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Comments on “Coordinated Care Team Demonstration Project Evaluation”, May 2009

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Is this demonstration innovative?

The idea of combining nursing personnel of varying qualifications in a team approach to hospital nursing care is not new. Indeed, team nursing using RNs, LPNs, and aides was the dominant organization of hospital nursing services for decades prior to the introduction of Primary Nursing in the 1980s (Brannon, 1994). Primary Nursing posited that every patient needed to have an RN directly responsible for their care, although LPNs and aides could be deployed by the RN to provide aspects of care within their expertise and legal scope of practice. Over the past 20 years some variation of Primary Nursing with RNs assigned responsibility for a case load of patients has been the dominant model of nurse deployment in hospitals in the US and many other countries with highly intensive hospital systems with short average lengths of stay.

The research literature from a number of countries consistently shows that the ratio of patients per RN and RNs as a percent of total nursing personnel is highly predictive of hospital patient outcomes including mortality (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Estabrooks, Midodzi, Cummings, Ricker, & Giovannetti, 2005; Rafferty et al., 2007; Tourangeau et al., 2007). The higher the proportion of RNs, the better the patient outcomes. Over the past 6 years, a growing number of studies in the US, including a large study underway at my Center using NDNQI data on thousands of hospitals, have found that the greater the LPN hours, the worse the hospital outcomes (Burnes Bolton et al., 2007; Landon et al., 2006; Person et al., 2004).

Moreover, Needleman and associates in a paper published in *Health Affairs* demonstrated that in the US, maintaining the same number of hours of licensed nurse time (RN + LPN) but replacing LPN hours with RN hours saves money and reduces hospital mortality (Needleman, Buerhaus, Stewart, Zelevinsky, & Mattke, 2006).

Additionally, a growing research literature in the US, Canada, and Europe shows that the higher the proportion of RNs with BSN qualifications, the better the patient outcomes are, including lower mortality (Aiken et al., 2003; Estabrooks et al., 2005; VandenHeede et al., 2009).

The only innovative aspect of the demonstration from a nursing workforce perspective is that Canadian requirements for qualifications of RPNs are higher than those of the US (two years of community college in Canada compared to one year in US). However, before implementing a substitution of RPNs for RNs given new educational requirements for both, evidence-based decision-making would generally start with a well designed study of the impact of different skill mixes on patient outcomes before launching a demonstration implementing a new skill mix.

What can be learned about the success of the demonstration?

The intervention being tested is not a “clean” test of RPN substitution although it will probably be interpreted as such. First there is no comparison with an RN accountability model. Second, we don’t know from this report anything about the case mix of patients with a RPN as the major provider. Mortality outcomes are not reported. The continuous quality improvement aspects of the demonstration could account for results that are better than would be the case if the nursing skill mix reduction were to be implemented in other hospitals without the benefit of the continuous quality improvement and monitoring associated with the evaluation of the demonstration. Indeed, it will be interesting to evaluate whether improved quality indicators will continue after the formal end of the demonstration with its built in evaluation and continuous quality improvement elements.

Additionally, some of the nursing workforce measures like turnover and use of supplemental agency nurses during the demonstration period are likely driven by exogenous factors such as the economic downturn.

The actual cost savings gained by substituting RPNs for RNs reported are very modest—6 percent, and it is not clear that the additional costs of supervision of RPNs by RNs and potential loss of productivity of RNs caused by role confusion have been factored in. And as mentioned above, the outcomes studied are not a comprehensive list and a differently designed study might reveal preventable adverse outcomes associated with the new team model that increases hospital resources.

Warning signs

In Appendix 6, the same problems are noted with RPN and RN role confusion that resulted in most US hospitals eliminating LPNs, in addition to lack of evidence of their cost effectiveness in complex hospital care. It has never been demonstrated that RNs and LPNs can effectively integrate care. In reality, the principal provider for a patient for each shift becomes a RPN in team models with RNs becoming less directly involved in patient care. While the document is optimistic that this problem can be solved, to my knowledge there are no evidence-based examples of RNs and RPNs/LPNs fully integrating care around a single hospitalized patient. Magnet hospitals which have excellent nursing and patient outcomes have a variation on a Primary Nurse model with nursing assistants assigned to RNs and not to patients, and very few if any LPNs or the equivalent.

Issues not addressed

National cost containment pressures in all countries are exerting pressures to further reduce hospital length of stay thus increasing nursing intensity per day. There is considerable variation across Canadian hospitals, as in other countries, in patient outcomes measured by risk-adjusted mortality rates. Such trends would seem to suggest the need for more RNs not a reduced skill mix. No information is provided in the Report about the case mix intensity of Toronto East General Hospital, or changes in intensity over time. The deskilling of the nursing work force at a time of increasing intensity and complexity of care seems counter to the prevailing evidence of the increased importance of RNs as complexity of care increases.

There is no mention of national/regional RN workforce issues. In the not so distant past, RNs in Canada were having difficulty getting full time jobs in hospitals. There seemed to be a forced casualization of the nurse workforce, at least in some Canadian provinces. If RNs are available for positions in hospitals, the salary differentials between RNs and RPNs might not be significant given the differences in legal scope of practice and the increased supervisory requirements for RPNs compared to RNs.

Conclusions

I don't see evidence of innovativeness in the approach being testing. It seems to be an old solution to cost containment that has not worked in the past and seems less likely to work in the future as hospital care intensifies. The cost savings seem marginal, as has been the case in the past. I have no confidence that the role confusion between RNs and RPNs that is evident can be effectively eliminated over the long term which raises safety concerns as well as reducing potential cost savings. Finally it is not possible to separate the effects of the continuous quality improvement and evaluation components of this demonstration from the substitution of RPNs for RNs. Thus, we can't really be sure that after the demonstration is over and the consultants have left that the changes in nursing skill mix will be safe in the absence of the heavy oversight that is an artificial component of the demonstration.

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