AN INDUSTRY-ACADEMIC COLLABORATION TO SUPPORT NURSING SERVICES WITH IMPLEMENTATION OF AN ELECTRONIC MEDICAL RECORD

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BACKGROUND

• Nurses are the largest users of health records in health services
• Internationally most EMR projects fail to deliver expected benefits

“the way users interact with a product strongly influence the impact”¹

• Strong clinical engagement is the foundation for success
• Evidence advocates for end-user involvement at all stages
  – Development
  – Selection
  – Configuration
  – Operation / implementation
  – Evaluation, monitoring and sustainability
PROBLEMS FOR EMR IMPLEMENTATION

• Rapid technological innovations: continuous evolution
  – Slow adoption in health compared to other industries, even slower in nursing
  – Interoperability
• Highly profitable vendors in market incompatible with public funded service
• Limitations of vendor products: flashy demonstrations vs reality: limited nursing experience
• Complex multifaceted project: “wicked problems” require a flexible and iterative response
• Examples of HTA processes applied to nursing are scarce
• Application of recent developments in standardized nursing language to Australian/ Victorian context
WHY WORK IN A RESEARCH PARTNERSHIP

• Healthcare research in clinical service settings is complex
• Build professional, formal and informal networks, legitimacy and recognition
• Share with and learn from each other
• Fill gaps in knowledge, capacity or skills
• Meaningful involvement in organisation
• Independence
• Build meaningful relationships
• Developing local capacity and sustainable partnerships
• Foster local ownership, engagement and sustainability
• Findings and implications back into the organisation
DEAKIN UNIVERSITY NURSING PARTNERSHIP
Nursing and Midwifery Research
- Patient experience
- Patient safety
- Health Workforce
GOALS OF CENTRE

• To lead high quality research in the areas of quality and patient safety with the aim of enhancing the independence and wellbeing of individuals in clinical and aged care settings.

• To provide high quality research training and support in order to build capability among the nursing workforce at Monash Health.

• To build capacity for quality and patient safety research at Monash Health.

• To promote the translation of research findings into educational programs, health care policy and clinical practice.

• To develop and support research collaboration between Monash Health, Deakin University and other industry partners.
PARTNERSHIP PERFORMANCE

• Research outcomes
  – Grant success
  – Publications
  – Conference presentations
  – Research collaborations: multidisciplinary, multi-site, multi-institution

• Capability building
  – Research training: student supervision: Honours, Master’s and PhD
  – Staff projects: research, Quality improvement, program evaluation
  – Research training

• Research translation
  – Representation on committees and workgroups
  – Contribution to evidence informed policy and guidance for service delivery
  – Education and training for staff
  – Coaching, mentoring, support and advice for staff
CASE STUDY

EMR implementation at single large health service

• High political and industry imperative for success
• Complex intervention:
  • Iterative process not clear at outset
  • Low baseline- limited exposure, difficult to make good decisions
• Link and access to experts across disciplines & industries
• Extensive planning for implementation
• Longitudinal program and evaluation
• Integrate available research evidence, adaptation
• Identify research opportunity: knowledge gaps
MODEL FOR COLLABORATION

Nursing EMR Committees

Scope of practice
Foundations of care
Current documentation
Documentation and communication workflows

EMR project committees

Security within EMR
Power Charts and forms
Adoption/ease of use
Research and Evaluation

Nursing Research
Program Evaluation
CONCEPTUAL FRAMEWORKS

• Foundations of nursing care
  – Site specific adaptation of fundamentals of nursing care

• Patient safety

• Knowledge translation
  – Knowledge to Action
  – Evidence, context, facilitation

• Information technology
  – Health Technology Assessment
  – User centred design: user-centred design principles can enhance task efficiency and usability
  – Actor Network Theory: sociotechnical theory interactions with IT in ‘real’ settings
  – User acceptance of technology: user perceptions influence IT acceptance

• Team science
  – Teams can deliver innovations & success not otherwise possible
QUESTIONS?

What is expected to change from the current system?

- Who is documenting? (RN, NP, RM, EN)
- What are they documenting? (patient information, FOC)
- When are they documenting? (workflows, timeliness)
  - Where are they documenting? (current documents)
- How are they documenting? (paper, electronic, standard forms, free text)

Where are the risks in transfer to EMR (patient, staff, org)? How can we mitigate these?

What do staff Know
Think
Feel
About EMR?

Preparation
Baseline data

- What do we expect to change and how?
- What data are available?
- What is the data quality?
- Meaningful for clinicians and the organisation?
- Where are the gaps?
- How do we fill them?

Implementation
Process

- Set sail and correct course?
- What is going wrong?
- What is going right?
- Identify and readjust?
- Aligned with current KPI's and foundations of care
- Reliable information
- Unintended consequences/ workarounds

Sustainability
Outcome

- Accessible
- Authenticated
- Accurate
- Timely
- Contemporaneous
- Reflects actual work
- Fidelity
- Usability

Interaction touchpoints for communication and information transfer

Formal (handover, ward rounds, written end of shift report, NUM updates, patient transfers, MDT meetings)
Informal (ad hoc, conversations, telephone)
Verbal (spoken)
Non-verbal (documented)
ENGAGEMENT AT ALL LEVELS

Problems known to Executives: 4%
Problems known to Team Managers: 9%
Problems known to Team Leaders: 74%
Problems known to staff: 100%

Problems hidden from senior management: 74%

Adapted from: "Quality Improvement and TQC Management at Colombo in Japan and Overseas" by Sydney Yoshita
RESEARCH ACTIVITIES

• Evidence review
  – Measuring workflows
  – Concepts of nurses work
  – Measuring nurses work

• Methodological advice

• Access to Experts:
  – Information systems, systems intelligence, nursing

• Knowledge from current Research
  – Patient experience and participation using technology
  – Quality nursing information, standard forms
  – Work processes & mapping
  – Development and testing of nursing IS
MUTUAL BENEFITS OF RESEARCH COLLABORATION

- Extends beyond the scope of research: organisational culture
- Integration of nursing specific research with IT/EMR knowledge
- Support an evidence based approach to development and implementation of EMR: translation
- Support rigour in approach and tools
- Access to knowledge, resources and a different perspective: challenge ideas & solve complex problems
- Build new evidence to address gaps
- Research knowledge generated from ‘real’ clinical environments
SUMMARY

• Build Nursing and Midwifery relationships in the organisation: recognition and credibility
• Keeping up with technology
• Build capacity for research: research training and advice and support
• Supporting service improvement
• Generate knowledge relevant for local and broader practice
• Future opportunities for nursing research
REFERENCES


8 Wickramasinghe et al. Using ANT to Uncover the Full Potential of an Intelligent Operational Planning and Support Tool (IOPST) for Acute HealthCare Contexts. IJANTT. 2013 5(2):29-49

