Policy+

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Can you measure nursing?

This edition of Policy+ explores measures of the quality of nursing care. It is based on a report from the NNRU "State of the Art Metrics for Nursing: a rapid appraisal"[1]. Drawing on a range of existing sets of indicators and systematic reviews linking aspects of nursing to patient outcomes we examine whether or not we are in a position to begin to routinely *measure* nursing in a way which would allow comparison between institutions and facilitate accountability for the quality of care *"from ward to board"*.

Summary and conclusions

- There are several proposed 'nurse sensitive' indicator sets aiming to demonstrate and measure the quality of nursing care. Work so far is dominated by indicators and research related to acute hospital care, primarily in North America.
- There is considerable disagreement between the different sources as to the key indicators for nursing.
- Evidence from systematic reviews of the association between nurse staffing and patient outcomes consistently supports "failure to rescue" and healthcare associated infection (especially pneumonia) as nurse sensitive outcomes.
- Evidence for other widely advocated outcomes such as falls and pressure sores is less consistent but these are strongly supported by the profession and by theoretical links.
- Staffing variables such as workforce planning, staff satisfaction, perceived quality of the practice environment and staffing levels are also supported as structural indicators of nursing quality.
- Positive contributions of nursing to patient experience and patient outcomes such as measures of wellbeing function or recovery do not consistently appear in the sources we used, but need to be considered if indicator sets are to be properly representative of the goals of nursing.
- Measures of care structure and processes are particularly vulnerable to 'gaming' and token compliance. Patient and staff reported measures are less vulnerable.
- The scope for using administrative data to generate indicators is limited and the 'audit' burden may be high. Areas to prioritise are those where most benefit can be derived and data can be collected efficiently.
- Failure to rescue, hospital acquired pneumonia, pressure sores, falls and workforce planning and patient and staff experience seem the most promising areas for indicator development in acute care.

Key issues for policy

- It is possible to identify nurse sensitive quality indicators.
- There is scope to measure outcomes from administrative data, but it is limited.
- Outcome indicators need clear and precise specifications.
- Robust comparison between institutions requires good risk adjustment which may not yet be possible.
- 'Process' and 'structure' measures are vulnerable to gaming.

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Context

Increasingly, public services are asked to explicitly demonstrate performance, in order to improve public accountability and increase quality. The recent Next Stage Review of the NHS outlined a number of initiatives designed to improve the measurement and monitoring of quality within the NHS. Public concern about the quality of nursing care, coupled with a professional desire to demonstrate contributions and improve quality, have led to an increased interest in measures of nursing. By making the contribution of nursing explicit in performance measures it is hoped that quality can be maintained and enhanced rather than neglected in the drive to meet other performance targets[2].

However, developing indicators to properly represent the functioning of such a complex service is not without its pitfalls. This Policy+ presents the results of an overview of the 'state of the art' recently undertaken by the National Nursing Research Unit[1].

The evidence

We populated a list of possible indicators for nursing from a number of sources: Doran's review of the "State of the Science" of nurse sensitive indicators[3], recent systematic reviews of the link between the ward environment, nurse staffing and patient outcomes[4-7] and a number of indicator systems[8-10]. Most sources focussed on acute care and we concentrate on these here.

There is a degree of consistency in identifying failure to rescue (death among patients with treatable complications); healthcare associated infection (HCAI); pressure sores and staffing variables as outcome indicators of nursing quality. A systematic review found that falls and pressure sores are not consistently associated with nurse staffing. The amount of variation in the other outcomes associated with nurse staffing is relatively low[4]. The invisibility of some nursing indicators in the research may be because they are often not recorded in administrative databases[4]. Staffing variables, such as workforce planning, staff satisfaction, perceived quality of the practice environment and staffing levels are also supported as structural indicators of nursing quality based on reviews and individual studies which link these factors with mortality and other outcomes in countries including the UK[4-7,11]. Positive contributions of nursing to patient experience and patient outcomes such as measures of wellbeing function or recovery do not consistently appear in the sources we used although they are clearly important.

There is a danger in focussing on a few narrowly defined indicators in that perverse incentives may be created[12] resulting in gaming, whereby maximising performance on the indicators detracts from overall performance or changes performance in relation to the indicator in a way that invalidates it[13]. The selection of indicators must consider the potential for gaming and seek to minimise the potential. Experience of gaming in relation to NHS targets suggests that process type indicators (where completion of activities is recorded) seem particularly vulnerable. One notable example was the 48 hour target for GP appointments leading to practices refusing to offer appointments more than 48 hours in advance[13].

Indicators must be important, scientifically sound, useable and feasible[14,15]. Risk adjustment, to adjust for differences in patient groups and their relative vulnerability, is necessary if comparisons are made between institutions on outcomes. Indicators adopted must fall in the sphere of responsibility of nursing and be recognised as doing so by nurses, other professionals, and hospital managers in order for them to facilitate positive change and accountability. Minimising the burden of data collection is important but this consideration must be balanced with known problems in the quality of data in administrative data sets.

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