

# HEALTH MANAGER BULLETIN



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Issue 8 – 2014

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## Welcome to the eighth Health Manager Bulletin.

This issue includes US research suggesting that re-evaluation of the role of physical work conditions in nurse turnover might be warranted. On a similar note, nurse turnover was found to be increased and job satisfaction decreased among nurses who experience work-related injuries. Australian authors have developed an empirically derived model of change management that they claim should “*guide future research and practice*”. We have also provided an extra (short) paper on prioritisation of patient evacuations in the event of an emergency as a reminder of the importance of having such protocols in place in NZ with its high risk of natural disasters.

We hope you find the bulletin informative and helpful. If you have any comments or feedback you would like to send us, please contact us at [admin@researchreview.co.nz](mailto:admin@researchreview.co.nz).

Kind regards,

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## Withdrawing performance indicators: retrospective analysis of general practice performance under UK Quality and Outcomes Framework

**Authors:** Kontopantelis E et al.

**Summary:** This retrospective longitudinal study investigated how withdrawing incentives in the UK Quality and Outcomes Framework pay-for-performance scheme for certain aspects of care impacted on quality of care among patients registered with 644 general practices in the UK. The removal of the incentives did not significantly alter mean levels of short- or long-term performance. While very little change had occurred ~6 years after removal of influenza immunisation for patients with asthma and lithium treatment monitoring for those with psychosis, a small but statistically significant decrease was estimated for influenza immunisation. Differences between predicted and observed scores were small and no significant effect was seen on performance following removal of blood pressure monitoring for patients with coronary heart disease, diabetes or stroke, and cholesterol level and blood glucose monitoring for those with diabetes; however, the observed mean following removal of cholesterol monitoring for patients with coronary heart disease was significantly lower than expected. Performance on retained related outcome indicators (e.g. blood pressure control) was generally unaffected.

**Comment:** Incentivising performance financially is a widespread management approach, and in medicine one favoured by policymakers to incentivise physician behaviour. However, some literature shows that pay-for-performance incentives may improve performance only in the short term, and performance may drop if incentives are withdrawn or do not increase. In the case of the analysis, attributing causality to outcome is clearly spurious. Did general practice performance remain stable after the incentive was withdrawn because practices had embedded the desired behaviour into their activities? Or, as suggested in the conclusions section, the behaviours continued to be incentivised by other indicators? Perhaps practitioners were motivated by the desire to incorporate best practice into their performance, and pay for performance was nice but not necessary. In view of the considerable amounts of public funding to incentivise performance, the analysis raises broader questions about which of the available approaches to achieve sustained performance offers the best investment in the long term.

**Reference:** *BMJ* 2014;348:g330

[Abstract](#)

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## The joint relationship between organizational design factors and HR practice factors on direct care workers' job satisfaction and turnover intent

**Authors:** Kim J et al.

**Summary:** Data from 58 long-term US care facilities were used to explore how organisational structure and human resource practices relate to job satisfaction and turnover intent among direct care workers; a latent class analysis was used to group facility characteristics into one of the following three sets of combinations: 'organic' (decentralised and less formalised structures and high levels of job training and communication), 'mechanistic' (referent) and 'minimalist' (low job-related training and communication). The organic group was positively related to job satisfaction and negatively related to intent to leave, while the minimalist group did not differ significantly from the mechanistic group for job satisfaction or intent to leave.

**Comment:** This article adds to the extensive corpus of published research into job satisfaction and turnover. Assuming that direct care workers in the article are similar to NZ's healthcare assistants, the results are likely to hold true for NZ's long-term care facilities. Healthcare assistants as a group are typically paid at or slightly above the minimum wage in return for physically demanding, sometimes unpleasant work. At the same time, there are intrinsic rewards in caring for frail older persons, and the social benefits of work. The organisational design described is one that would enhance the nonmonetary benefits and rewards of being part of the work teams, and reflects a culture where people are acknowledged, valued and upskilled.

**Reference:** *Health Care Manage Rev* 2014;39(2):174-84

[Abstract](#)

## Part of the job: the role of physical work conditions in the nurse turnover process

**Authors:** Vardaman JM et al.

**Summary:** This research explored the influence of perceptions of physical work conditions on turnover intentions among nurses working in US cancer units by integrating work design theory with turnover process models. Hypotheses were tested in one sample of nurses and replicated in another. The researchers also developed a measure of perceptions of physical work conditions, which was validated using exploratory and confirmatory factor analyses in the respective samples of nurses. Variance in turnover intentions was explained more by perceptions of physical work conditions than by motivational and social factors. Specifically, turnover intentions were significantly increased by nurses' perceptions of noisy work conditions and significantly decreased by perceptions that tasks were facilitated by work conditions. Nurses' perceptions of temperature and health hazard were not associated with significant effects.

**Comment:** Another perspective on turnover is offered in this article, in this case the focus being on nurse turnover and the physical (not organisational) environment. Previous research has uncovered a range of factors believed to be associated with retention, including the professional and interpersonal work environments. There has been less research into the impacts of the physical environment on turnover, as in this article, other than the physical demands of some nursing work. In the increasingly technical and controlled physical environments of clinical facilities, where a nurse may not be able to change the temperature or turn down sound, the research is timely; managers need to be cognisant of the impacts of an environment in which nurses work for up to 12 hours at a stretch.

**Reference:** *Health Care Manage Rev* 2014;39(2):164-73

[Abstract](#)

## A new model for nurse practitioner utilization in primary care: increased efficiency and implications

**Authors:** Liu N et al.

**Summary:** These authors compared the productivity and cost efficiency of queuing models for nurse practitioner (NP) utilisation, with parameters extracted from literature or government reports, in primary-care sites with and without medical assistant support. NPs with access to medical assistant support were found to be significantly more productive and cost efficient than NPs without medical assistant support. Based on the model parameters used, providing NPs with medical assistant support reduced the average cost associated with serving a patient by 9-12%, and the improvements were determined to be robust across practice environments with differing variability in provider service times. Improving the provider service rate was found to be more effective than reducing the variability in provider service times for increasing productivity.

**Comment:** NPs are a relatively recent introduction in NZ, and to date there has been little research about the role. One study involving ten of the first NPs to be approved (there are now over 100 practising) showed that the initial emphasis was on educational preparation for the new role, but the organisational context of practice was largely ignored, a reason for underutilisation of the role. This article is therefore a timely reminder that in other countries including the US (where the study took place), as well as the UK and Australia, the benefits of the role are being realised and augmented.

**Reference:** *Health Care Manage Rev* 2014;39(1):10-20

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## The relationship of positive work environments and workplace injury: evidence from the National Nursing Assistant Survey

**Authors:** McCaughey D et al.

**Summary:** These researchers used data from the 2004 US National Nursing Assistant Survey to explore the relationship between nursing assistant injury rates and key outcomes, and to investigate workplace environment factors associated with reduced workplace injury rates. Job-related injuries among nurse assistants were associated with reduced job satisfaction, increased turnover intentions and lower likelihood of recommending their facility as a place to work or seek care services. Nursing assistant injury rates were also found to be related to employee ratings of injury prevention training, supervisor support and employee engagement. Nurse assistants with  $\geq 2$  injuries had a 1.3- to 1.6-fold increased likelihood of reporting being injured at work than those who had not been injured when supervisor support, employee engagement and training ratings were low.

**Comment:** These are important findings that are applicable to healthcare assistants in residential care facilities, as well as others engaged in direct patient care, including nurses. Workplace injuries not only lead to absenteeism and lost productivity, they are also an indicator of workplace factors related to lower job satisfaction and increased turnover, as shown in this study. NZ and international research into nurse turnover has found that injury is related to staffing practices such as overtime worked and higher use of temporary staff. Injury rates therefore offer an indicator of workplace health.

**Reference:** *Health Care Manage Rev* 2014;39(1):75–88

[Abstract](#)

### Independent commentary by Associate Professor Nicola North.

Nicola is currently Academic Director in the School of Population Health, University of Auckland. Nicola's research interests and experience are broad, reflecting a varied career. Her current research focuses on nursing workforce and labour market, unregulated health workers, including volunteers, and participatory research with communities.



## Determinants and benefits of physical activity maintenance in hospital employees

**Authors:** Lavoie-Tremblay M et al.

**Summary:** This research reported outcomes of 157/235 hospital employees from a Canadian centre who returned questionnaires 6 months after completing an 8-week pedometer-based physical activity challenge. The pedometer-based physical activity challenge was associated with maintained high level of physical activity and a healthy body mass index after 6 months. The highest physical activity group had higher scores during maintenance for identified regulation and intrinsic regulation compared with other groups.

**Comment:** Hospitals (and other large healthcare organisations) are in the business of health and among the larger employers in a community. It makes good sense, therefore, to promote health among their staff, in this case, physical activity. The research reported here is a timely prompt to employers to offer such initiatives. It also reports specifically on determinants of success that employers can take account of when designing health promoting initiatives for staff.

**Reference:** *Health Care Manag* 2014;33(1):82–90

[Abstract](#)

## The impact of electronic health records on workflow and financial measures in primary care practices

**Authors:** Fleming NS et al.

**Summary:** The impact of a commercially available ambulatory electronic health record system on workflow and financial measures was estimated using an interrupted time series design and administrative, payroll and billing data from 26 US primary-care practices in a fee-for-service network. Electronic health record implementation was associated with improvements in staffing and practice expenses of 3% and 6%, respectively, after 12 months. There were initial decreases in productivity, volume and net income, but complete or near recovery to pre-implementation levels was seen at 12 months. No significant change in visit intensity was seen, and the decrease in payments received was offset by a secular trend.

**Comment:** The results reported in this article have important implications for innovations such as electronic records. The business case for introducing change and innovations must allow for the costs of initial impacts, including staff training, process change and initial reduced productivity. The anticipated benefits should be based on sound evidence and expected to outweigh the initial costs.

**Reference:** *Health Serv Res* 2014;49(1 pt.2):405–20

[Abstract](#)

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## Empirical development of a model of performance drivers in organizational change projects

**Authors:** Parry W et al.

**Summary:** The initial steps were presented of a major research project, started in 1998, that sought to investigate drivers that impact on change project success. The project included extensive quantitative studies of organisational change processes across industries, countries and companies. The authors surveyed 117,355 employees involved in or affected by organisational change with 44 questions. Results of factor analyses of interactions between key success factors and performance outcomes guided the development of a descriptive model ('ChangeTracking') of the drivers of performance in organisational change projects. The ChangeTracking model developed consists of: i) two outcome variables that realise the business benefits and business performance; and ii) six key drivers (amount of change and turbulence, available resources, alignment with the company's vision and direction, quality of change management, work roles and emotional energy). The authors noted that their empirically derived ChangeTracking model could be used to guide future research and practice.

**Comment:** The authors started by claiming that the luxury of 'unfreeze, change, refreeze' as a change management approach is long over. The article reviewed a large literature on change management theories, and proposes a model focused on performance success factors. This is not a 'how to successfully manage change' type of article: it is solid, but rewarding for those prepared to spend time reading the article, and highly relevant to managers of change.

**Reference:** *J Change Manag* 2014;14(1):99–125

[Abstract](#)

## Hospital-integrated general practice: a promising way to manage walk-in patients in emergency departments

**Authors:** Wang M et al.

**Summary:** This research compared total process times, time intervals between stages of care and diagnostic resource use before and after the introduction of a hospital-integrated general practice for emergency care services. The introduction of the hospital-integrated general practice in the emergency department (ED) was associated with a significant decrease in the median process time from admission to discharge from 120 to 60 minutes ( $p < 0.001$ ), and patients were more likely to receive additional diagnostics before the hospital-integrated general practice was introduced (adjusted odds ratio 1.86 [95% CI 1.06, 3.27;  $p = 0.032$ ]).

**Comment:** A similar approach has been employed by NZ's public hospitals at various times and places. In the current 6-hour ED target, walk-in patients who are candidates for general practices could be encouraged to attend EDs knowing they will not be left waiting. In this context, initiatives such as that described in the article offer an alternative facility to reduce demand on EDs and improve the quality of care to patients.

**Reference:** *J Eval Clin Pract* 2014;20(1):20–6

[Abstract](#)

## Sleep deprivation and error in nurses who work the night shift

**Authors:** Johnson AL et al.

**Summary:** The impact of sleep deprivation on occupational and patient care errors among 289 night-shift staff nurses was explored in this cross-sectional study; sleep deprivation was reported by 56% of the nurses. More patient care errors were made by nurses who reported sleep deprivation (the low number of occupational errors reported prevented testing for an association with sleep deprivation).

**Comment:** The article adds a perspective to the interaction among the workplace and staffing practices, and quality of patient care, in this case errors. Anecdotally, relationships between errors and factors such as night-time (and other factors such as long shifts, short staffing) have long been made. What is needed is to establish the evidence empirically that these relationships hold true, and also to develop interventions that will reduce the risk to patients.

**Reference:** *J Nurs Adm* 2014;44(1):17–22

[Abstract](#)

## Prioritization strategies for patient evacuations

**Authors:** Childers AK et al.

**Summary:** These authors presented a dynamic programming model for patient evacuations during emergency scenarios. They commented that a policy of patient evacuation that requires all patients from one group to be evacuated before evacuation of another group begins is not always optimal, and they discussed insights of the resulting optimal prioritisation strategies for unit- or floor-level evacuations.

**Comment:** With NZ's high risk of natural disasters, this article offers a timely reminder to hospital and residential care facility managers to ensure evacuation plans are current and that staff are familiar with such policies and plans.

**Reference:** *Health Care Manag Sci* 2014;17(1):77–87

[Abstract](#)

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