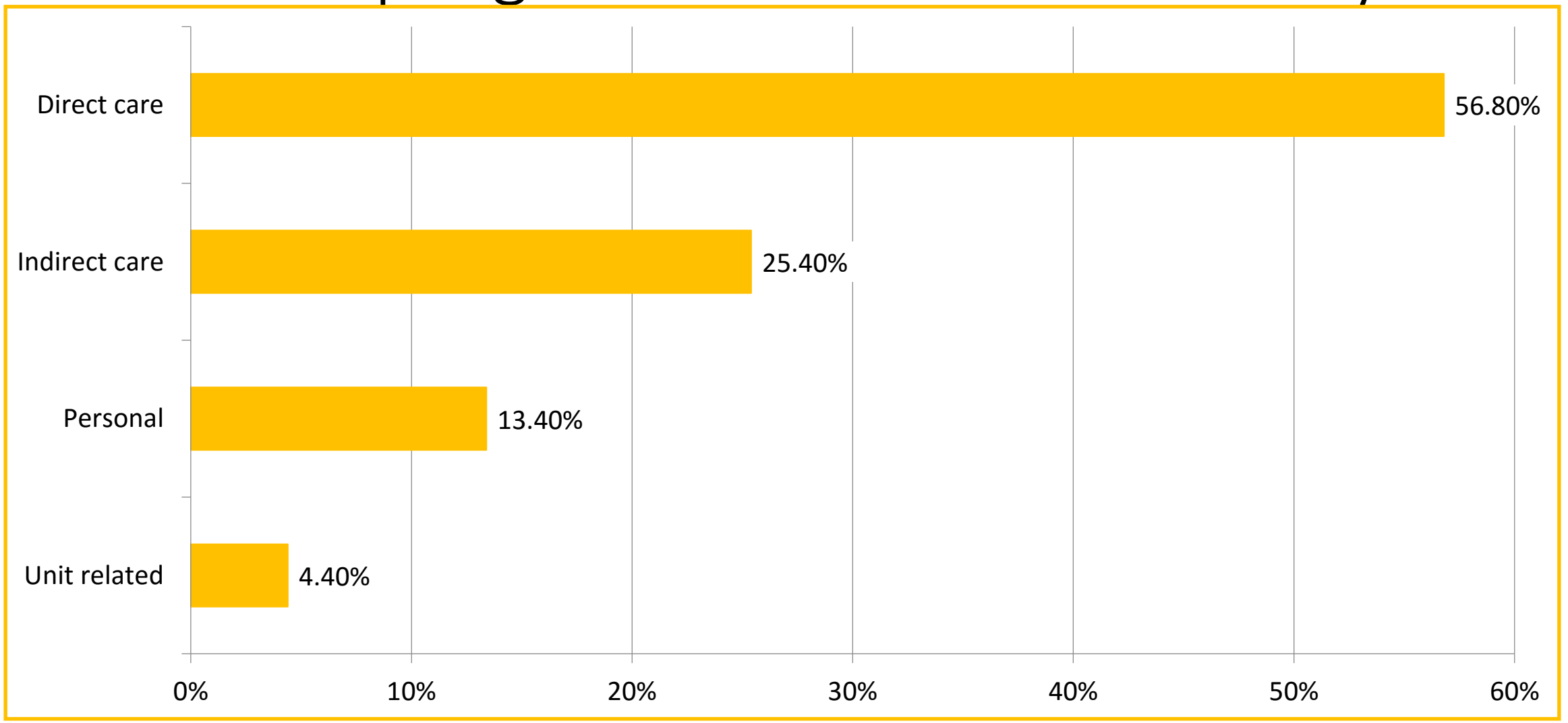
Work Sampling Activity Categories

Direct Care	Indirect Care	Unit-Related
Admission & Assessment	Verbal Report & Handover	Teaching & In-service
Hygiene	Communication & Information	Supplies, Check, Re-stock
Patient Mobility	Room or Equipment Setup & Cleaning	Errands, Off-Unit
Medications & IV Administration	Medication and IV Preparation	Meetings & Administration
Procedures	Progress Notes / Discharge Notes	Clerical
Specimen Collection & Testing	Computer – Data Entry & Retrieval	Environmental Cleaning
Nutrition & Elimination	Co-ordination of Care Rounds & Team Meetings	
Transporting Patient	Co-ordination of Care, Care Planning & Clinical Pathways	
Assisting with Procedures		
Patient & Family Interaction		**Personal**

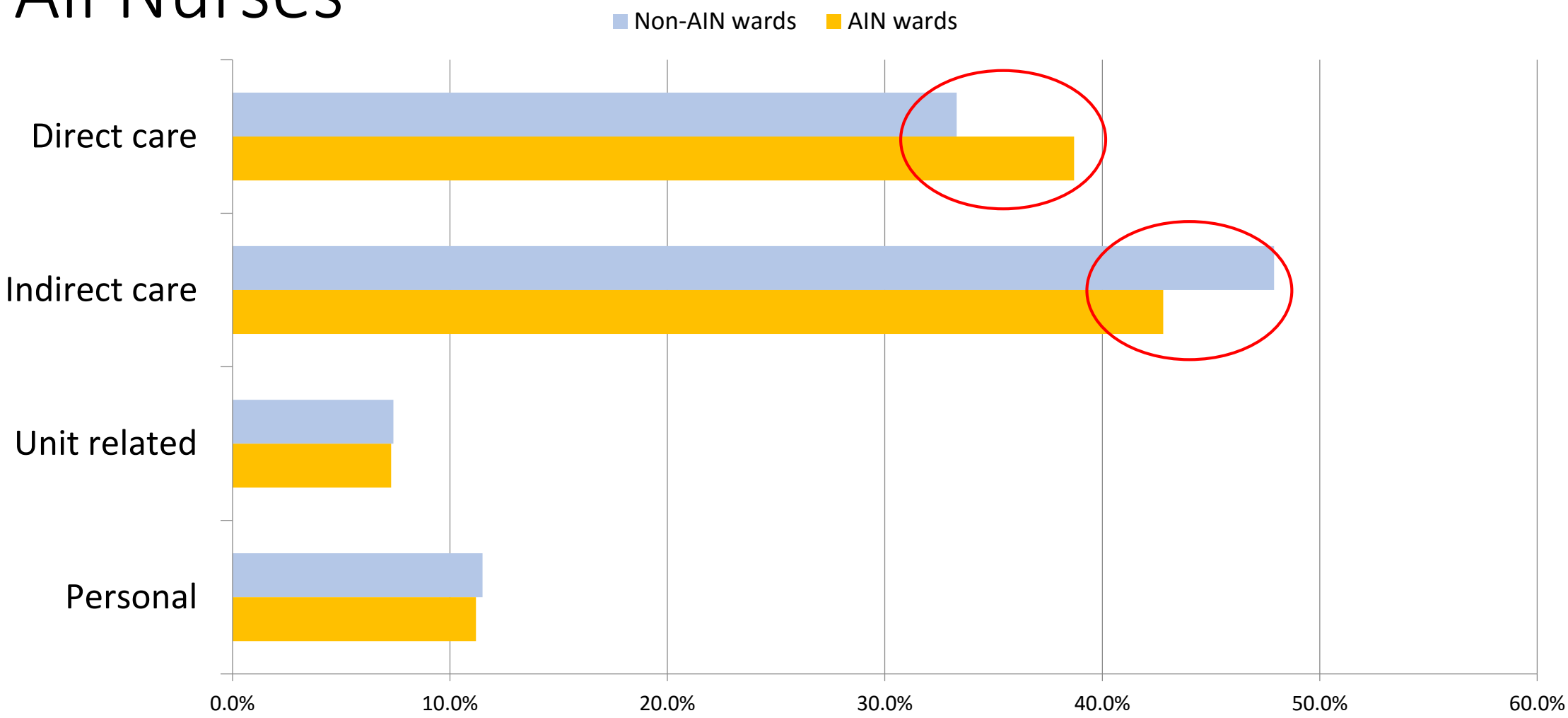
Work Sampling: Sample

	AIN wards			Non-AIN wards			Overall	
Hospital	Ward	N	%	Ward	N	%	N	%
X	W1	9558	20.7%	W2	5532	15.6%	15090	**18.5%**
Y	W3	6228	13.5%	W4	5748	16.2%	11976	**14.7%**
Z	W5	12660	27.4%	W6	9444	26.7%	22104	**27.1%**
Z	W7	8718	18.9%	W8	6972	19.7%	15690	**19.2%**
Z	W9	9006	19.5%	W10	7728	21.8%	16734	**20.5%**
Total		**46170**	**56.6%**		**35424**	**43.4%**	**81594**	

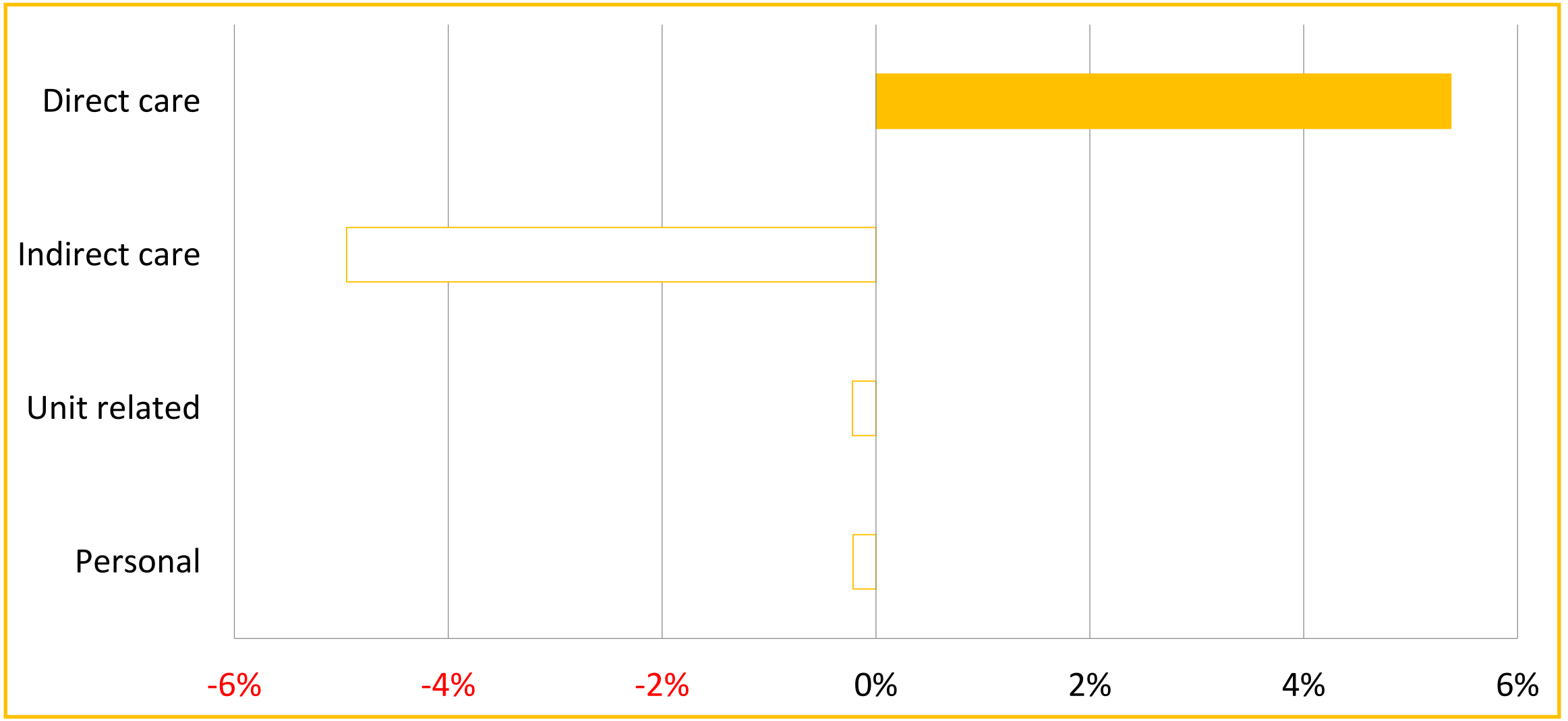
Work Sampling: % of Activities – AINs only



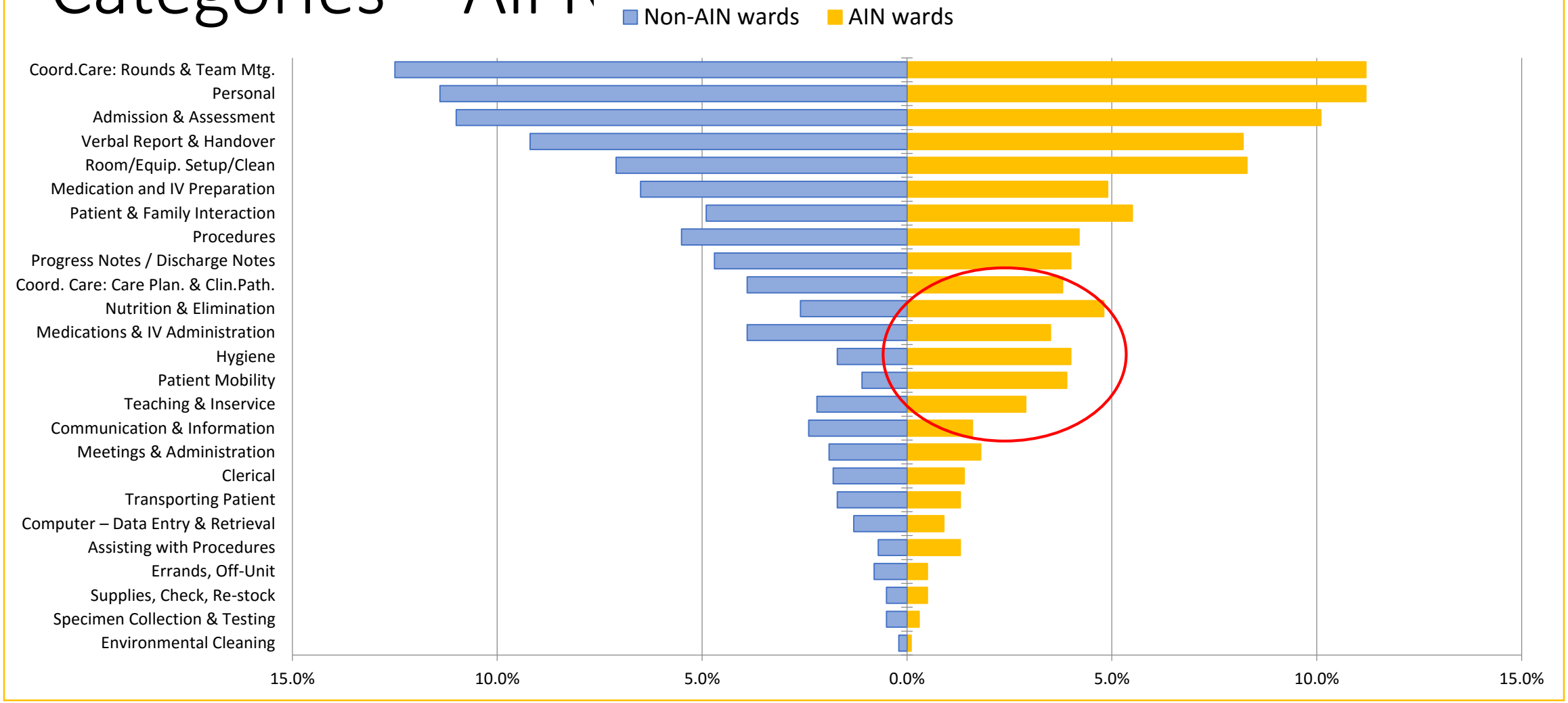
Work Sampling: % of Activities – Summary – All Nurses



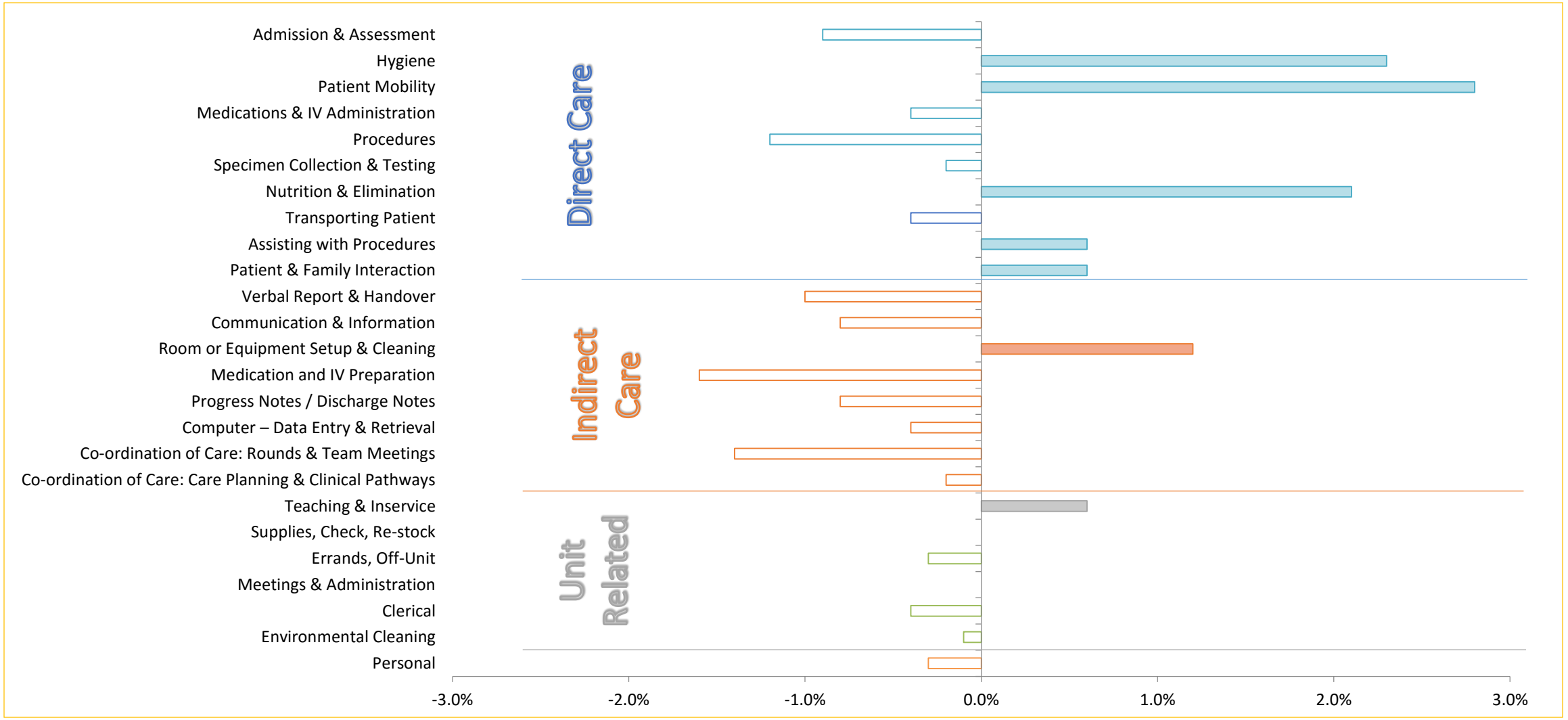
Work Sampling: Difference in the % of additional activities on AIN wards – All Nurses



Work Sampling: % of Activities – All Categories – All Nurses



Work Sampling: Difference in the % of additional activities on AIN wards – All Nurses



Summary & Questions

Summary

- Patient outcomes: negative outcomes associate with ***AINs*** & ***skillmix***
- Work activities: more direct care / less indirect care on ***AIN*** wards
- Perceived quality of care: ***higher*** on ***non-AIN*** wards
- Turnover: intent to leave ***higher*** on ***AIN*** wards
- Practice environments: staffing & leadership ***lower*** on ***AIN*** wards
- Violence experienced by nurses: ***higher*** on ***AIN*** wards
- Delayed tasks: ***higher*** on ***AIN*** wards
- Absenteeism: ***higher*** on ***AIN*** wards
- AINs reported performing tasks that appear out of scope

Questions

- Model of care & utilisation
  - Team versus patient allocation
    - What type of patients were allocated to AINs?
    - ‘Specialling’ (one-to-one)
  - Rounding – no evidence that AINs were used in this way
- Effective delegation & integration into the team
  - AINs may not have been routinely added to every shift every day
    - How would this impact effective delegation and model of care?
- Qualifications
  - Undergraduate BN students or Cert III qualification
- Scope of practice
  - Are findings linked to the use of Undergraduate BN students?
- If staffed to full complement, does adding more staff make a difference?
- Variation
  - Substantial variation within wards, what unit-level factors are important?

Current Controversy

Hornsby Ku-ring-gai Hospital nurses wage war on decision to introduce AiN's into acute units

May 24, 2016 1:29pm

Jake McCallum

NSW_HORNSBY_STRIKE@HORNSBY_WK48(2)

NURSES are rallying against NSW Health to protect the safety of their most vulnerable patients, after "minimally qualified workers" were proposed to work in an intensive care unit.

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