Practice nurse staffing and the quality of chronic disease care – a real effect or just a proxy for organisational factors?

Peter Griffiths
Trevor Murrells
Jill Maben

peter.griffiths@soton.ac.uk
Funders

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- The views expressed are not necessarily those of the Department
...in acute care

- higher staffing levels associated with better outcomes
  - Aiken, Needleman, Kane, Rafferty

- organisational factors associated with better care quality
  - West, Aiken, Kazanijan
The magnet effect

- ‘magnet hospital’

- Defined by number of organisational characteristics including leadership and management of the clinical (nursing) team, relationships with doctors (physicians) and support for education and training of nursing staff (Aiken 1996)

- Magnet hospitals have
  - Better staffing
  - Better patient outcomes
Dr Crippen:

- “Only in our points-obsessed system could nurses be 'better' than doctors”
- “Nurses are now busy sitting in offices endlessly filling in forms to prove that care has never been better”
- The Guardian, Tuesday 19 January 2010
Significant associations between nurse staffing chronic disease management in primary care

Routine data from 8000+ English general practices (P<0.05)

Quality (QoF)
- COPD
- CHD/LVD
- Diabetes
- Hypertension
- Hypothyroidism

Multiple unplanned admissions
- Asthma
- COPD


Research Questions

- Are there associations between nurse staffing levels and quality of care in English General Practice when organisational quality is taken into account?

- Does the effect of organisational quality vary with staffing level (interaction)?
Clinical Care Quality

Organisational (item reduction through factor analysis)

Additional Services

Patient Experience

Data sources: Quality and Outcomes Framework (QOF) 2005/6

(www.ic.nhs.uk/services/qof)
<table>
<thead>
<tr>
<th>Geographic Area /</th>
<th>Office of National Statistics</th>
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<tbody>
<tr>
<td>Density (people per hectare 2001)</td>
<td></td>
</tr>
<tr>
<td>Index of Multiple Deprivation</td>
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<tr>
<td>Good self-rated health(%)</td>
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<table>
<thead>
<tr>
<th>Patients</th>
<th>National Primary Care R &amp; D Centre,</th>
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<tr>
<td>≤15 Yr of age(%)</td>
<td></td>
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<tr>
<td>≥65 Yr of age(%)</td>
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<tr>
<td>Female(%)</td>
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<tr>
<td>Member of racial or ethnic minority(%)</td>
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<table>
<thead>
<tr>
<th>Disease prevalence</th>
<th>NHS Information Centre</th>
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<tr>
<td>Unadjusted prevalence</td>
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<thead>
<tr>
<th>Practice</th>
<th>NHS Workforce Benchmarking / Binley’s</th>
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<tbody>
<tr>
<td>Practice Nurses</td>
<td></td>
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<tr>
<td>Size of practice population</td>
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<tr>
<td>List size per FTE GP</td>
<td></td>
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<td>Single Handed Practice</td>
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<td>Primary Medical Services Contract</td>
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Main results:

- Significant global effect of practice nurse staffing (p<.001).
- Practice nurse staffing positively associated (p<0.01) with quality of care for
  - COPD
  - CHD
  - Diabetes
  - Hypothyroidism
- No association between quality of care and list size per full-time equivalent GP (p>0.05).
- Clinical recording, education and training and making more use of the patient survey were significantly and positively associated with quality (p<.001) for all clinical conditions.
Interactions: effect of nurse staffing X education and training quality on diabetes care (p<0.001)

Organisational quality score (Education & Training)

Quality of Care Score

Nurse staffing
- Highest
- High
- Middle
- Low
- Lowest
- None
Conclusions

- The association between nurse staffing and clinical quality is NOT just a “halo” effect
- Better Nurse staffing is associated with better clinical care
- As in acute care, quality of organisation has a stronger effect than staffing level