



Productivity: Nursing's contribution

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Purpose of paper: This paper is designed to provide a nursing perspective on the productivity debate in the health sector. Nursing's contribution to productivity cannot be easily measured, because of the nature and focus of nursing work. The nature of nursing work is, to a significant extent, about building therapeutic relationships and the focus of nursing work is on quality health outcomes for the patients/clients nurses care for. Such concepts do not fit neatly into a paradigm focused on inputs and outputs.

“Individuals and their families do better with support and education from visiting nurses than do those who receive more hospitalisation, more physician visits and more long-term care institutionalisation.” ¹

A casual observer of the debates about creating a more efficient health service – and when have there not been such debates? – could be forgiven for assuming that elective surgery volumes, child immunisation rates, emergency department and cancer treatment waiting times, and patient discharges, were the sum of our health system. Such is the attention paid to to a very narrow range of health “outputs”, one could be forgiven for believing that health was simply what happened in hospitals; that health was simply about treating disease or dysfunction; and that creating a “better, faster, more convenient” health system was simply about more treatments, more operations and getting people out of hospital more quickly; that such increases necessarily equate to a more “productive” health system. But the numbers game is just one small part of the productivity debate in the health system. An over focus on it is detrimental to nursing and to those they care for.

There is growing international research which shows that having more registered nurses in hospital wards is linked with lower mortality rates in a variety of clinical settings.^{2,3} Thus productivity in the health system does not simply equate to throughput which fails to capture, for example, lives saved through skilled nursing intervention or lives lost because a complication developed into a fatality because there were too few nurses on too many successive shifts, or re-admission to hospital rates because a patient was discharged too soon.

A narrow focus on inputs and outputs does not serve the public well and largely ignores the clinicians who have the numbers, knowledge, skills and ability to make the most significant impact on productivity in health care – nurses. Nurses' ability to make the most profound impact on productivity in health care is predicated on a number of factors:

- Nurses make up the vast bulk of the New Zealand health workforce. According to Nursing Council figures, in October last year there were 43,780 nurses with annual practising certificates.⁴ This compares to 12,493 doctors with annual practising certificates, as at June 30, 2009.⁵
- The focus of nurses' work is on meeting human need: the prevention of illness; care, in hospital and in the community, of those who are sick and assisting them in rehabilitation and restoration of full or partial independence; and assisting people to a peaceful death. This is in contrast to the focus of physicians on disease processes and curative functions.

Director of DHBNZ's Safe Staffing and Healthy Workplaces Unit Jane Lawless defines productivity within health as “the quality of the outcome for the amount of resources needed to achieve it.”⁶

Nursing productivity, with its focus on quality patient outcomes, cannot be easily measured. In an era of instant responses and pithy sound bites, combined with the need to maintain patient confidentiality, that presents a dilemma for the profession. How does one measure the prevention of a teenage pregnancy by sound nursing advice at a sexual health clinic? How does one measure a skilled surgical nurse picking up a deviation from the normal recovery pattern and preventing it developing into a full-blown post-operative complication, requiring a longer hospital stay? How does one measure the therapeutic support offered by a skilled nurse to a patient suffering a psychotic episode? How does one measure a relationship which evokes sufficient trust for a woman to confide to a practice nurse the violence she endures at home? How does one measure the impact of an elderly man feeling sufficiently comfortable to visit an iwi-based health clinic about his diabetes, after years of avoiding mainstream health services? How does one measure the value of a district nurse visiting an incapacitated person in their own home and providing treatment which ensures that person stays out of hospital? How does one measure a palliative care nurse's input into enabling a person with terminal cancer to die pain free, with dignity and with their family around them?

This is the stuff of nursing productivity – quality patient outcomes. Attempting to measure nursing productivity is a difficult and fraught exercise, because of the complexity of the services nurses provide, the intellectual capital and knowledge nurses require to do their work, and the systems within which they operate. There is also the difficulty of imposing an essentially fragmentary approach, focused on inputs and outputs, on an inherently holistic profession, focused on quality patient outcomes. What is measured is, increasingly, only that which can be measured easily and, as can be seen from the above examples, that approach fails to capture the totality of nursing's contribution to quality patient outcomes. It also risks incomplete information informing decision-making. It pays to remember that however nursing input to patient care is measured and however nursing interventions are analysed, nursing will always be more than the sum of its parts.

Be that as it may, in a political context which demands the best value for every health dollar spent, the profession has to be able to show how its interventions enhance productivity. There is ample international evidence showing that when nurse numbers fall, patient mortality and morbidity rise; that when a nurse has a patient load of more than five, 30-day mortality increases.^{2,7} Thus nurses' input to prevent death has been measured and found to be very significant. Needleman's research showed a significant association between higher proportions of RNs on medical and surgical units, lower lengths of stay, and lower "failure-to-rescue" indicators in 799 US hospitals.³ There is also new research which suggests that *increasing* the numbers of RNs in the workforce might be the most cost-effective way to expand the nursing workforce. ⁷

United States research shows the worst time to have a heart attack in hospitals is at the weekend or during night shift, when nursing numbers are at their lowest. ⁸ "Failure to rescue" statistics back up the importance of having enough "educated eyes" on patients, enough of the time, to ensure that complications do not develop into fatalities. And educated eyes are nurses' eyes - those health professionals who are on the wards, with the patients, 24/7.

Various nursing productivity measures have been developed. All have their shortcomings, because of the previously mentioned dichotomy between the fragmentation inherent in measurement and the holism inherent in nursing. Another factor which makes measuring nursing productivity a haphazard

exercise at best is New Zealand's woefully inadequate health workforce information. Two New Zealand researchers refer to the long period of poor medical and nursing workforce planning that began in the late 1980s, with the disestablishment of relevant Ministry of Health directorates. The Medical Training Board (MTB) believes the impact of this poor planning will continue for perhaps 15 years.⁹

A direct result of this poor health workforce planning is that DHBs do not have robust systems to estimate patient flow and nursing workload and adjust staffing to match, although the Safe Staffing Healthy Workplaces Unit's demonstration sites at three DHBs are attempting to develop such systems.

Thus attempts to quantify nursing productivity are made against a background of insufficient information, within a simplistic paradigm focused on inputs and outputs and within an historical context of undervaluing nurses' input to quality patient care.

Be that as it may, some nursing productivity tools have been developed. These include:

1) Nursing hours per patient day (HPPD), sometimes further factored by patient acuity. A weighting is applied for the complexity of the nursing input required, related to the frailty or complexity of the patient. It is worth noting that hours nurses work beyond their contracted hours are not included in the measure. NZNO figures show that, on average, nurses work seven hours per week in excess of their agreed hours.¹⁰ If this input were removed, it would add an extra shift per week per worker. Thus significant nursing input is not captured under this model.

2) Percentage bed occupancy is one measure of hospital-based nursing care activity. Research shows that pushing bed occupancy reduces patient health outcomes.¹¹

3) Customised productivity reports are regular summaries of unit staffing costs by staffing mix, HPPD and a patient classification system based on unit census and patient acuity. Comparison with similar units supposedly drives change through competition and peer pressure.

4) Professional practice models (PPM) give increased responsibility and control over work process and content. These models include quality assurance and staff development, leading to re-engineering of tasks and processes, led by nurses. These PPMs promised much, but studies have failed to demonstrate efficiency savings.¹²

5) Interdisciplinary productivity measurement is a whole-systems approach aimed at improving communications and incentives, thus reducing costs across departments. It also usually includes patient acuity measures.

6) Nursing knowledge information systems, eg the Nursing Intervention Classifications (NIC) system. This attempts to put a value on the temporal, educational and skill competency requirements of 486 taxonomic nursing interventions, to assign costs more accurately. Nursing *knowledge* is accounted for as a capital asset, ie human intellectual capital. This must be measured through knowledge work classification systems, interdisciplinary informatics and productivity index.¹³

It is important to factor in costs due to training, burn out, turnover, recruitment and re-employment into productivity models that push nursing care beyond safe or sustainable limits.

Another system of analysing nursing input to boost productivity, which is gaining a foothold in New Zealand, is the productive ward. This National Health Service (NHS)- developed initiative is a patient-centred approach to improving the quality of care on acute nursing units by freeing up nurses' time for more direct patient care. It also has the potential to be used to free up community nurses' time as well. Funded by the Ministry of Health, 15 DHBs are involved in the programme to varying degrees, but Waitemata DHB will have all its in-patient wards under the programme by early 2010. Some of the gains so far reported by Bay of Plenty DHB are improved organisation at ward level, leading to a ten percent reduction in the amount of time nurses spend walking from one place to another to fetch and carry what they need for patient care and an 18 percent increase in direct care time to 57 percent of a nurse's time per shift. DHBs are reporting increased staff satisfaction and morale and there is a suggestion that the programme may be having an impact on improving recruitment and retention. But an acknowledged risk of this programme is that initial short-term gains may not be sustained. ¹⁴

If the health sector is serious about productivity in its most complete sense, ie all the resources, including staffing required for quality patient/health outcomes, it is time to develop and adopt genuine indicators/measures of nursing activity, output and quality. Rather than seeing nurses as the biggest liability on their books, health providers should move to valuing nurses as their biggest asset in both human and intellectual capital. From that shift in mindset, will inevitably flow a greater understanding and valuing of the work of nurses and a culture that empowers nurses and gives them the authority to make the changes necessary to ensure quality patient outcomes.

Where nurses are allowed the freedom and given the authority to be innovative in their practice, they will come up with more efficient ways of providing care – not primarily motivated by a desire to save money, but by a desire to provide the most efficient, effective care to patients, which inevitably costs less. More than 80 percent of cost reduction opportunities in health care rests with clinical decision making¹⁵ so it makes perfect sense to empower all clinicians to make the decisions that will improve patient outcomes, while also reducing costs.

Thus productivity in health care, particularly nursing productivity, is a many-faceted concept. To focus on just one facet, be it nursing numbers or toting up elective surgery procedures, is to devalue the complexity of the work of all health professionals and to undermine the importance of quality patient outcomes. Health productivity is an amalgam of the skilled work and innovation of empowered health professionals, the understanding and competence of health managers, accurate and accessible information on patient numbers and acuity and the nursing staff required to meet patient needs, and the availability of necessary resources, all honed to producing quality patient outcomes in the most efficient and effective way. And it is vital that whole systems are included in productivity measures – omitting mental health or care in the community or health promotion, while concentrating on easy-to-measure outputs such as discharge rates or numbers of elective surgery procedures is both misleading and disingenuous. Any system used to determine productivity within the health system must capture all these facets and not just focus on those which are easily measured. Only then will the true value of nursing's contribution to health care be fully understood.

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