



Rapid Roaming User Access and Workforce Efficiency in Aged Care

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Our Nursing Workforce

- Nurses 65% workforce
- Nursing shortage increasing as population ages¹
- Patient outcomes² and job satisfaction correlate with time nurses spend with their patients.
- Reducing non value-added time for nurses thus has the potential to not only increase nursing workforce efficiency, but also to increase job satisfaction and improve patient outcomes

¹ Buchan and Aiken 2009

² Neddleman et al 2002 NEJM 246(22):1715-1722

What Nurses Do in Acute Care

Studies of 767 medical and surgical ward nurses (USA)

- Value adding activities: about 60% time
 - 25%-75% time in direct clinical care
 - Indirect care 7-37%
- Waste activities 7-10% time
 - looking for people & things, waiting, walking
- Walk 2.4 -3.4 miles per 10-hour daytime shift

Hendrich et al (2008) A 36 Hospital Time and Motion Study: How Do Medical-Surgical Nurses Spend Their Time? The Permanente journal Summer 2008 12(3):25-34
Upenieks V, Akhavan J, Kotlerman J (2008) Value-Added care: A Paradigm Shift in Patient Care Delivery. Nursing economics 26(5):294-300

Wasted Time Using electronic Medical Records

- Non Value Adding time in electronic records includes logging on and off, and navigating through the record
- Auditor general requires individual, unique logons for security and audit purposes
- Study at RPA Emergency Department – Logging on 3 min, 20 plus times a day (Intel and Cisco, 2007).
- Clinicians either continually log on and off or use generic logons

This is not functional

CHIsL: Rapid Roaming User Access

- Benchmarking 2007- St Olavs, Norway- 26 sec to log on. Still not functional and clinicians used generic logons.
- Some quicker proprietary systems now available, but significant expense for new IT systems.
- Requires introduction of new infrastructure and change computers to think clients
- **Aim sub 10 sec to log on, instant log off, using generic hospital systems.**
- **Developed CHIsL**

About CHIsL

- CHIsL is software that can be installed on existing computers to make them act as thin clients
- Increased speed of access for accessing terminal services or Citrix sessions
- Decreased computing demand => can be run on older devices, saving cost
- Health services can evaluate and migrate to the system gradually as they have save the funding on peripheral devices and add to their central server power.

Rapid Roaming Access: the study

- Victorian Department of Human Services - Workforce Innovation grant 2009
- Time and motion study of Nurses (RN1) and Personal Care Attendants (PCAs) with and without rapid roaming access
- Samarinda Aged Care
 - Mixed low and high care facility
 - 40 Beds
 - Very advanced in use of ICT
 - Use RFID, Vocera, & ICare electronic medical records
- Aim: To support high quality care and reduce inefficiencies

Rapid Roaming Access: the study

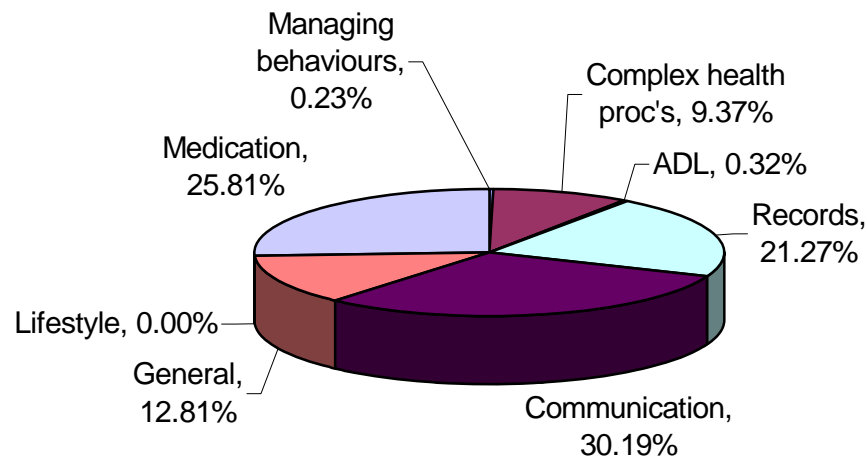
- Baseline time and motion data. 6 days RN1 and 7 days PCA activity
- 1 additional day without generic logins for an RN1
- Implemented CHIsL and Terminal Services
- User sessions running on the back end servers, and existing laptops and desktops acting as thin clients
- 2 days RN1 and 3 days PCA data collected post implementation. More data collection underway
- Initial data presented here

Findings

RN1- over 500 tasks per day

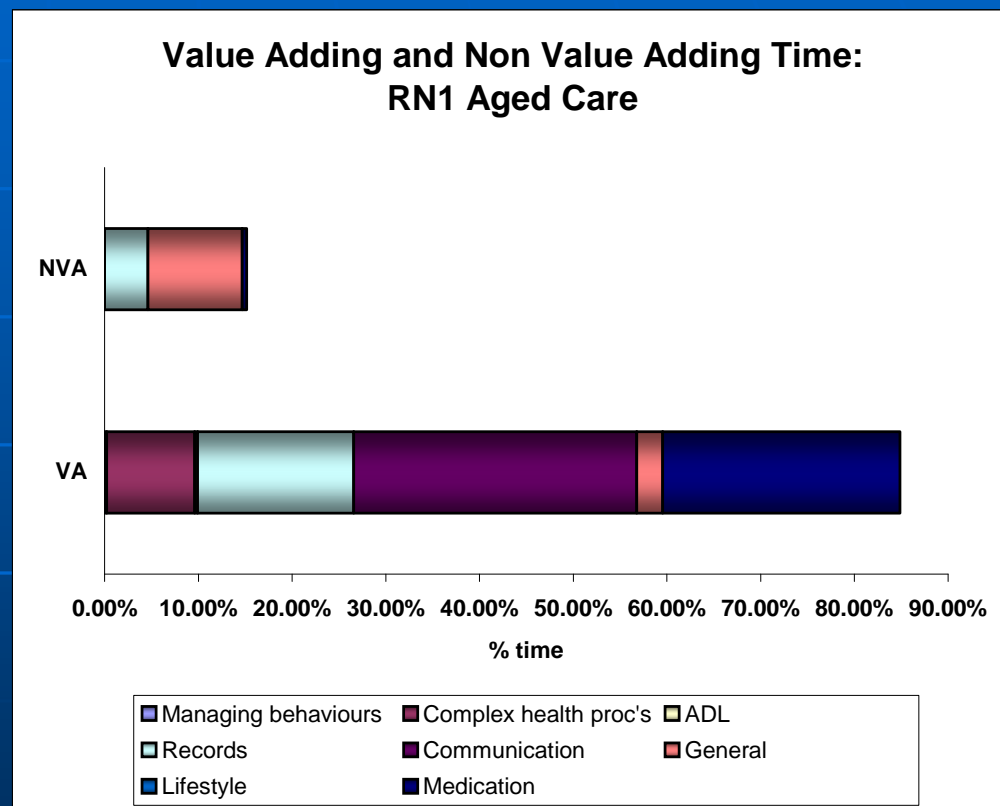
- Communications 30%
- Medication 26%
- Records 21%
- General 13%
(Finding things, people. Walking between tasks)

% Time Spent in Daily Nursing Activities RN1



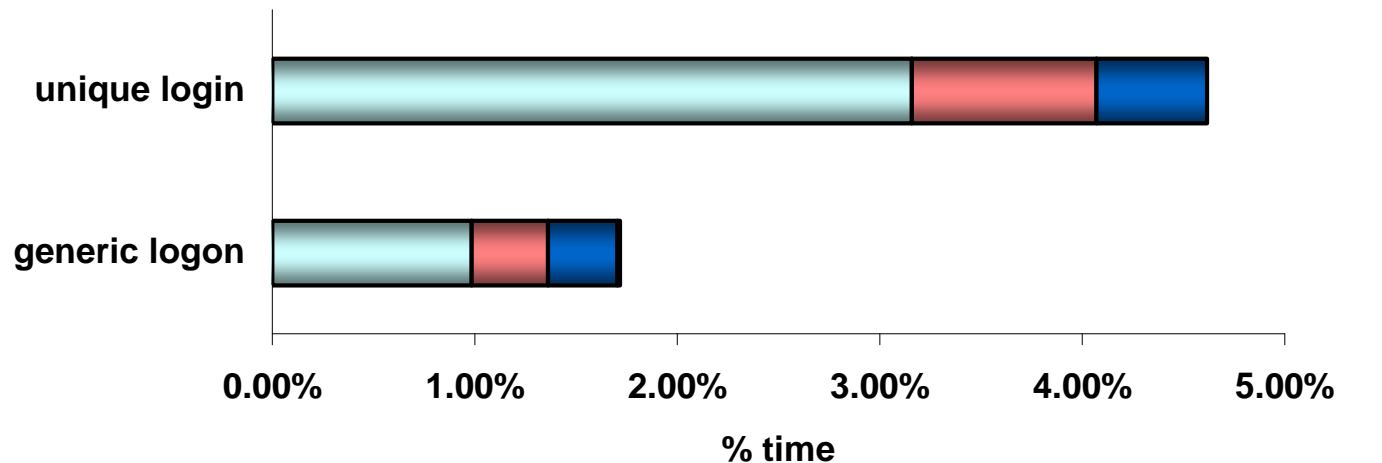
Non Value Adding Time in Aged Care

- 85% time in Value Adding activities
- 56.5 min per day NVA activities
 - Electronic medical records (17.2 min)
 - Walking between tasks (17.9 min)
 - Other (18 min)



Non Value Adding Time in Electronic Records: the risks

Non Value Adding Electronic Record Activities of Nursing RN1 Aged Care



■ Logging into clinical application

■ Logging onto computers(after 1st time)

■ Re-entering lost data due to time out

■ Logging onto computers(1st time)

■ Opening resident related documents

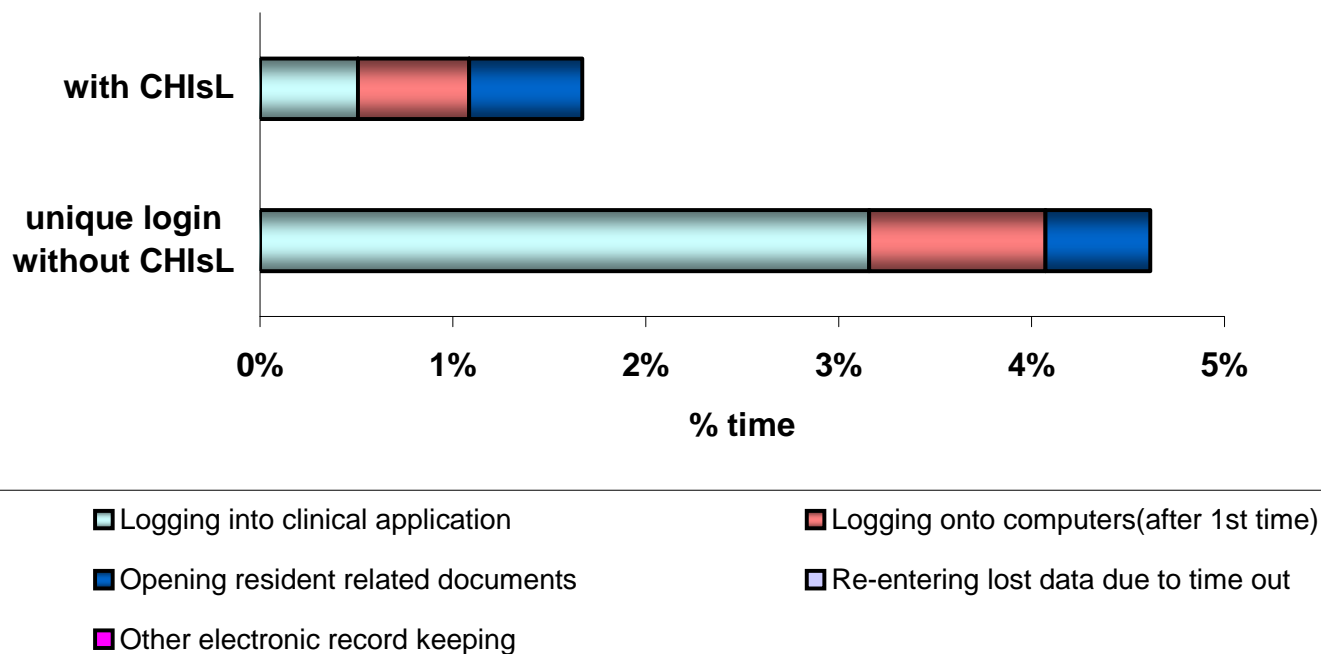
■ Other electronic record keeping

Using CHIsL

- Total NVA time reduced from 15% to 10% of shift
- Potentially avoidable NVA time on electronic medical records ↓ from 4.6% to 1.9% of shift
- Number of times accessing electronic records ↑ from 6 to 10 times per shift
- Time saved was used in increased communication - handover and patient related communications with other staff

Non Value Adding Time in Electronic Records

Non Value Adding Electronic Record Activities of Nursing RN1 Aged Care



Staff comments

- “Able to stop work on the computer and return without losing any information. Its great!”
- “Good for scheduled tasks, to be able to do easy charting throughout shift”
- “Great not to loose an assessment that is half completed if called away from the computer”

Next Steps

- Further collection of data at Samarinda
- Analysis of other VA and NVA activities
- Examine the relationship between nursing activities and funding model
- Use baseline data for other interventions over time
- Install and evaluate at acute care services



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