

# **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

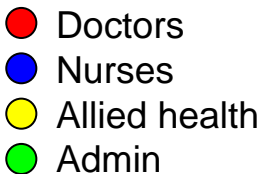






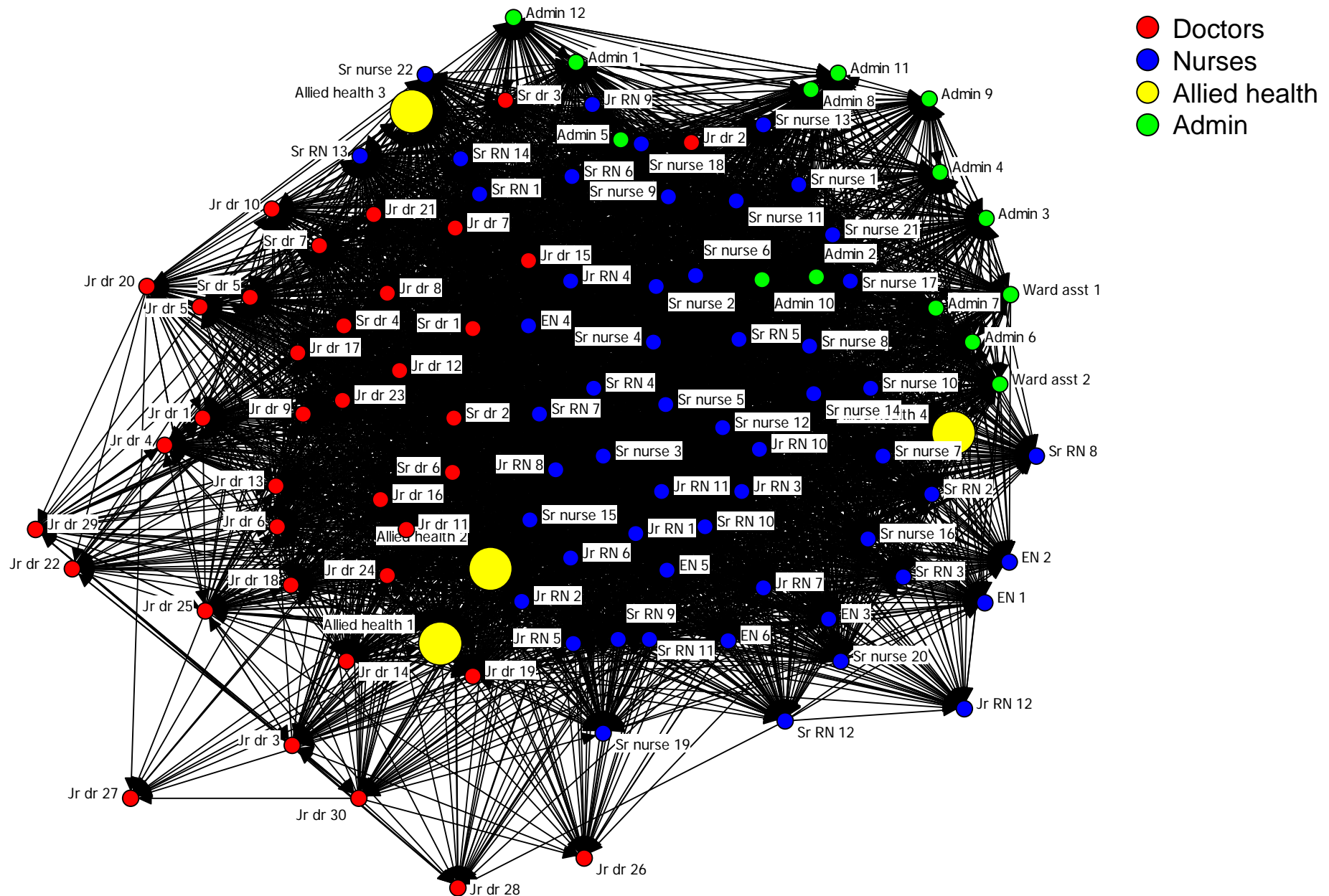




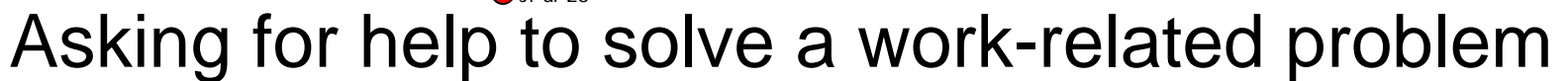


# Asking for help to solve a work-related problem

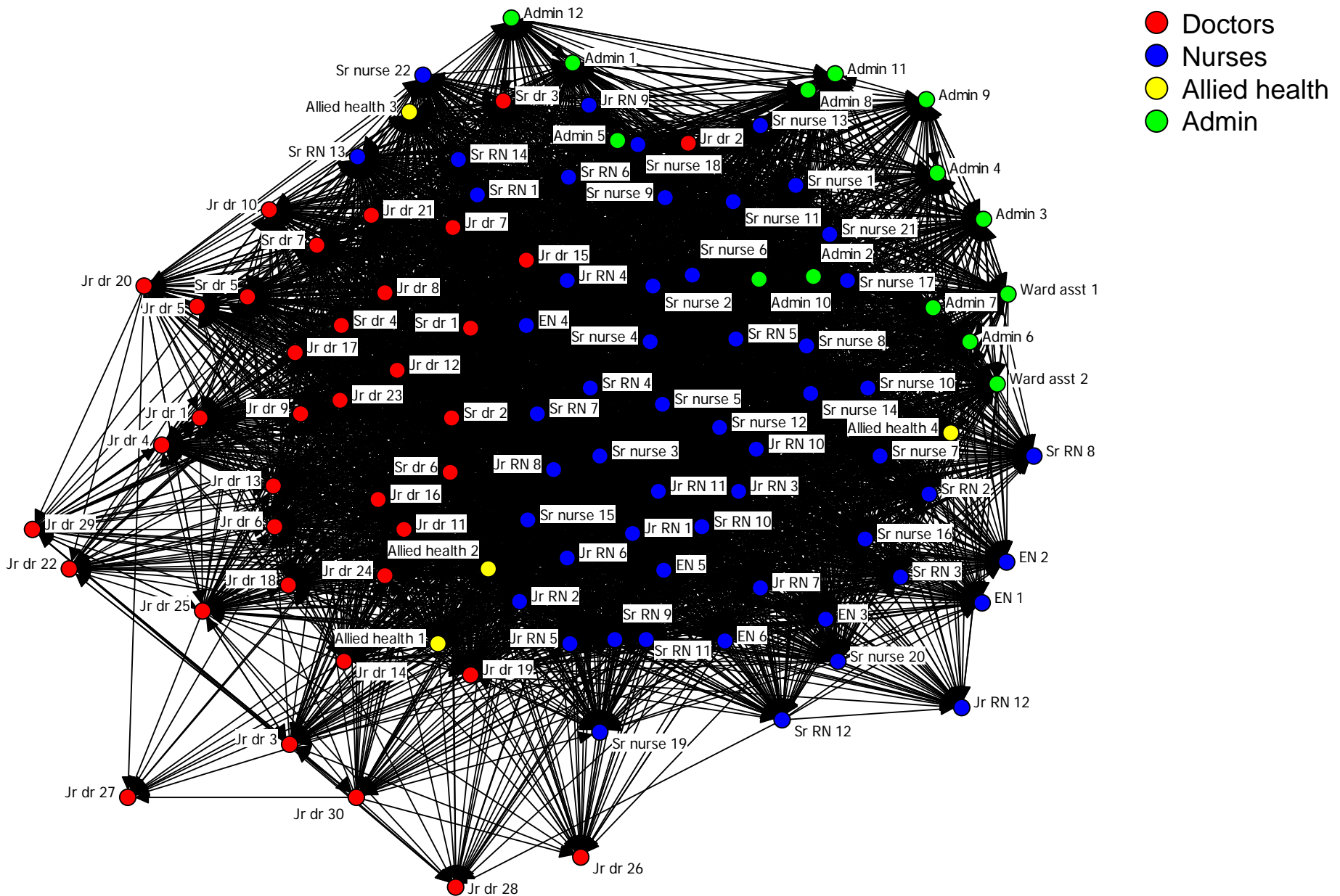




Asking for help to solve a work-related problem





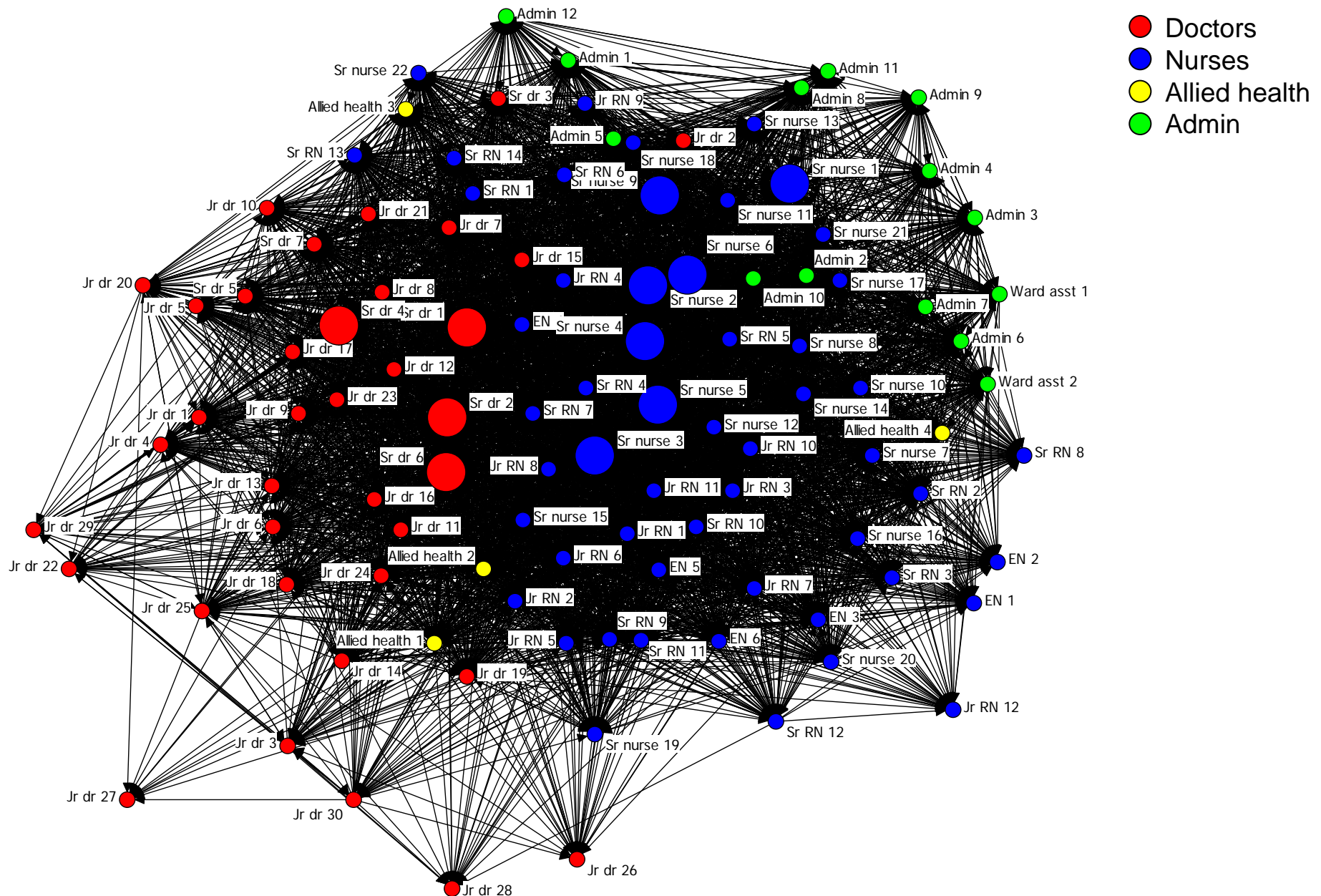


Asking for help to solve a work-related problem

# 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)

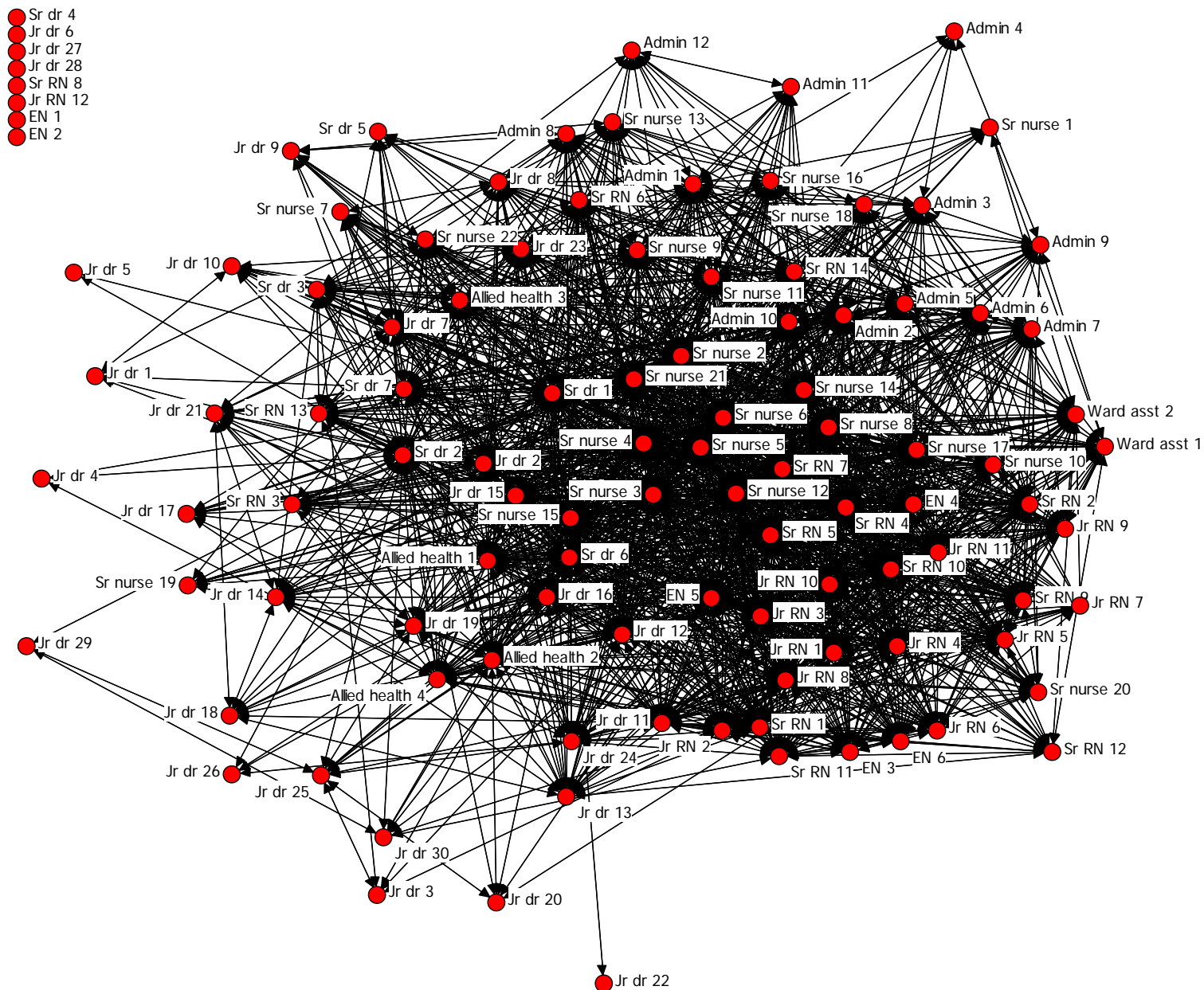




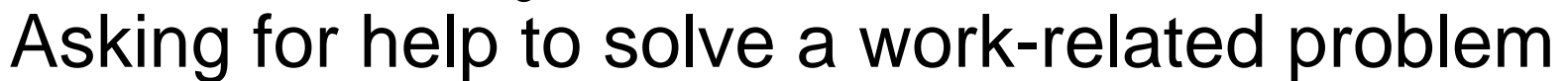
Key individuals: Senior doctors and Senior nurses



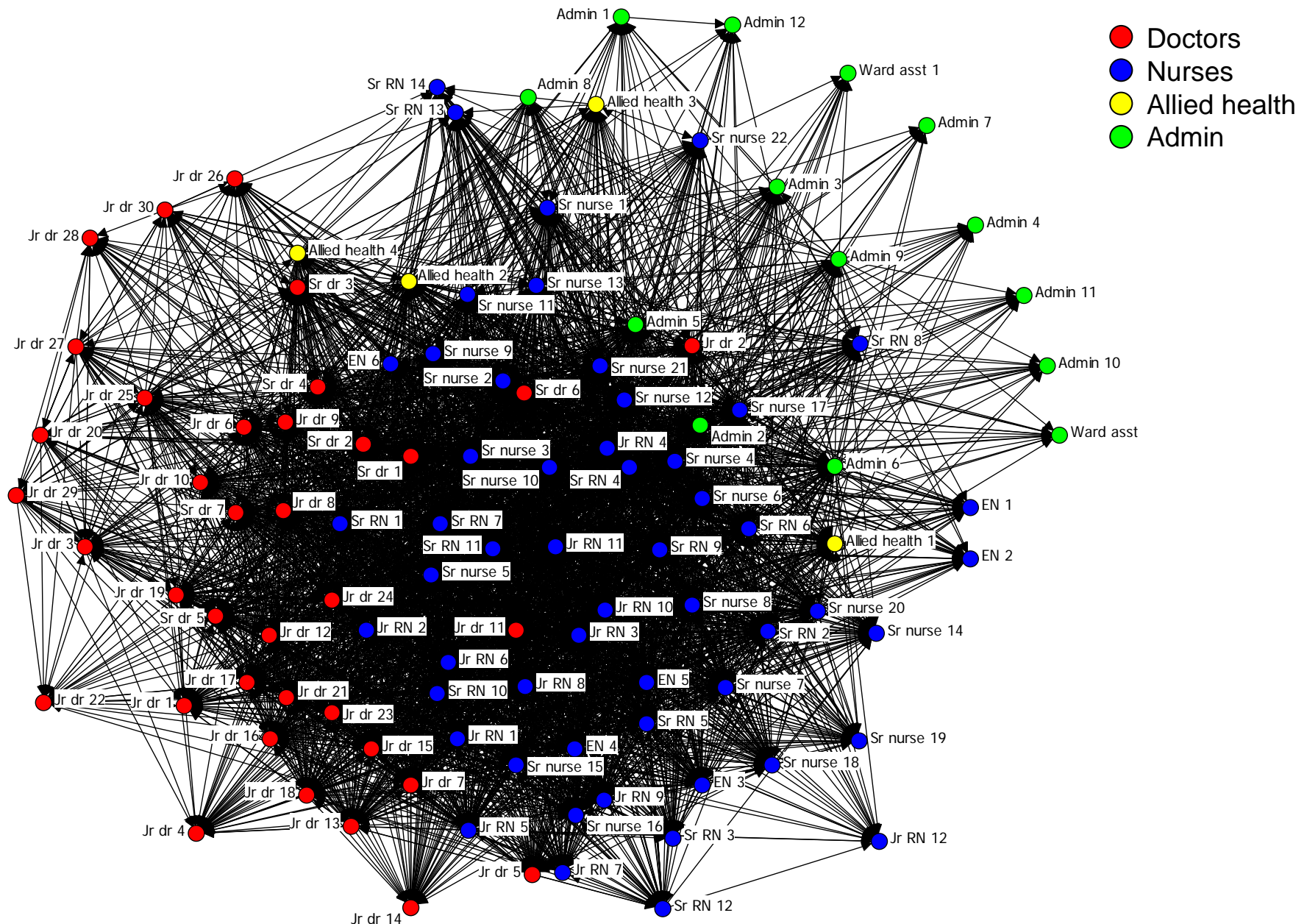




Reciprocated asking for help ties (43%)







Seeking advice about medication decisions or tasks





# 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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