

Patient Safety Tip of the Week

September 29, 2015

More on the 12-Hour Nursing Shift

We've done multiple columns on the 12-hour nursing shift. While such shifts remain popular in the US and several European countries, there are downsides as well and we've discussed those in our prior columns. Also, research on the relationship between shift length and patient outcomes has been limited by issues such as whether the longer shifts are voluntary or mandated.

Not only is there limited data on the impact of 12-hour shifts on patient outcomes, there is also limited data on their association with nurses' physical and mental well-being. Now a new study, using data from 12 European countries from the large RN4CAST study, provides insight into the impact of 12-hour shifts on nurse well-being ([Dall'Ora 2015](#)). Those researchers found that, while all shift lengths greater than 8 hours were associated with more nurse adverse outcomes, nurses working shifts ≥ 12 h were more likely to experience burnout, have emotional exhaustion, depersonalization, and low personal accomplishment. Moreover, they were more likely to have job dissatisfaction, dissatisfaction with work schedule flexibility, and report intention to leave their job due to dissatisfaction. Nurses working shifts of 12 hours or more were 40% more likely to report job dissatisfaction and 29% more likely to report their intention to leave their job due to dissatisfaction.

In our October 2014 What's New in the Patient Safety World column "[Another Rap on the 12-Hour Nursing Shift](#)" we discussed another study from the RN4CAST Consortium ([Griffiths 2014](#)) which showed nurses working shifts of 12 hours or more were more likely to perceive poor or failing patient safety, poor or fair quality of care, and more care activities being left undone. Working overtime, regardless of shift length, was also associated with nurses' perception of poor or failing patient safety, poor or fair quality of care, and more care activities being left undone.

Like most previous studies, the current Dall'Ora study was unable to differentiate whether longer shifts were due to mandatory or voluntary overtimes as opposed to formal 12-hour shifts. Their study confirmed previous studies that there is a relationship between any overtime and adverse effects on nurses. However, they were able to demonstrate that both shift length and overtime had independent effects on the variables studied.

The authors address the seeming paradox that previous studies showed nurses preferred 12-hour shifts and their finding of higher burnout rates and job dissatisfaction.

Their findings are most relevant in that they suggest current strategies of using 12-hour shifts to help retain nursing staff may, in fact, be counterproductive in the long run and lead to more nurse absenteeism and job turnover.

But there are questions left unanswered by this and all previous studies. The Dall 'Ora study, like the Griffiths study before it, did not distinguish between nurses who chose to work 12-hour shifts vs. those for whom it was mandated. Given the correlation between overtime and nurses' perceptions of suboptimal quality and patient safety, one might anticipate that the degree of discomfort nurses have with their shift length may be an important contributory factor.

A recent UK review of 12-hour shifts ([Ball 2015](#)) first looked at the published literature on 12-hour shifts and found many studies were plagued by small sample sizes, limited outcome measures, poor response rates, self-reporting bias, etc. Importantly, they found no randomized controlled trials. They conclude that, in general, most of the studies appear to show some degree of negativity, either for nurses, patients, or both towards 12-hour shifts and that many of the adverse outcomes studies relate to fatigue which can also jeopardize patient safety.

They also found from survey data that 66% of nurses in the UK working in care homes worked 12-hour shifts compared to 50% of NHS hospital nurses and 39% of independent hospital nurses. They also found that those working 12-hour shifts report that they are equally or more satisfied with their working hours than nurses working shorter shifts. They then included data from the RNCast consortium. The odds of self-reported poor quality care was 1.64 times higher for nurses working a 12-hour or longer shift compared to those working eight hours or less and a similar pattern of findings was apparent for safety ratings, though the latter did not reach statistical significance. The risk of care left undone was 1.13 times higher for nurses working a 12-hour or longer shift compared to those working eight hours or less and was statistically significant. And, when taking the other predictor variables into account, the odds of being dissatisfied with their jobs were 1.51 times higher for nurses working on shifts of 12 hours or longer compared to those work eight hours or less. Somewhat paradoxically, there was no clear pattern of variation in work schedule dissatisfaction with length of shift:

Most interesting in an article about a conference that noted some negative union views about 12-hour shifts in the UK ([Merrifield 2015](#)) were the comments posted on the website that really reflect the polarized views of nurses toward these shifts. Many love them, many hate them!

If the 12-hour shift is actually worsening job satisfaction and leading to increased nursing turnover as the Dall'Ora study would suggest, we may be exacerbating the shortage of nurses many countries already face. Because the 12-hour shift has become so popular in the US and other countries, both with nurses and hospitals, it will likely take compelling evidence to cause reversion to shorter shifts. The majority of nurses we know like the 12-hour shift because of its flexibility and that it allows them to spend more time with their

families and other activities outside the hospital. But it is this very personal preference that would make it very difficult for the ultimate study on this issue – a randomized controlled trial (RCT) – to be performed. The many problems encountered in trying to do such a study were recently noted in a pilot study intended to do such a comparison of 8-hour vs. 12-hour shifts ([Martin 2015](#)).

Probably the only way to do such a quasi-RCT would be to take a sizeable hospital with multiple wards handling comparable patients and then make half the units 8-hour shift units and the others 12-hour shift units, letting nurses choose which unit they want to work on. Objective quality and patient safety outcomes would have to be measured in addition to nurses' impressions of care and measures of nurse well-being. Such a study would probably still be subject to selection bias. Given the hospital nursing shortages in the US it would be very difficult to adjust results for the occurrence of overtime.

This is a critically important issue in quality and patient safety as well as for considerations about nurses' well-being and the future of the nursing workforce. But conclusive answers are not yet available. In the interim see some of our prior columns regarding strategies to mitigate nurse fatigue and also our columns on the impact of fatigue in healthcare and other industries and use of strategies such as power naps.

And speaking about 12-hour shifts, if you haven't yet done so read the book "The Shift" by Theresa Brown ([Brown 2015](#)). It's a real-life story about a nurse's 12-hour shift on an oncology unit. We'll probably formally review it at some point but it's great reading and lets you visualize so many of the issues we talk about in our columns.

Our previous columns on the 12-hour nursing shift:

November 9, 2010	"12-Hour Nursing Shifts and Patient Safety"
February 2011	"Update on 12-hour Nursing Shifts"
November 13, 2012	"The 12-Hour Nursing Shift: More Downsides"
July 29, 2014	"The 12-Hour Nursing Shift: Debate Continues"
October 2014	"Another Rap on the 12-Hour Nursing Shift"
December 2, 2014	"ANA Position Statement on Nurse Fatigue"

Some of our other columns on the role of fatigue in Patient Safety:

November 9, 2010	"12-Hour Nursing Shifts and Patient Safety"
April 26, 2011	"Sleeping Air Traffic Controllers: What About Healthcare?"
February 2011	"Update on 12-hour Nursing Shifts"
September 2011	"Shiftwork and Patient Safety"
November 2011	"Restricted Housestaff Work Hours and Patient Handoffs"

January 2010	“Joint Commission Sentinel Event Alert: Healthcare Worker Fatigue and Patient Safety”
January 3, 2012	“Unintended Consequences of Restricted Housestaff Hours”
June 2012	“June 2012 Surgeon Fatigue”
November 2012	“The Mid-Day Nap”
November 13, 2012	“The 12-Hour Nursing Shift: More Downsides”
July 29, 2014	“The 12-Hour Nursing Shift: Debate Continues”
October 2014	“Another Rap on the 12-Hour Nursing Shift”
December 2, 2014	“ANA Position Statement on Nurse Fatigue”
August 2015	“Surgical Resident Duty Reform and Postoperative Outcomes”
September 2015	“Surgery Previous Night Does Not Impact Attending Surgeon Next Day”

Some of our other columns on housestaff workhour restrictions:

December 2008	“IOM Report on Resident Work Hours”
February 26, 2008	“Nightmares: The Hospital at Night”
January 2010	“Joint Commission Sentinel Event Alert: Healthcare Worker Fatigue and Patient Safety”
January 2011	“No Improvement in Patient Safety: Why Not?”
November 2011	“Restricted Housestaff Work Hours and Patient Handoffs”
January 3, 2012	“Unintended Consequences of Restricted Housestaff Hours”
June 2012	“Surgeon Fatigue”
November 2012	“The Mid-Day Nap”
December 10, 2013	“Better Handoffs, Better Results”
April 22, 2014	“Impact of Resident Workhour Restrictions”
January 2015	“More Data on Effect of Resident Workhour Restrictions”
August 2015	“Surgical Resident Duty Reform and Postoperative Outcomes”
September 2015	“Surgery Previous Night Does Not Impact Attending Surgeon Next Day”

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