Delivery of older peoples' care: The impact of staffing models

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Provision of Community-Based Health Services
An Evidence Based Approach
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Sheffield Hallam University
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How has the health care workforce evolved?

19th - early 20th century

21st century

Modern vs post-modern workforce?

'Modern' workforce (19 - 20th century)

- Interests of professional groups protected through regulation and registration
- Uni-disciplinary training & working
- Work defined by professional titles
- Few generic roles
- Professions 'do' everything
- Profession centred
- Hierarchical

'Post-modern' workforce (21st century) ?

- Regulation protects the interests of the public over the professions
- Interdisciplinary training &working
- Work defined by tasks and competencies
- More generic roles
- Professions assess and delegate
- Client / patient centred
- Democratisation of information
- Less hierarchical
- AfC single pay structure

Policy context

Policy priorities for workforce change:

1. Increase staff numbers
2. Improve staff retention through career pathways and pay systems
3. Introduce new roles (assistant practitioners, consultant therapists, support workers)
4. Develop new ways of working
5. Improve the quality of the workforce
6. Improve workforce planning

What we don't know

- What are the implications of workforce change and different models of staffing on outcomes for
  - Patients
  - Staff
  - The service

The research

The impact of workforce flexibility on the costs and outcomes of older peoples' services July 2005 – June 2008

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Research questions

1. How do workforce change policies impact on the workforce responsible for delivering services to older people?
2. How do variations in workforce configuration impact on outcomes (patient, staff, services)?
3. What is the impact of different service organisation and management approaches on outcomes?

Research questions (cont.)

4. How do organisational and management structures impact on workforce configuration?
5. How does workforce specialisation impact on the team and service users?

Research approach – multiple methods

1. Literature and policy reviews
2. Secondary analysis of existing data (national evaluation of IC services)
3. Cross sectional study of 186 teams and 327 staff
4. Prospective study of 20 teams (1882 patients)
5. Qualitative interviews / focus groups with 11 teams
6. Health economics 'discrete choice experiment'
7. In depth case studies of the introduction of new roles (4 teams)

What do we mean by "staffing models"?

- Skill mix
- Grade mix
- Number of different types of staff seen by patient
- Intensity of care provision (staff input / length of stay)

Also

- Team structure and organisation (host, setting, frequency of team meetings etc)

FINDINGS

1. Literature and policy review

- Detailed policy review and analysis

- Two scoping reviews of literature
- Limited to older peoples' IC and rehabilitation services
- Pre 2005
- 2005 – 2008

- Pre 2005: primarily descriptive
- 2005 – 2008: 15 papers with empirical data linking staffing to outcomes (2 RCTs, remainder observational)

Key findings

- Patient satisfaction
  - +ve more experienced staff; being treated with respect (Anderson 2006)
  - -ve problems with recruitment and retention (Anderson 2006)
- Service user perceptions of quality
  - +ve more part time workers; better working conditions for staff; more experienced, older, and better trained workforce (Netten 2007)

Improvements in patient functional status (eg FIM)

- Greater intensity of care (De Witt 2007, Jette 2005)
- Better team working (Strasser 2005)
- Include more therapists in staffing skill mix (Gindin 2007)
- Staff competent in rehabilitation (Nelson 2007)

How to improve service outcomes

- Length of stay: greater staff experience and training (Nelson 2007); more effective team working (Strasser 2005)
- Quality of care: above average staff - patient ratio (Kirkevold 2006); in house local govt vs independent providers (Netten 2007)
- Staff turnover: better quality care, higher staffing levels, not-for-profit ownership (Castle 2006)

What the literature did not show

- The impact of multidisciplinarity (who, what, how many) on the outcomes for patients, staff and services.
- No quantitative data on staff satisfaction.
- Patchy evidence on factors affecting patient satisfaction.
- Impact of reducing length of stay on patient and staff outcomes.
- Exploration of team structures, organisation and outcomes (eg freq of team meetings).
- Impact and benefits of staff training (where to put the resources to optimise outcomes).

2. Secondary analysis of existing data

Approach

- Secondary analysis of data from National Evaluation of Intermediate Care Services (Birmingham Leicester National Evaluation, 2005)
- Intermediate care from 5 PCTs in England
- Useable data from 349 - 415 patients, describing costs and outcomes across 14 separate teams
- Multivariate analyses using individual patient data, but taking into account the clustering of cases within teams, using random-effects models within STATA

Objectives

1. Explore the impact of skill mix on outcomes of care as measured by the change in the Barthel index.
2. Explore the impact of skill mix on outcomes of care as measured by the change in the EQ-5D.
3. Explore the impact of skill mix on length of care episode.
4. Explore the impact of skill mix on costs of care.

Skill mix =

- Ratio of support : qualified staff
- Total numbers of different types of staff

Findings

1. Impact of skill mix on outcomes measured by the change in the Barthel index	Not significant
2. Impact of skill mix on outcomes as measured by the change in the EQ-5D	Higher support to qualified staff ratios associated with greater improvements in EQ5D scores.
3. The impact of skill mix on length of care episode.	Not significant
4. The impact of skill mix on costs of care.	Greater numbers of different types of staff associated with lower costs. Cost per case initially increase as teams grow, but after then begin to fall. The point at which cost per case begins to fall is around 12 WTE staff.

3. Prospective study

- 20 community based rehab and intermediate care teams across England
- Recruited all consecutive patients over a 3 month period
- Followed until discharge or for maximum of 3 months
- Collected detailed staff, patient and service variables

Variables of interest

- Staff variables:
  - Numbers of different types of staff
  - Ratios of support : qualified staff
  - AfC gradings
  - Role flexibility
  - Extent of role overlap and closeness of working
- Organisational variables ('Service proforma')

Data sources

1. Service Proforma
2. Patient record pack: includes all patient contacts with staff, TOMs, EQ-5D
3. Patient satisfaction survey (Wilson 2006*)
4. Workforce Dynamics Questionnaire

*doi:10.1136/qshc.2005.016642

The service proforma

Details of service context (6 themes)

1. Service context (eg funding, nature of area, host organisation)
2. Reason for the service (eg purpose, initiating and contributing factors)
3. Service users (eg client profile, needs, target pop)
4. Access to the service (eg referral source, eligibility criteria, exclusions)
5. Service structure (eg location, facilities, capacity)
6. Organisation of care (eg intensity, intervention, duration)

Patient Record Pack

- Demographics (age, gender)
- Level of care need at admission (Enderby's 8 levels of care tool)
- Referral source
- Discharge destination
- Change in health status: TOMs, EQ-5D
- Number of different types of staff involved in treatment
- Number of staff contacts during episode of care
- Length of stay (days)
- Hours of treatment received
- Therapy intensity (no contacts / length of stay)

- Separate patient satisfaction questionnaire

Workforce Dynamics Questionnaire

- Self administered survey completed by all staff
- 58 items compiled from interviews / literature
- Approx 15 mins to complete
- 12 constructs (shown with Cronbach's α)

1. Overall satisfaction*
2. Autonomy (0.81)
3. Role perception (0.75)
4. Role flexibility (0.74)
5. Team working (0.88)
6. Quality of care (0.77)
7. Management structures and styles (0.90)
8. Access to technology and equipment (0.74)
9. Training & career progression opportunities (0.81)
10. Integration with peers and colleagues(0.71)
11. Uncertainty (0.68)
12. Intent to leave (profession/employer)*

*single question domains

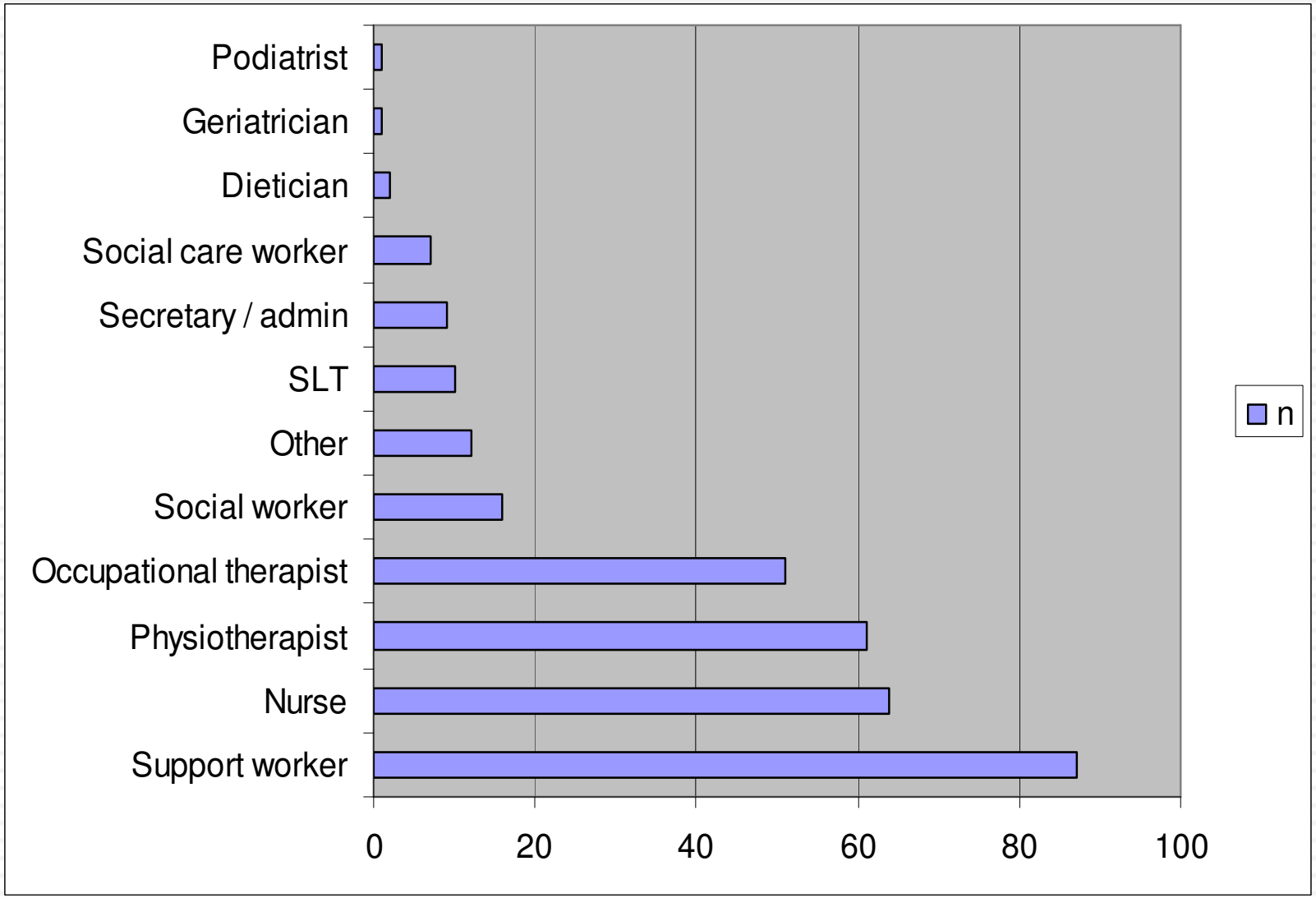
Patient characteristics

- N = 1882 patients
- 63% female
- Average patient age: 79.7 (SD 11.0)
- Main referral sources:
  - AHP (20%)
  - GP (18%)
  - Acute hospital ward (17%)

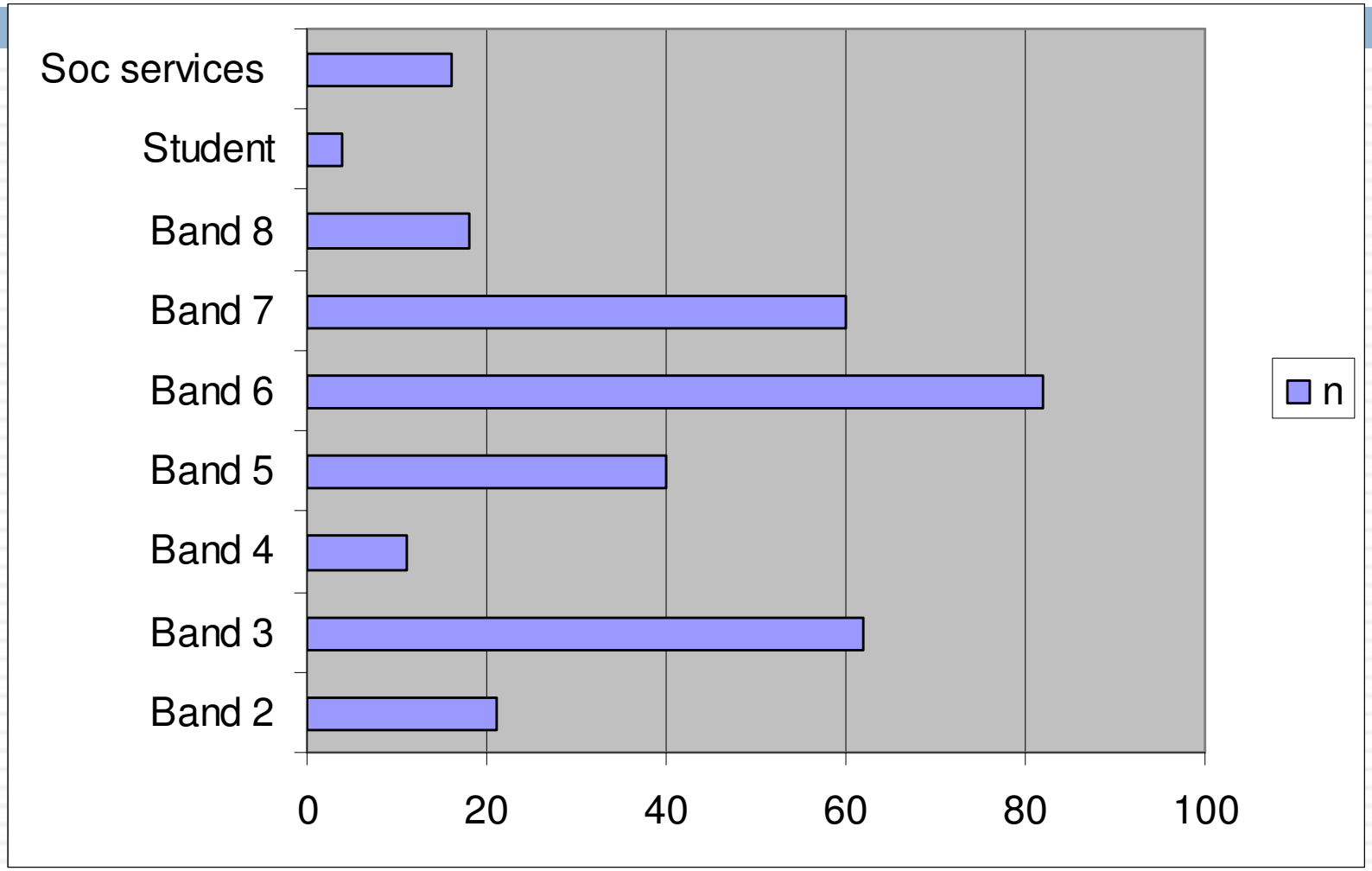
Staff characteristics (from WDQ)

- N=340
- Female staff =284 (84%)
- Full time workers = 185 (55%)
- Mean hours worked per week = 31
- Mean duration of employment in current job = 4 years

Numbers of diff types of practitioners



AfC pay Banding



Key relevant findings

- Patient outcomes
- Staff outcomes
- Service outcomes

Better patient outcomes are associated with

- Having a higher proportion of support workers within the team
- Treatment from a team with fewer senior staff
- Treatment from fewer different types of practitioners during the episode of care
- More face to face contact with the patient

Staff outcomes

- Better staff outcomes are associated with;
  - Being part of a smaller team;
  - Better integration with peers and colleagues;
  - Better team working;
  - Better management styles and structures;
  - A team that delivers high quality care
- More autonomous staff are less likely to leave their profession
- Higher grade staff more likely to leave their employer but less likely to leave their profession
- Social workers, social care workers and support workers have higher intention to leave their employer

Service outcomes

- A higher proportion of skilled staff is associated with decreasing services costs (ideal model is 63% of contacts provided by skilled staff)
- Bigger team → higher service costs
- Better access to technology and equipment associated with reduced LoS
- Teams that reported delivering higher quality care also had higher service costs

4. Qualitative study

Objective:

- To describe the impact of a range of organisational and workforce variables (including team structures, management, setting, organisation, role overlap, specialisation and substitution) and their influence on the workforce within the context of older peoples' services.

Approach:

- 16 focus groups with staff members from 11 teams (n=168 participants overall)

Key findings

- IC services associated with poor career mobility – very flat structure, but generally high satisfaction
- 'Qualified staff' roles more to do with assessment and less to do with direct patient treatment – delegated to support staff
- Generic working and sharing of professional skills within multidisciplinary teams positively influenced team cohesiveness, responsiveness to patient needs and staff morale

- Morale damaged as a result of inconsistent application of AfC pay bandings
- Career development hindered by absence of or lack of access to formal training and professional development opportunities
- Staff and skills shortages lead to inappropriate use of skills and risks to patients
- Inappropriate use of skills leads to deskilling of staff
- 'Qualified' staff need support to train and aid development of support staff

Further research needed

- Impact of team structure and organisation on outcomes (eg team meetings etc)
- Similar studies in other settings
- Controlled trials of various factors associated with staffing and service organisation if possible

Where to next...

- Next NIHR SDO project: Enhancing the effectiveness of interprofessional working: costs and outcomes EEICC (April 08 – March 11)
  - Action research project
  - Working with 11 teams to implement 'best practice' around interprofessional working in older peoples' community based services.

To find out more

- Full report available on SDO website from early 2009: www.sdo.nihr.ac.uk
- Published literature review available at: http://www.shef.ac.uk/content/1/c6/02/44/89/Older%20peoples%20workforce%20review%20exec%20summary.pdf
- Information about the EEICC study in your delegate pack