Social networks of staff in an emergency department

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Outline of presentation

• Background
• Social network approach
• Study design
• Social network questionnaire
• Results of the networks connecting staff working in an emergency department
• Conclusions & implications
Background

• Large multi-method project evaluating impact of electronic medication management system

• Paper medication chart → electronic medication management system

• Good communication and teamwork are important to the provision of high quality patient care

• When IT is introduced, communication and work can be disrupted (Beuscart-Zephir 2005)
Research questions & approach

• What are the interaction patterns between hospital unit staff?

• How do the interaction patterns change when an electronic medication system is introduced?

• A social network approach
A social network approach

• A network is a collection of objects that are connected to each other.
• Networks are dynamic
• Core principles of the social network perspective (Wellman, 1988):
  – Behaviour is predicted by position in the network
  – Unit of analysis is relationship between people
  – Population is not independent, ie. defined relationally, not categorically
• Allows systematic examination of communication patterns and information exchange
Networks examined

- Problem-solving network
- Medication advice-seeking network
- Socialising network
Study design

• Examined networks prior to introduction of an electronic medication management system into an emergency department
• Plan to re-examine networks after the system is introduced
• Setting: Three hospital units
• Sample: All staff who work in each unit
• Method: Social network analysis
• Tool: Social network questionnaire
Social network questionnaire

- Questionnaire piloted in 2 research centres and 1 hospital ward
- Demographic questions
- Whole network approach
- Roster of names
- Social network questions
Network questions

• How often do you ask [each person] for help to solve a work-related problem?

• How often do you seek advice from [each person] about medication-related decisions and tasks?

• How often do you socialise (have lunch or go to coffee) with [each person]?

0 = Not once in the last year → 7 = Several times a day
Emergency department profile

• 109 staff:
  – 37 doctors
  – 54 nurses
  – 4 allied health professionals (incl. pharmacist)
  – 14 admin. staff and ward assistants
• Response rate = 94% (n=103)
Asking for help to solve a work-related problem
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Who are the key individuals in the asking for help network?

• Individuals with the greatest number of people asking them for help:
  1. Sr doctor 1 (n=90)
  2. Sr doctor 4 (n=92)
  3. Sr nurse 2 (n=89)
  4. Sr doctor 2 (n=86)
  5. Sr nurse 1 (n=86)
  6. Sr doctor 6 (n=82)
  7. Sr nurse 4 (n=81)
  8. Sr nurse 9 (n=80)
  9. Sr nurse 3 (n=79)
 10. Sr nurse 5 (n=79)
 11. Sr nurse 6 (n=79)
Key individuals: Senior doctors and Senior nurses
Reciprocated asking for help ties highlighted (43%)
Reciprocated asking for help ties (43%)
Asking for help to solve a work-related problem
Seeking advice about medication decisions or tasks
Socialising (having lunch or coffee)
Conclusions

- Interactions occur mainly within professional groups
- Senior doctors and senior nurses play central roles in providing help to solve problems to other staff in the emergency department
- The problem-solving network is not very hierarchical - Emergency department staff ask for help from and provide help to their colleagues
Implications

• For the quality of care provided
• Social network analysis provides a systematic way to study interactions
• Examining the social networks after introduction of electronic medication system will be important
For more information

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