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Health Management Institute of Ireland

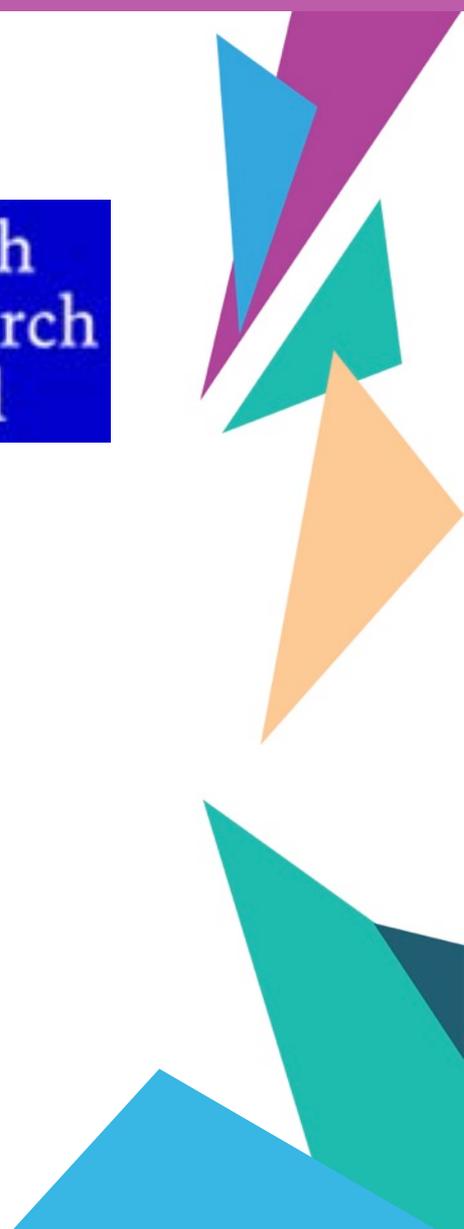
www.hmi.ie/conference/

Safer nursing staffing: the right person in the right place at the right time

Professor Jonathan Drennan

*Professor of Nursing and Health Services
Research, School of Nursing and
Midwifery, University College Cork*

Research Presented



Research Team

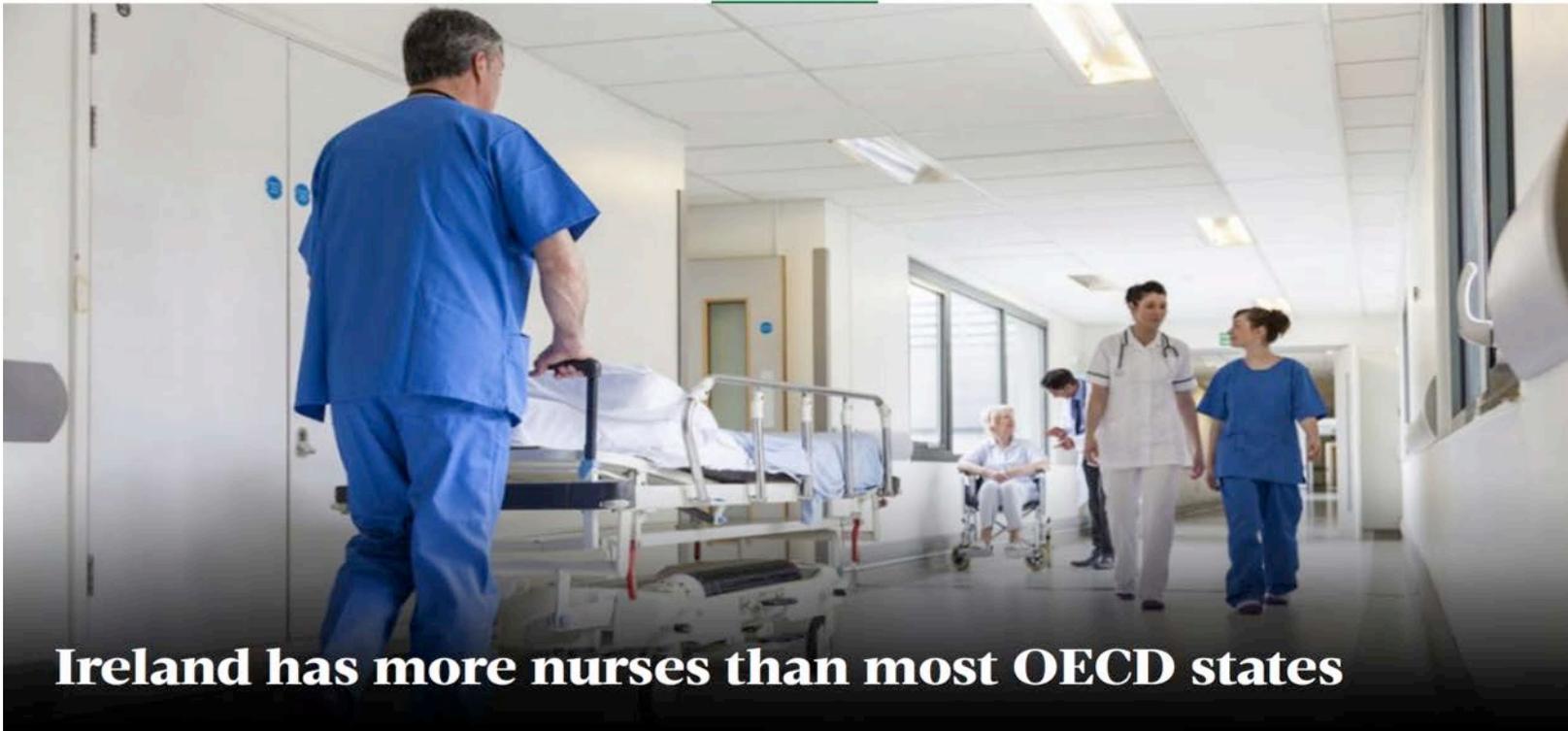


Nurses per 1,000 Population

**The
Business Post**

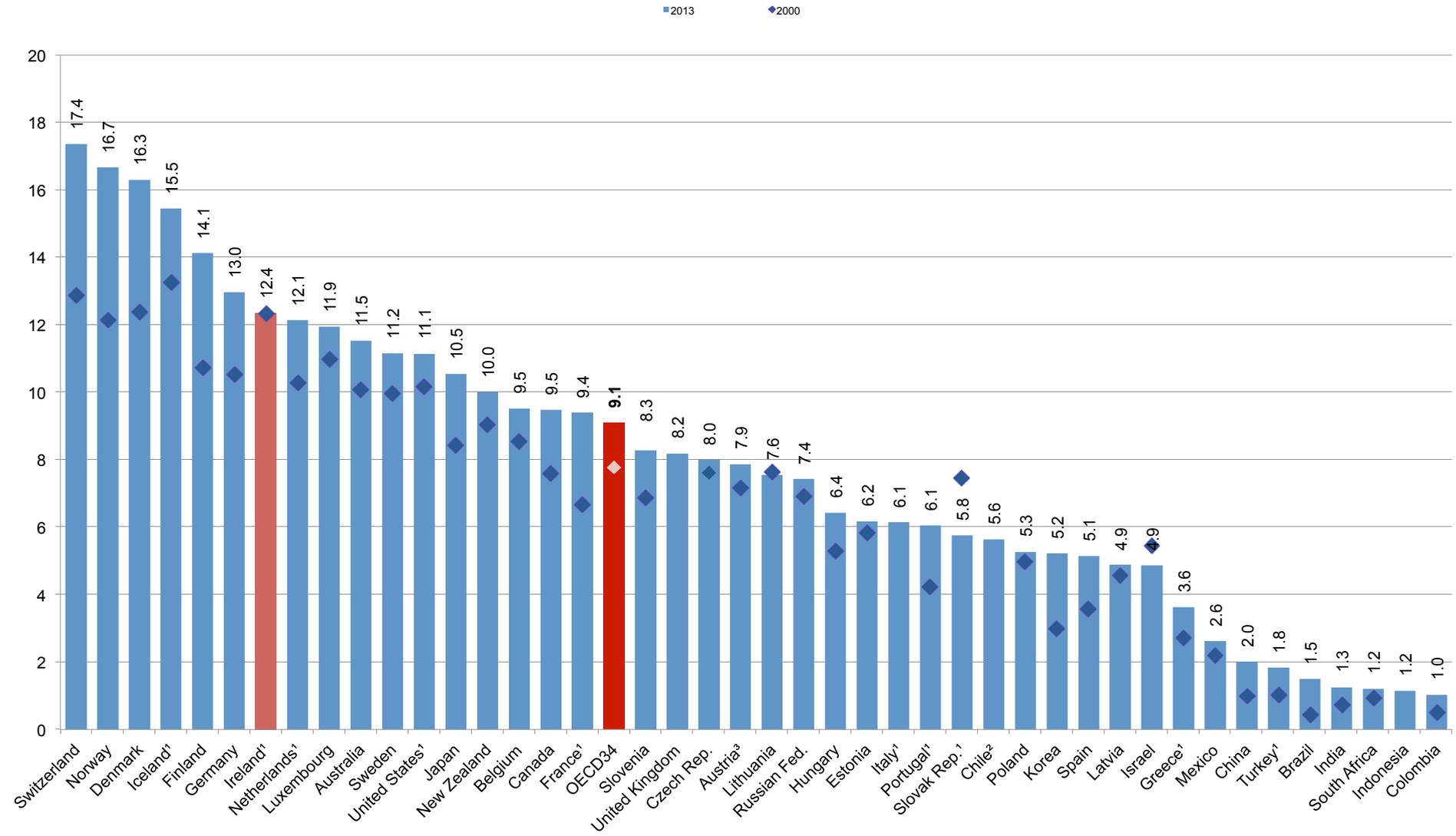
Wednesday, 16 November 2016

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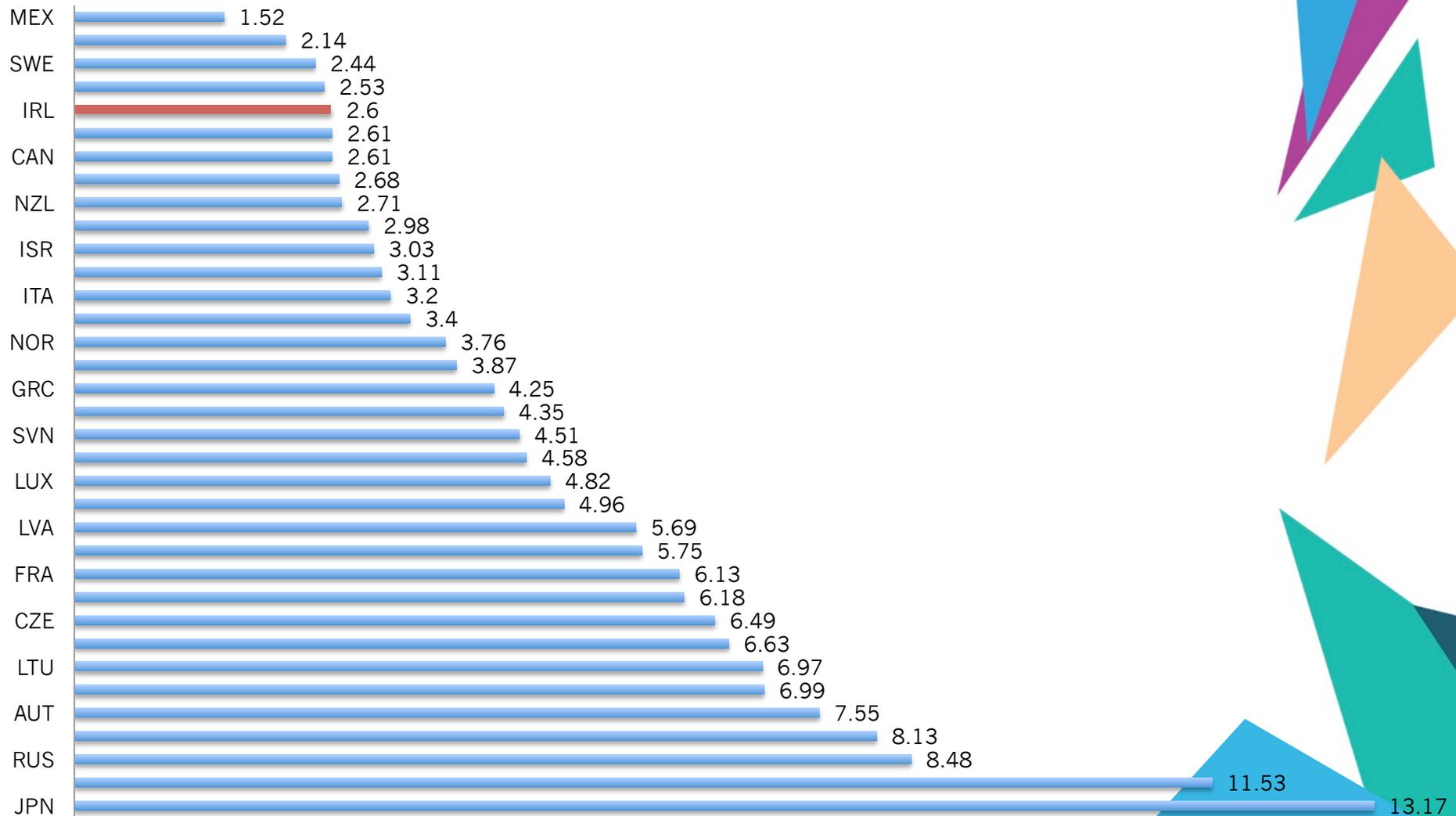


Ireland has more nurses than most OECD states

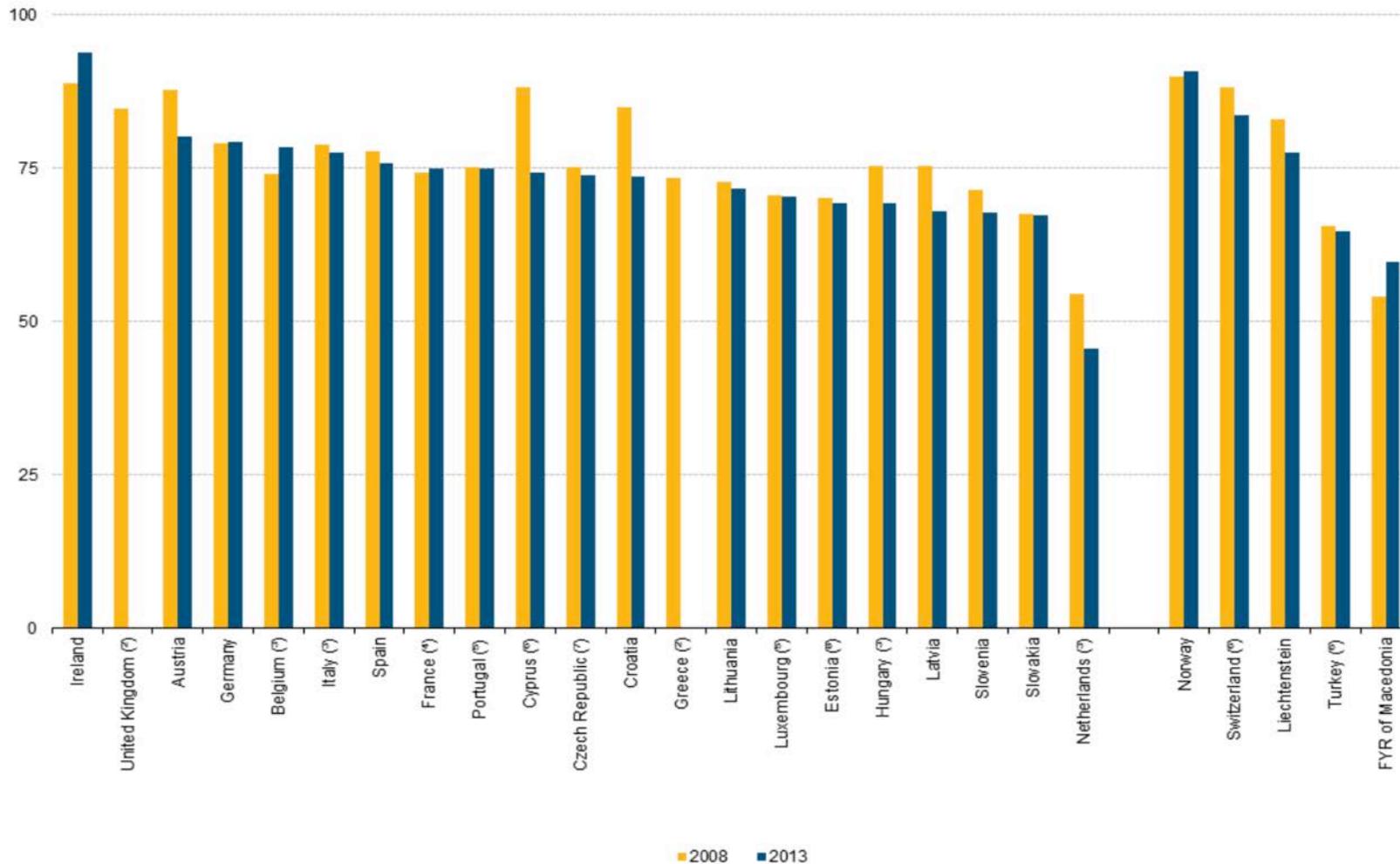
Nurses per 1,000 Population 2000 & 2014 (OECD 2015)



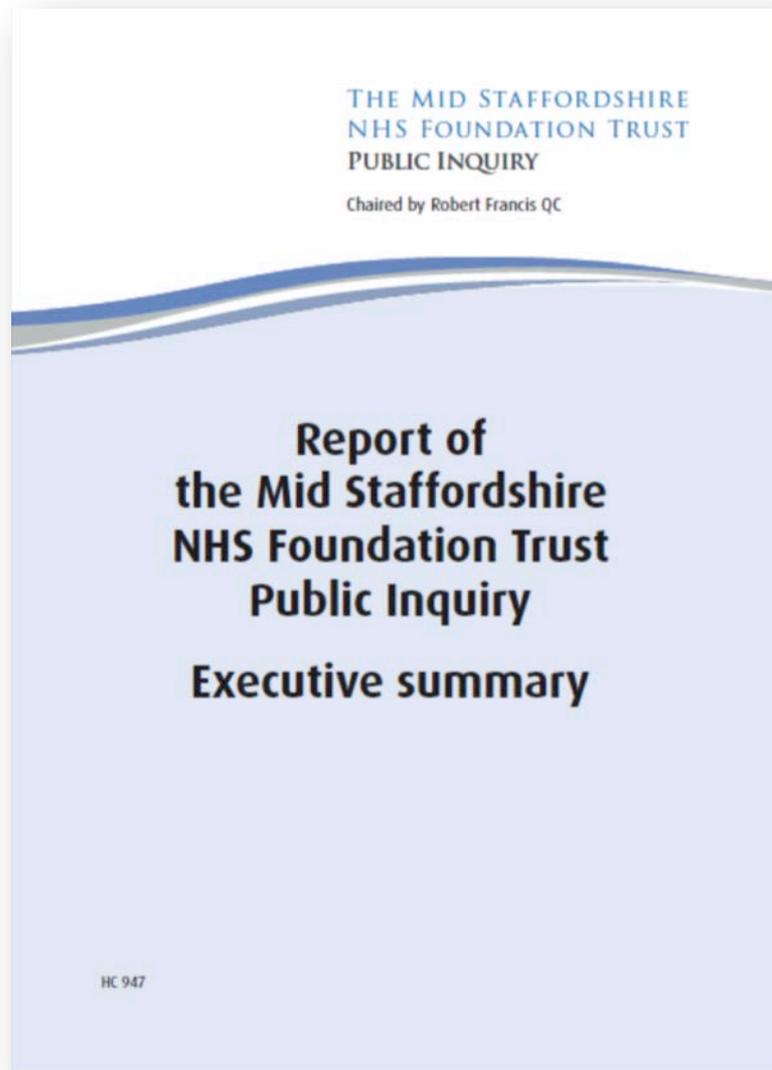
Number of Beds in Ireland (per 1,000 population)



Bed Occupancy Rates - Ireland



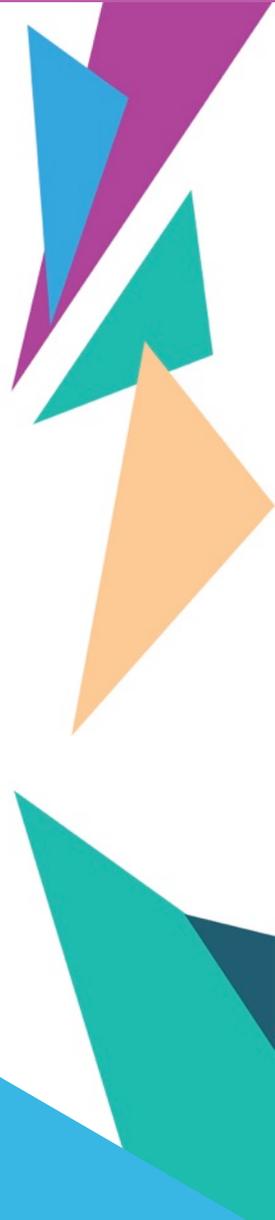
Context



Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry

‘... the story it tells is first and foremost of appalling suffering of many patients. This was primarily caused by a serious failure on the part of a provider Trust... It did not listen sufficiently to its patients and staff or ensure the correction of deficiencies brought to the Trust’s attention. Above all, it failed to tackle an insidious negative culture involving a tolerance of poor standards and a disengagement from **managerial and leadership** responsibilities.’

- Robert Francis (2013)



Mid Staffordshire NHS Public Inquiry

Warning Signs

The investigation has found evidence of *poor leadership and management* and of poor nursing care ... There is a strong view ... that failings are due to the poor staffing levels and therefore excusable. The culture on the ward appears to allow for support of this view ... Nobody at Directorate/Trust level appears to have taken responsibility for monitoring to ensure that basic nursing standards/patient care needs are met ... There appears to be a lack of commitment at the highest level in the Trust to tackle these problems

– Robert Francis (2013)



NICE Guidelines

NICE National Institute for Health and Care Excellence

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Safe staffing advice for nursing care in wards

NICE issues guideline to NHS on how to make the right decisions about nursing staff requirements to provide safe care for patients on adult wards in hospitals

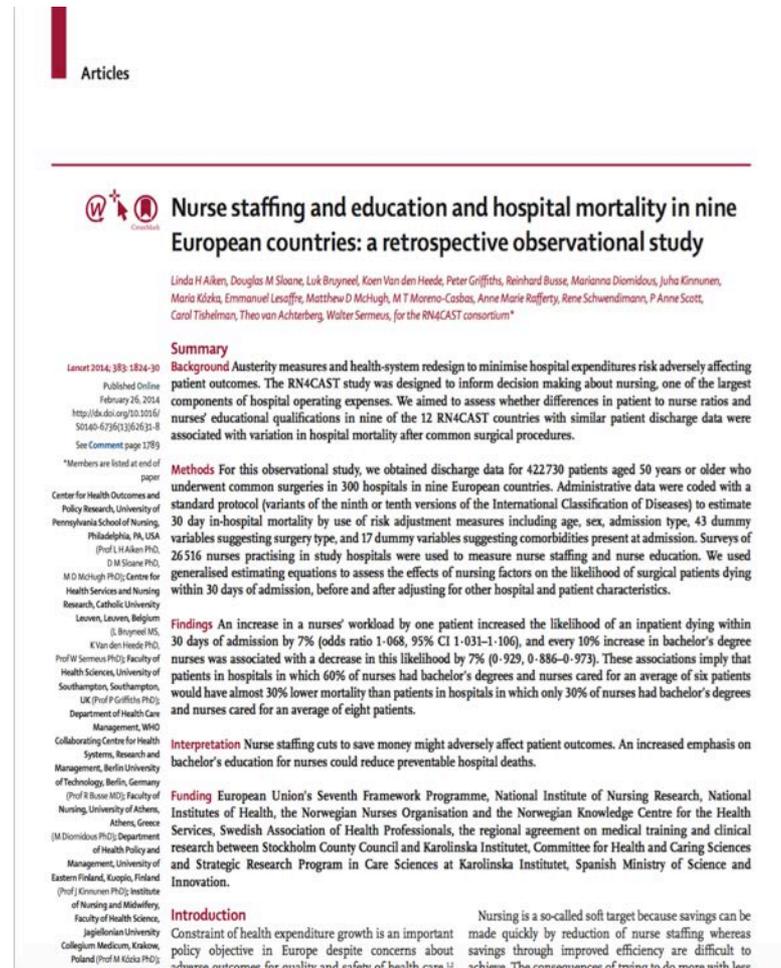
[Read the news story](#) | [View the NICE Pathway](#) | [Read the guidance](#)

Find guidance

Explore NICE guidance, quality standards and advice by category to find a topic, [Continue >](#)

Nurse Staffing and Mortality

- An increase in a nurses' workload by one patient increased the likelihood of an inpatient dying within 30 days of admission by 7%.
- Every 10% increase in bachelor's degree nurses was associated with a decrease in this likelihood by 7%.
 - (Aiken et al. 2014)

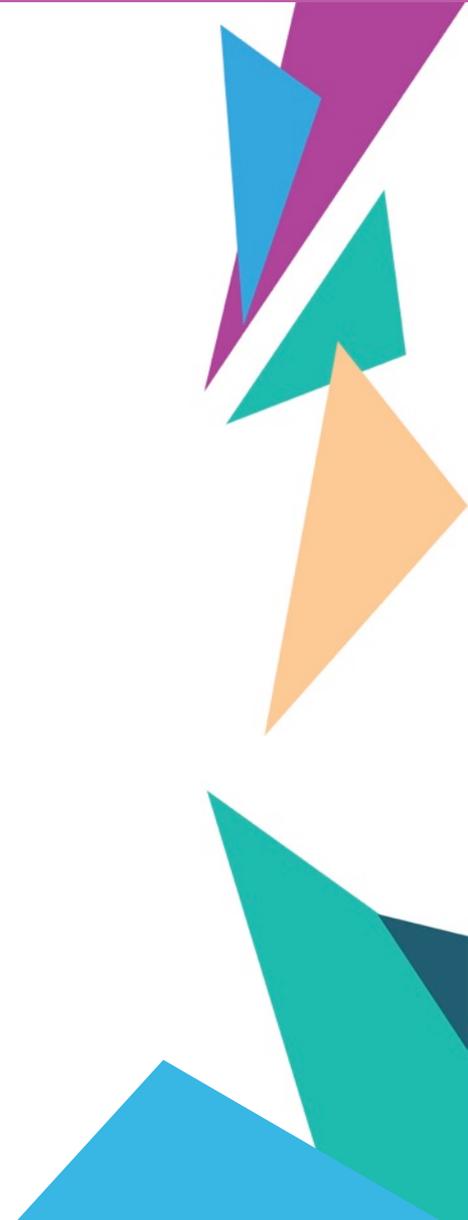


Nurse Staffing and Mortality

- Patients in hospitals in which 60% of nurses had bachelor's degrees and nurses cared for an average of six patients would have almost 30% lower mortality than patients in hospitals in which only 30% of nurses had bachelor's degrees and nurses cared for an average of eight patients.
 - (Aiken et al. 2014)

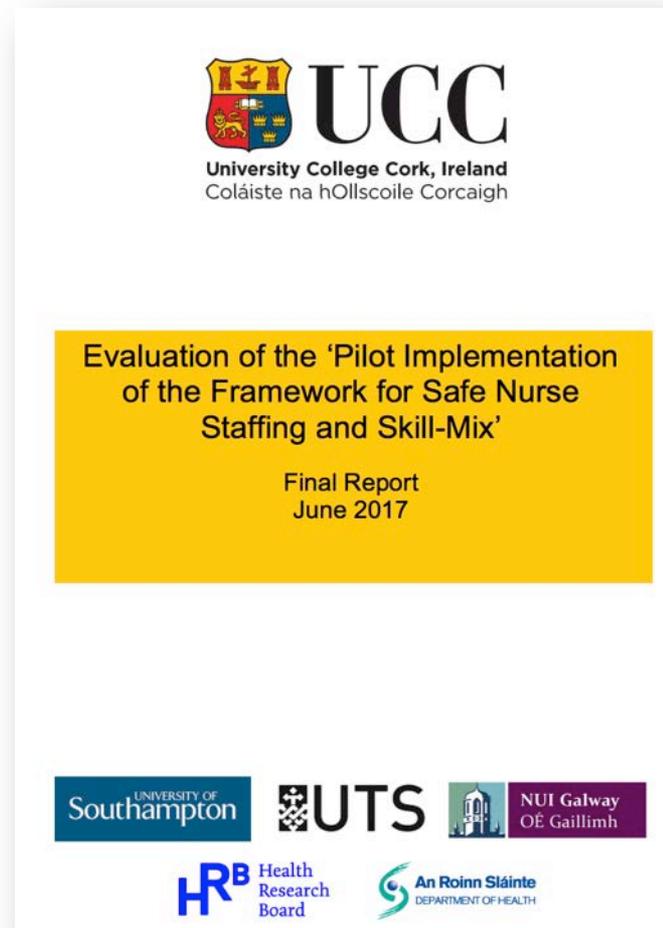


What is Happening in Ireland?

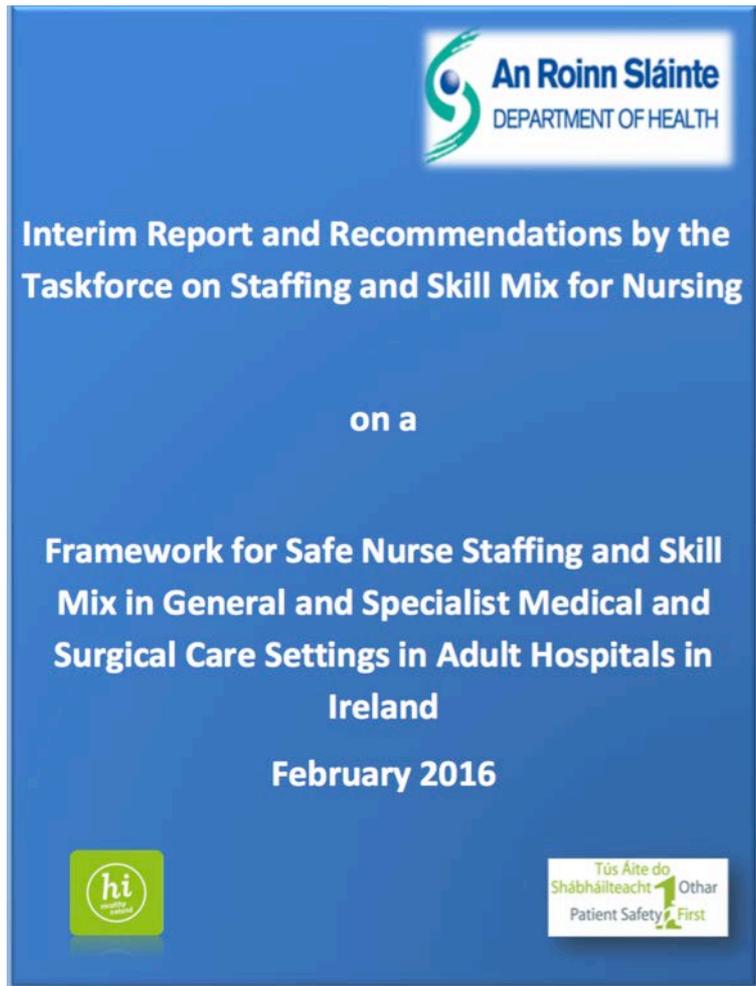


Pilot Implementation – Safe Staffing

- Measure the impact of implementing the pilot of the Framework (specifically NHPPD) on:
 - nurse-sensitive patient outcomes measures;
 - staff outcome measures and;
 - organisational factors

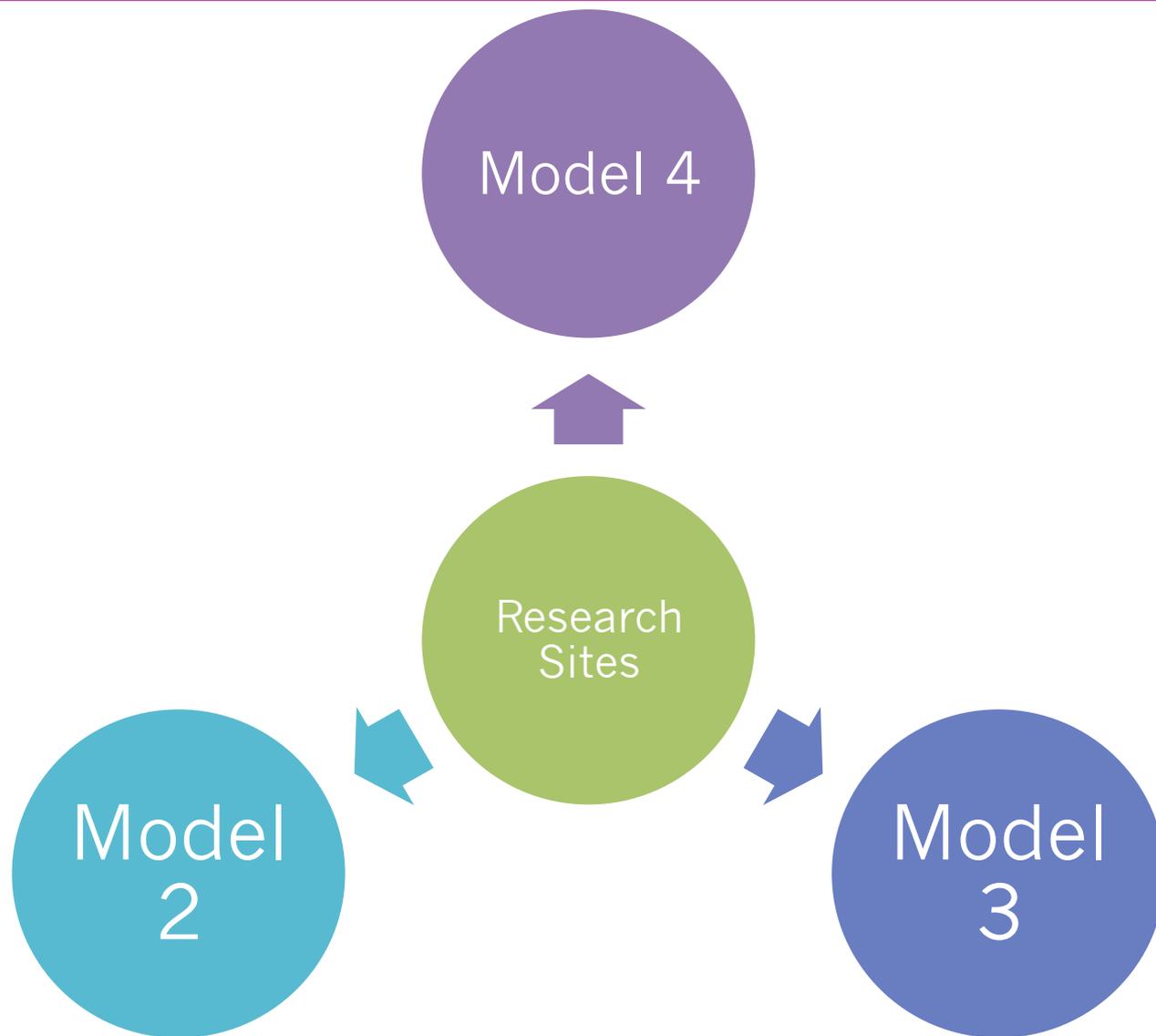


Context

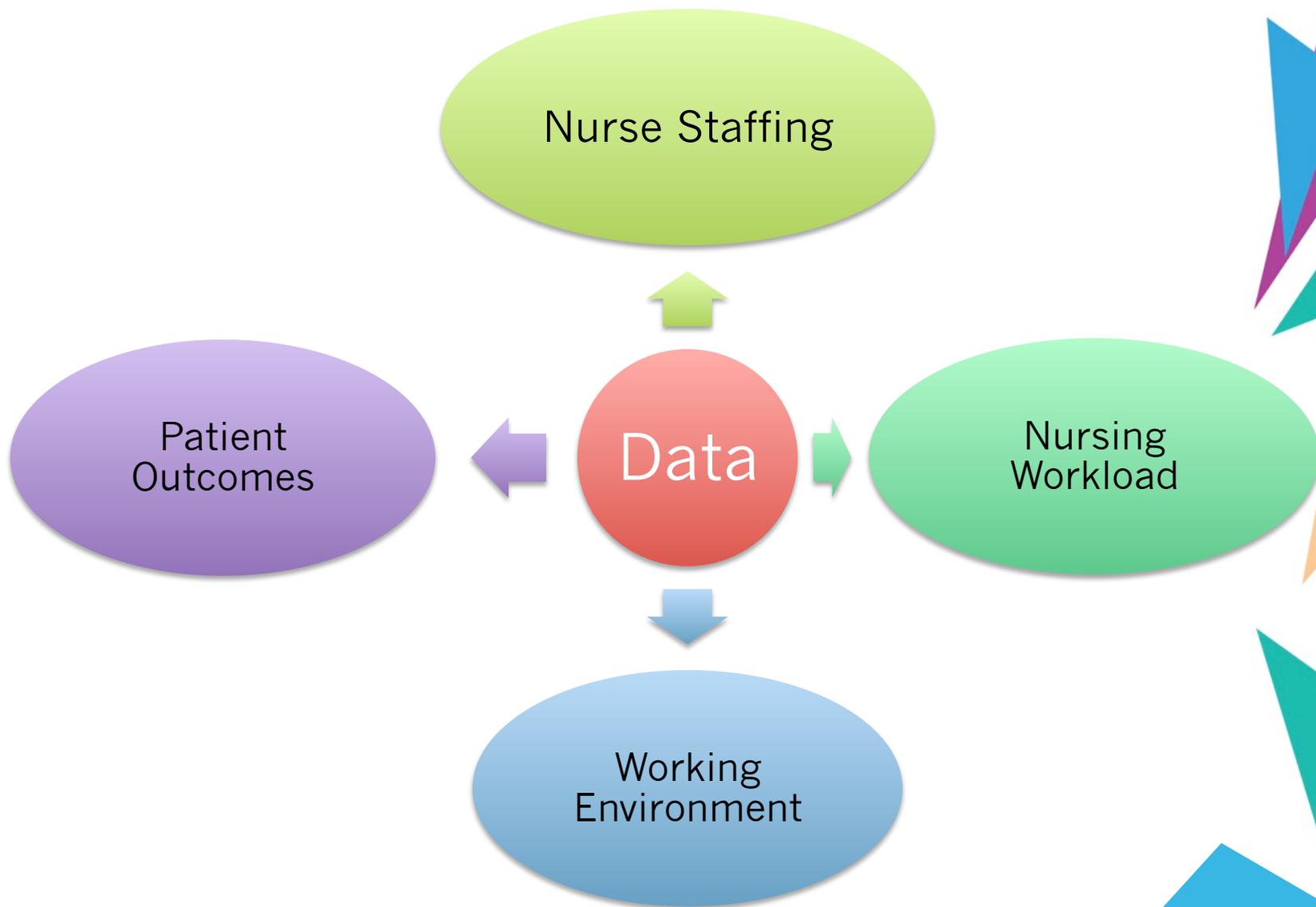


- Role of the Clinical Nurse Manager: *given the evidence on the impact on the role of the ward leader on quality and staff retention, the reduction in the supervisory time of this role currently in the system is worthy of specific consideration... (p.28).*

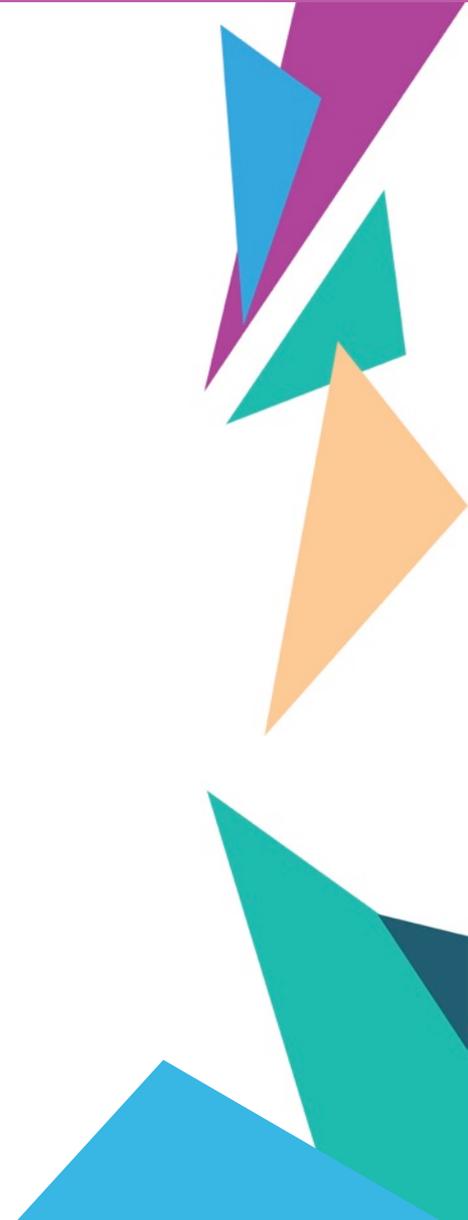
Research Sites



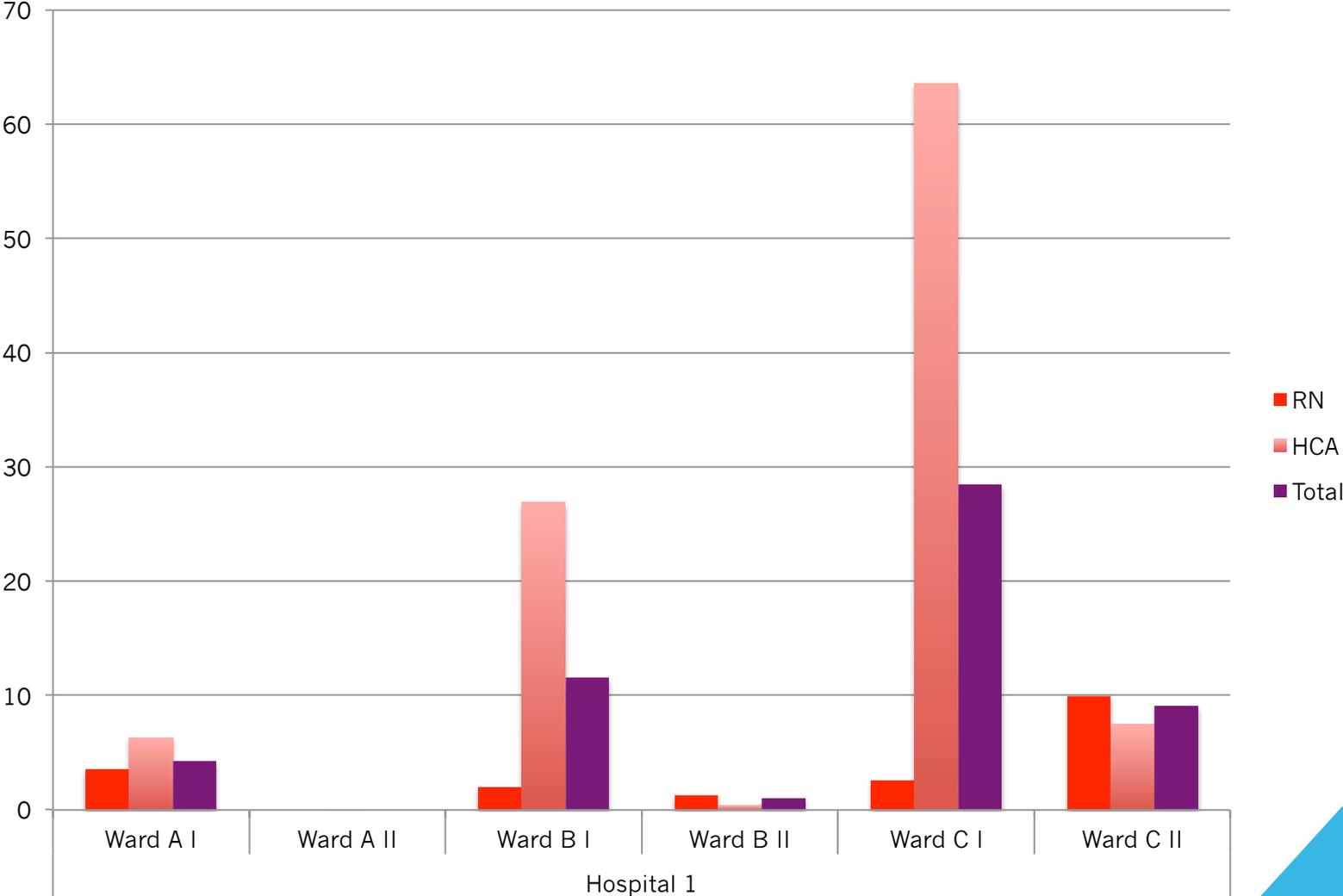
Data Collection



Impact of Stabilisation of Nurse Staffing and Skill-Mix



Change in Agency Staff – RNs & HCAs



Nurse Sensitive Patient Outcome Measures - HIPE

- Length of stay (LOS)
- Urinary tract infection
- Pressure ulcers
- Hospital-acquired pneumonia
- Shock or cardiac arrest
- Upper GI bleeding
- Hospital-acquired sepsis
- Deep venous thrombosis
- CNS complications
- Wound infection
- Pulmonary failure
- Metabolic derangement
- Mortality
- Failure to rescue

NURSE-STAFFING LEVELS AND THE QUALITY OF CARE IN HOSPITALS

Special Article

NURSE-STAFFING LEVELS AND THE QUALITY OF CARE IN HOSPITALS

JACK NEEDLEMAN, PH.D., PETER BUEHHAUS, PH.D., R.N., SOEREN MATTKE, M.D., M.P.H., MAUREEN STEWART, B.A., AND KATYA ZELEVINSKY

ABSTRACT

Background It is uncertain whether lower levels of staffing by nurses at hospitals are associated with an increased risk that patients will have complications or die.

Methods We used administrative data from 1997 for 799 hospitals in 11 states (covering 5,075,969 discharges of medical patients and 1,104,659 discharges of surgical patients) to examine the relation between the amount of care provided by nurses at the hospital and patients' outcomes. We conducted regression analyses in which we controlled for patients' risk of adverse outcomes, differences in the nursing care needed for each hospital's patients, and other variables.

Results The mean number of hours of nursing care per patient-day was 11.4, of which 7.8 hours were provided by registered nurses, 1.2 hours by licensed practical nurses, and 2.4 hours by nurses' aides. Among medical patients, a higher proportion of hours of care per day provided by registered nurses and a greater absolute number of hours of care per day provided by registered nurses were associated with a shorter length of stay ($P=0.01$ and $P<0.001$, respectively) and lower rates of both urinary tract infections ($P<0.001$ and $P=0.003$, respectively) and upper gastrointestinal bleeding ($P=0.03$ and $P=0.007$, respectively). A higher proportion of hours of care provided by registered nurses was also associated with lower rates of pneumonia ($P=0.001$), shock or cardiac arrest ($P=0.007$), and "failure to rescue," which was defined as death from pneumonia, shock or cardiac arrest, upper gastrointestinal bleeding, sepsis, or deep venous thrombosis ($P=0.05$). Among surgical patients, a higher proportion of care provided by registered nurses was associated with lower rates of urinary tract infections ($P=0.04$), and a greater number of hours of care per day provided by registered nurses was associated with lower rates of "failure to rescue" ($P=0.008$). We found no associations between increased levels of staffing by registered nurses and the rate of in-hospital death or between increased staffing by licensed practical nurses or nurses' aides and the rate of adverse outcomes.

Conclusions A higher proportion of hours of nursing care provided by registered nurses and a greater number of hours of care by registered nurses per day are associated with better care for hospitalized patients. (N Engl J Med 2002;346:1715-22.)

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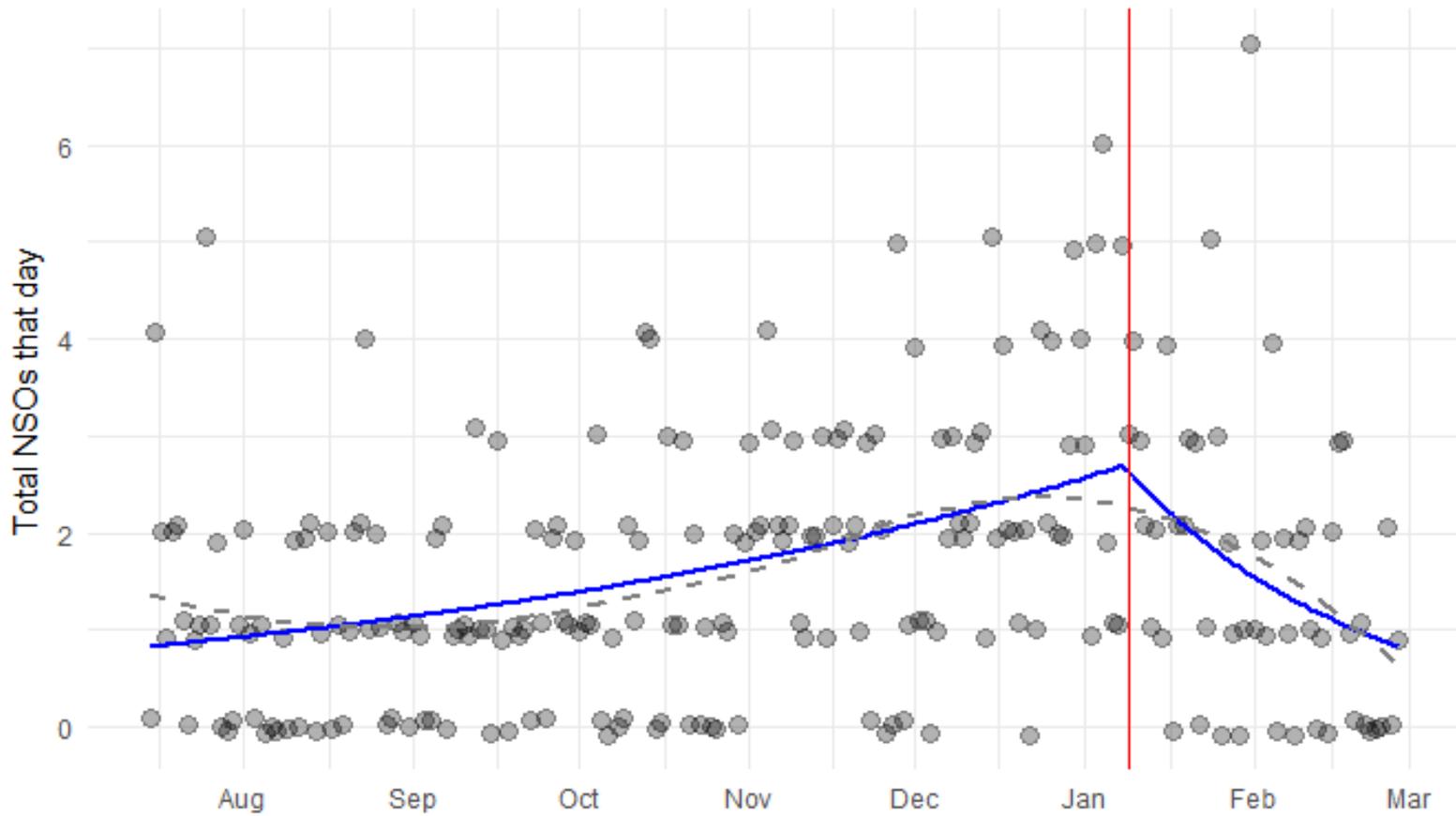
HOSPITALS, wrote Lewis Thomas in *The Youngest Science*, are "held together, glued together, enabled to function . . . by the nurses."¹ More than 1.3 million registered nurses work in hospitals in the United States. As hospitals have responded to financial pressure from Medicare, managed care, and other private payers, registered nurses have become increasingly dissatisfied with the working conditions in hospitals. They report that they are spending less time taking care of increasingly ill patients and believe that the safety and quality of inpatient care are deteriorating.²⁻⁷ Although the number of hours of care per patient-day provided by registered nurses rose through the mid-1990s,⁸⁻¹² some question whether the staffing of nurses has increased rapidly enough to keep pace with the increasing severity of illness among hospitalized patients and thus to ensure safe and high-quality care.¹³

Research on the relation between the level of staffing by nurses in hospitals and patients' outcomes has been inconclusive. Whereas some studies have reported an association between higher levels of staffing by nurses and lower mortality,¹⁴⁻²⁰ as well as lower rates of other adverse outcomes,²¹⁻³⁰ others have found no such relations.³⁰⁻³⁹ Previous studies have assessed only a limited number of outcomes that are sensitive to the extent or quality of nursing care, such as falls by patients and errors in medication. Many studies have used small samples of hospitals, controlled only to a limited extent for the patient's initial risk for the outcomes under study, failed to include nurses' aides as part of the nursing staff, and used inconsistent measures of staffing levels. We examined the relation between the levels of staffing by nurses in hospitals and the rates of adverse outcomes among patients, using administrative data from a large multistate sample of hospitals.

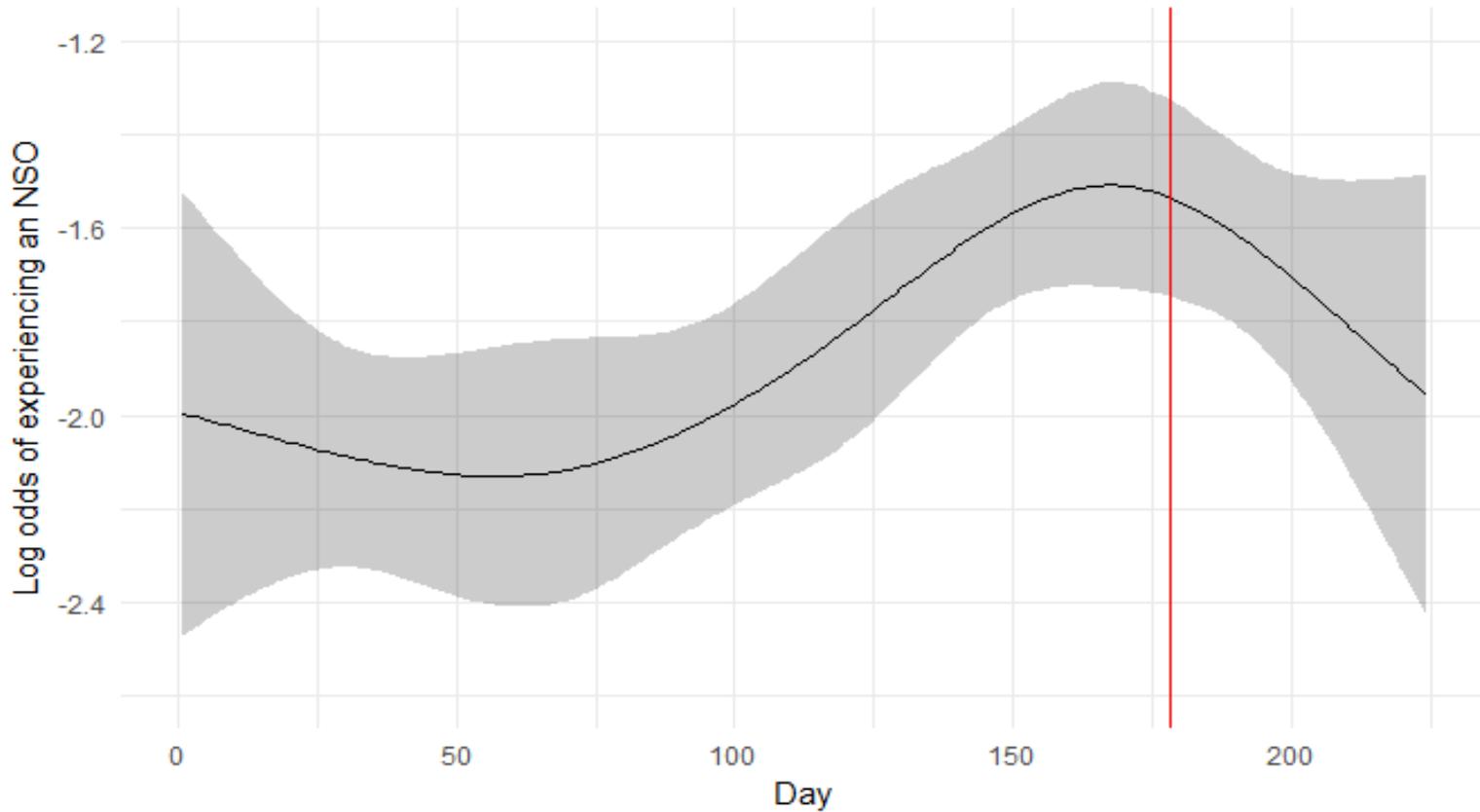
From the Department of Health Policy and Management, Harvard School of Public Health, Boston (J.N., S.M., M.S., K.Z.); the Vanderbilt University School of Nursing, Nashville (P.B.); and Abt Associates, Cambridge, Mass. (S.M.). Address reprint requests to Dr. Needleman at the Harvard School of Public Health, Department of Health Policy and Management, Rm. 305, 677 Huntington Ave., Boston, MA 02115, or at needlema@hsph.harvard.edu.

N Engl J Med, Vol. 346, No. 22 • May 30, 2002 • www.nejm.org • 1715

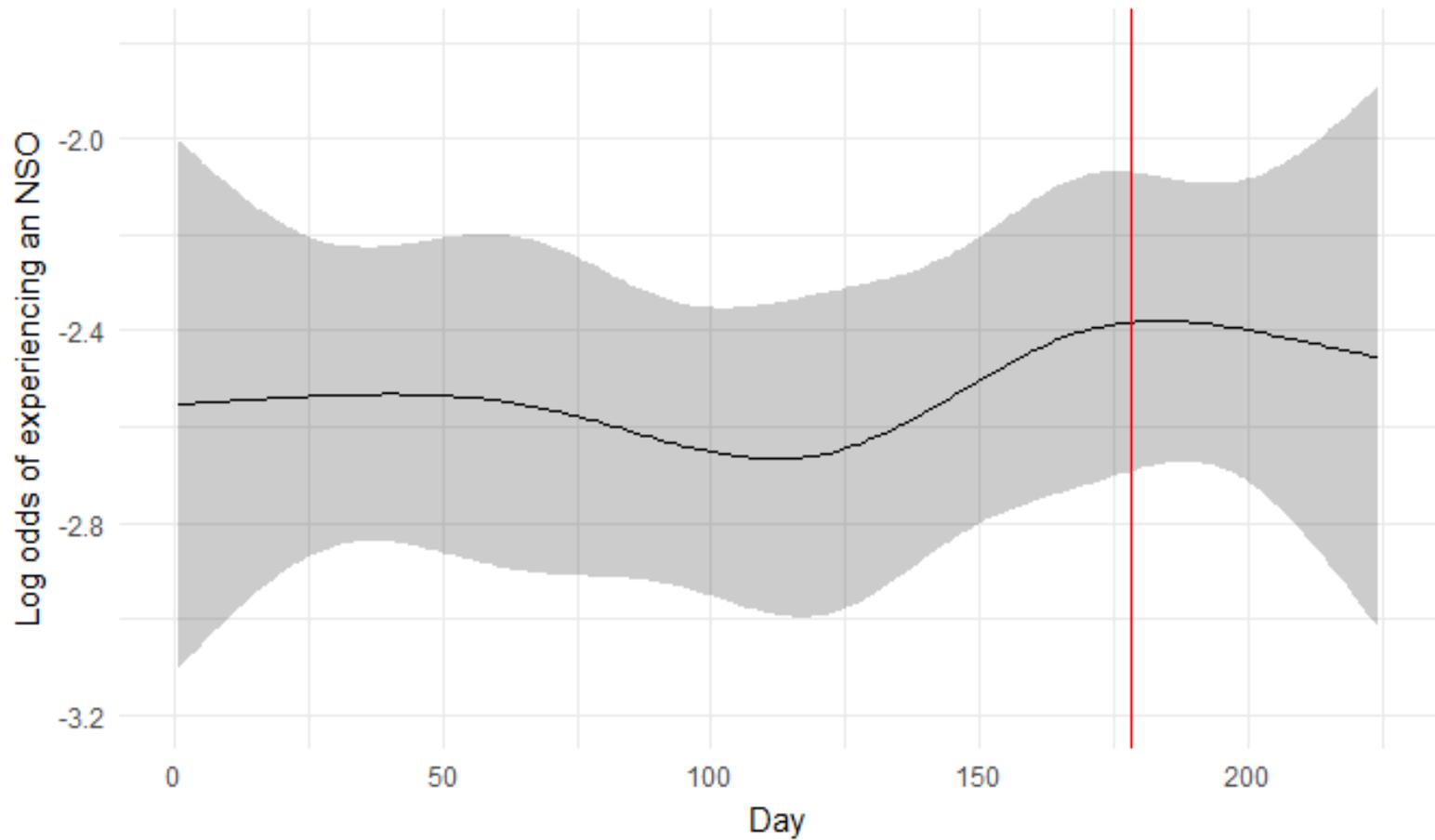
Nurse Sensitive Patient Outcome Measures



NSPO Measures



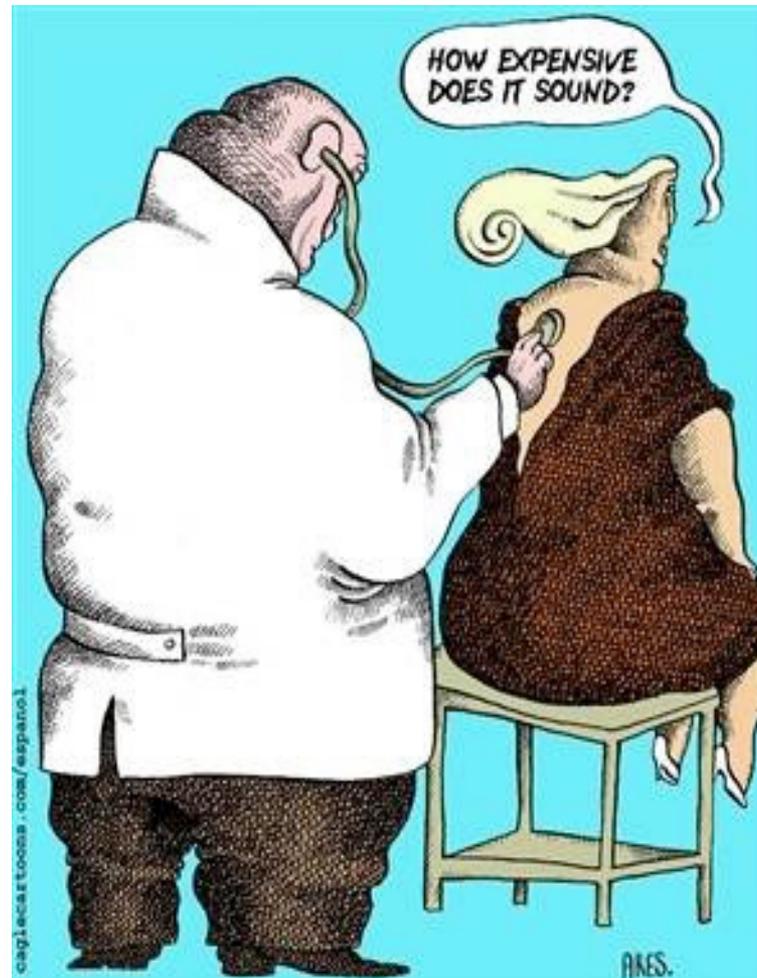
NSPO Measures



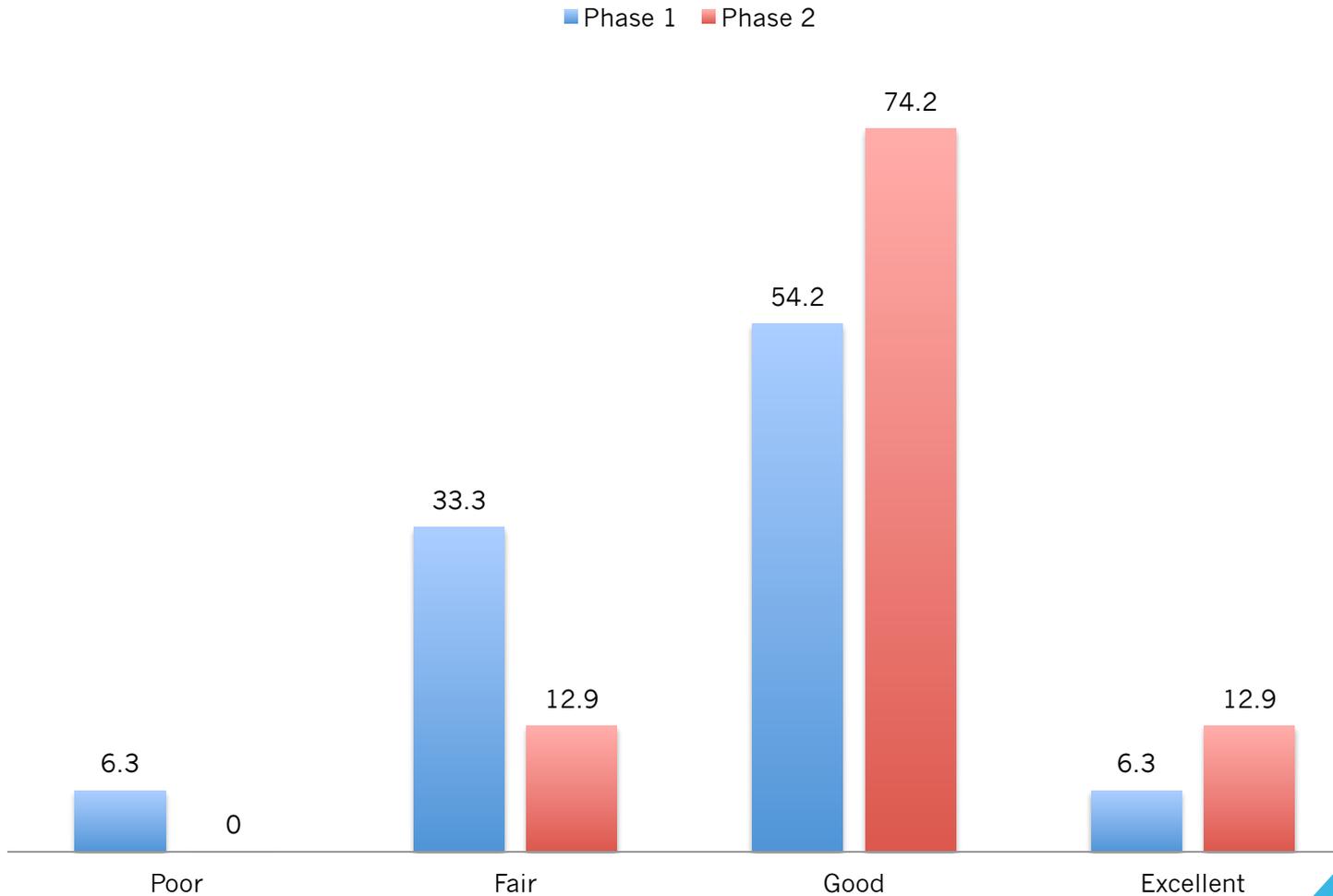
Adjusted to: age=66 sex=1 death=0 hospital=1 los=6

Economic Analysis – NSPOs

- It was estimated that each individual NSO accrued by a patient costs approximately €1,093.
- With approximately 338 NSOs identified in Phase 1, this would result in NSOs costing approximately €369,434.

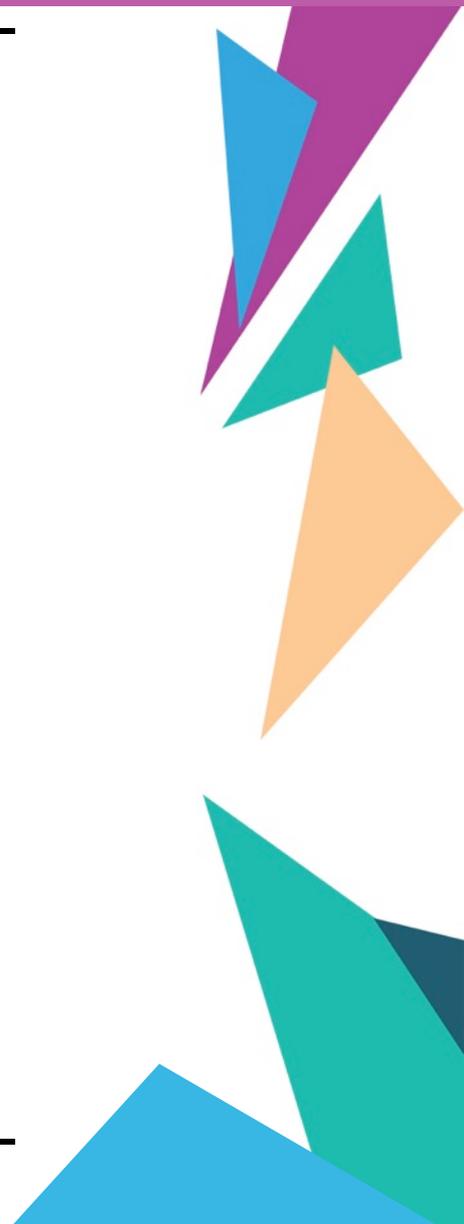


Quality of Care



Safety CLUEs – Staffing Ratios

| | Number of activities undone, mean (SD) | Number of activities delayed, mean (SD) |
|-----------------------------------|--|---|
| Type of Shift | | |
| Day | 2.32 (2.37) | 5.11 (3.56) |
| Night | 2.00 (1.47) | 4.12 (2.86) |
| Patients per Nursing team member* | | |
| Up to 3.63 | 1.76 (2.16) | 4.16 (2.95) |
| 3.63 to 4.80 | 2.11 (2.15) | 4.97 (3.51) |
| 4.80 and over | 2.78 (2.67) | 6.22 (4.04) |
| Patients per RN* | | |
| Up to 4.40 | 1.89 (2.11) | 3.53 (2.55) |
| 4.40 to 5.80 | 1.11 (1.97) | 5.16 (3.58) |
| 5.80 and over | 2.76 (2.90) | 4.29 (3.88) |



Where to from here?



RESEARCH STUDY



Programme of Research on Nurse Staffing and Skill-Mix

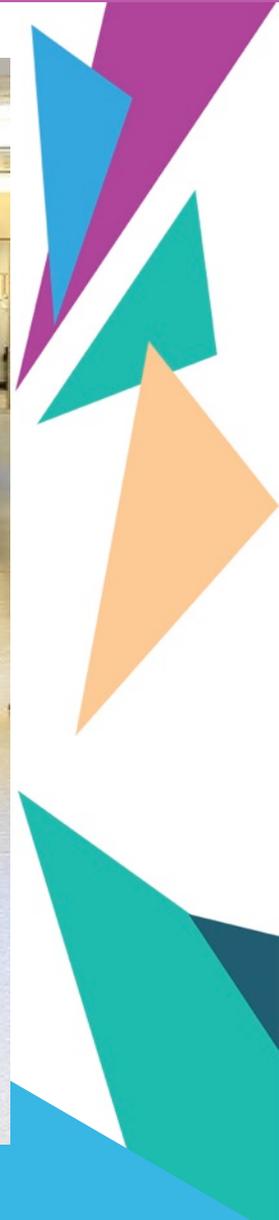
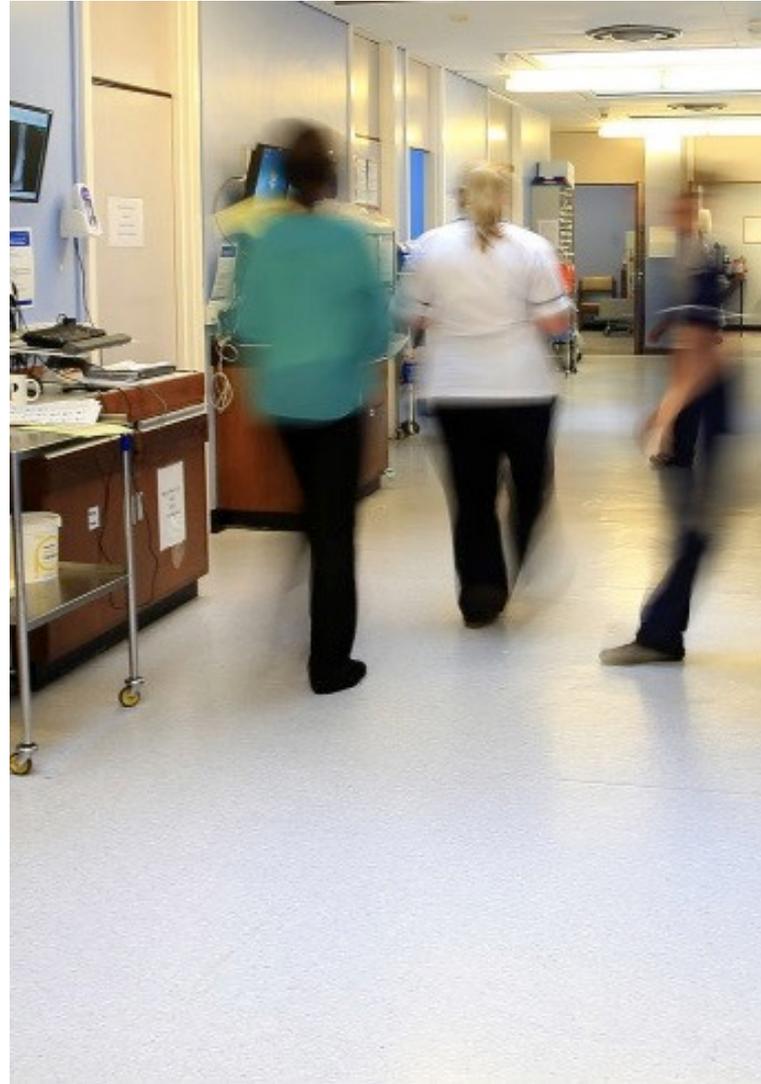
A research team from University College Cork is currently undertaking a Health Research Board funded survey of nursing staff to explore **your views on staffing and patient care** in your ward. This is part of a larger project investigating the impact of implementing the *Framework* developed by the Department of Health on staff outcomes, organisational factors, and nurse-sensitive patient outcomes.

Please return your **survey** in the provided **box on your ward**. All responses will be **anonymous** and **confidential**.
If you have any queries or comments please contact: **Professor Jonathan Drennan** at Jonathan.Drennan@ucc.ie.



Conclusions

- Future research will target the development and testing of effective staffing methods and the impact of leadership approaches.
- High-quality care cannot be achieved without an empirical approach to safe nurse staffing and leadership.

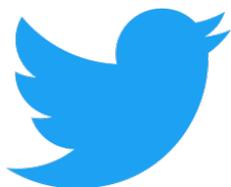


Acknowledgements

The research presented was funded by the Department of Health and the Health Research Board



Jonathan.Drennan@ucc.ie



[@jdadrennan](https://twitter.com/jdadrennan)



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