RN4CAST

nurse forecasting in Europe

Report of the Irish RN4CAST Study 2009-2011:

A nursing workforce under strain

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SEVENTH FRAMEWORK PROGRAMME

DCU

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Contents

FOREWORD

The RN4CAST consortium research study, funded by the European Commission, has provided a unique opportunity to gain insight into both organisational and nurse staffing issues across the acute hospital sector in Ireland. As part of the RN4CAST (Ireland) study, for the first time, both hospitals and medical and surgical units within thirty out of a possible thirty-one acute hospitals (with over one hundred beds) have been surveyed. Data were collected in 2009-2010.

The work of the international consortium also enables comparisons of Irish findings with key findings internationally. For example it has proved possible to compare such issues as patient – to - nurse ratios and patient - to health care-staff ratios across the 12 partner countries of the consortium. This is also the case, for example, for nurse burnout levels, job satisfaction and nurse perceptions of safety and quality of care.

RN4CAST (Ireland) provides a portrayal of the Irish acute hospital sector as operating in a context of dynamic challenge and change from both internal and external drivers. There is considerable evidence of significant strain on the nursing staff working in the sector. Nursing staff indicate concern regarding aspects of the quality and safety of patient care and the availability of sufficient staff and resources to do their job properly.

We are of the view that unless these and a number of other issues raised in this report are managed effectively, there will be detrimental impacts on patient care, patient safety and retention and recruitment of high quality nursing staff for our health service.

Professor P Anne Scott
Principal Investigator, Irish RN4CAST study
April 2013

EXECUTIVE SUMMARY

Health systems around the world are challenged to meet the health needs of populations through the provision of safe and high quality care. Citizens are living longer and enjoy better health. However as people live longer, it is expected that there may be increasing numbers of older people with chronic conditions and in need of long-term care. Moreover, as the population ages, so does the workforce. These factors will give rise to many health workforce planning issues over the coming decades.

A number of international studies by Professor Linda Aiken (University of Pennsylvania) and her team demonstrate negative effects of non-optimal nurse deployment in hospital-based care (numbers and qualification) on both nurse (e.g. burnout, job satisfaction, intention to leave) and patient care outcomes (e.g. mortality, failure to rescue) (International Hospital Outcomes Study, Aiken et al., 2001, 2002 & 2003).

The RN4CAST consortium consisted of 12 European countries (Belgium, England, Finland, Germany, Greece, Ireland Netherlands, Norway, Poland, Spain, Sweden and Switzerland). The consortium was funded under the 7th Framework Programme of the European Commission (FP7) to carry out the three-year RN4CAST project (1 January 2009- 31 December 2011). It was coordinated by Professor Walter Sermeus, Catholic University Leuven, Belgium, with Professor Linda Aiken, University of Pennsylvania, as Vice-Coordinator. A team led by Prof Anne Scott, Dublin City University, was the Irish member of the consortium.

The **aim of the RN4CAST** study was to introduce an innovative approach to forecasting health workforce requirements by enriching standard forecasting methods with considerations of quality of both nursing staff and quality of patient care. This entailed expanding typical forecasting models with factors that take into account how, for example, features of work environments and qualifications of the nursing workforce impact on nurse and patient outcomes. The project therefore required the completion of a number of inter-related work packages, including an organizational survey carried out in a minimum of 30 acute hospitals per member country, and a survey of nurses working in medical and surgical units in these same acute hospitals.

In Ireland 30 acute hospitals, out of the potential 31 acute hospitals eligible, took part in the study. The RN4CAST project has provided an important, and to date unique, opportunity to gain insight into both organizational and nurse staff issues

across the entire acute hospital sector in Ireland. This report focuses on the findings from the organizational and nurse surveys, carried out as part of the RN4CAST (Ireland) project. Data collection for the study took place in 2009 – 2010.

Key conclusions

- There is a dearth of information on nursing staff profiles in Irish acute hospitals. This lack of information is likely to undermine attempts to determine both the most effective way to deploy nursing staff throughout the hospital, and the identification of appropriate staff skills mix at ward / unit level. Ultimately such deficit is likely to impact both patient and nurse outcomes.

- This dearth of information may also suggest a lack of awareness among hospital managers, including nurse managers, regarding the potential impact of differing nurse education levels, skill set and experience on patient care and patient outcomes; once again, potentially, impacting patient and nurse outcomes.

- Ward staffing levels across the acute hospital sector seems to be based largely on historical staff complement. Seventy percent of hospitals surveyed indicated that ward staffing was not matched with patient acuity or dependency levels. This reality, combined with reduced lengths of stay for patients and the current ongoing moratorium on staffing, is likely to be impacting significantly on ward-based nursing staff.

- Many nurses, working in acute medical and surgical units across the Irish acute hospital sector, are concerned regarding the ability of patients to manage their care following discharge.

- Many nurses working in medical and surgical units across the Irish acute hospital sector expressed little confidence in hospital management's willingness to respond to problems in patient care reported to them by staff; or in management's commitment to patient safety issues.

- Nurses in over one quarter of large acute hospitals in Ireland reported a deterioration in care over the year prior to data collection, e.g. 2008-2009. Since 2010 a large number of frontline staff members have taken early retirement. When the implications of this fact is combined with the continuation of the moratorium on replacing staff who have left the health service (and other austerity measures that have been instituted over the past 3 – 4 years), there is reason to believe the situation may have deteriorated further.

- A majority of nurses working in medical and surgical units across the Irish acute hospital sector reported moderate to high levels of burnout and low levels of job satisfaction. Issues of burnout and job satisfaction tend to be associated with features of the nurse work environment. Certain aspects of the work environment in the acute hospital sector such as support from line managers was, in general, viewed positively. However other elements such as staffing and resource adequacy and nurse participation in hospital affairs were viewed

negatively and sometimes very negatively by nurse respondents. Hospital average scores hide significant within hospital variation on these issues. There are indications from a number of recent international studies that a good work environment can mediate the effects of less than optimal patient - to - nurse ratios on both patient and nurse outcomes. Therefore it would seem that improving the nurse work environment is important both for the advancement of the health care quality and patient safety agenda in Ireland and for reducing burnout levels and increasing job satisfaction among nurses.

- A number of acute hospitals appeared to have exceptionally high bed occupancy rates. International guidelines would suggest that a bed occupancy rate above 85% is likely to impact on quality of care and hospital functioning. Thirteen out of the nineteen hospitals, for which we have data, reported average bed occupancy rates of over 85%. Nine of these hospitals reported occupancy rates of above 95%. One hospital reported an average occupancy rate of 100% and one hospital reported an occupancy rate of 120%.

- Institutional approaches to meeting patient safety requirements within the acute hospitals are currently, to some degree, open to interpretation by hospital management and therefore lack standardisation. Managers are aware that they must establish safety posts, and institute audits and training. However, how such initiatives are implemented is up to each individual hospital management team, and ultimately the Hospital CEO (or equivalent) and the Board (in the voluntary sector), as evidenced by HIQA (2012a). However HIQA (2012a, 2012b) has recently laid down clear guidance on the appropriate governance structure and approach required to ensure the safe delivery of high quality patient care. It is now incumbent on the health service to ensure this approach is implemented across our acute hospital sector.

- A gap exists between the patient safety approach hospitals declare and the reality as experienced by staff, as measured by nurse survey. The patient safety agenda has developed rapidly since the data collection period and, in particular, as a result of the publication of the report of the investigation into quality, safety and governance at Tallaght Hospital. However, in order to reality check the actual impact of these developments (as with the roll out of HIQA's national standards for safer better care; HIQA 2012b), it would be timely to check the perceptions and experience of front line staff providing patient care.

Recommendations

We have grouped our recommendations under 5 headings for ease of reference:

- Access to relevant staff profile data: an issue for quality and safety of patient care,
- Workforce management and planning,
- Organisational management and leadership,
- Care quality and safety, and
- Further research.

Access to relevant staff profile data: an issue for quality and safety of patient care

1. Significant types of data with regards to staff profile (medical and nursing) do not appear to be collected at the organisational level in the acute hospital sector; or, if it is collected, does not seem to be available to senior nurse managers. Such data sources (and a Business Intelligence System), which would enable senior managers' access to vital human resources information and statistics, via a type of dashboard, seem urgently needed. Access to relevant elements of the information should also be available to the ward or unit managers and other relevant groupings within the hospital. This would enable senior hospital mangers to take an holistic view of organisational, unit and team staffing, rather than the current data-poor, silo approach.

2. It is vital to record the educational and experience levels of nursing staff at organisational and unit level. There are internationally identified associations between nursing educational levels and quality of patient care. Such associations have been replicated in the RN4CAST study (Aiken et al 2012). Thus information, on the educational levels of nursing staff, would assist in both human resource planning and shift rostering at unit level; with a view to improving the quality of patient care.

3. On that basis of this study attention needs to be drawn to the relative inexperience (in terms of years since qualification) of large numbers of staff nurses working in the medical and surgical units of the acute hospital sector. This is likely to be a particular issue in the large tertiary centres and university teaching hospitals, where patient acuity and dependency is very high and length of stay is becoming increasingly shorter. From both a patient safety perspective, and from a work environment perspective, unit / ward staff profiles needs careful attention; to ensure appropriate skill mix, level of experience and expertise. Consideration also needs to be given to the appropriate mentoring / clinical supervision of recently qualified nursing staff.

4. Data on medical and nursing staff numbers, and profile (including country of original nursing/medical qualification), should be held in an integrated data base, accessible via an appropriate business intelligence system (BIS). Medical and Nursing workforce planning should be an integrated activity at both the national and organisational levels, in order to ensure effective use of staff, experience, expertise and skill mix.

5. Staff turn-over rates, in particular nursing staff turnover rates, should be recorded at organisational level and reviewed at organisation, regional and national levels in order to help monitor such issues as staff morale and attrition rates; as these may ultimately impact patient care and patient outcomes. Appropriate monitoring of turnover rates will also assist in more effective manpower planning at organisational level.

6. The importance of recording staff illness / absentee rates at both unit and organisational levels seems clear. Such information can provide vital insights into staff morale on the particular unit. It may also help track the impact of issues such as high patient turnover and increasingly dependent, acutely ill patients (churn) on nursing staff in particular. Such information may also help inform appropriate maternity leave policy development in specific areas of service delivery. This is particularly relevant to nursing staff in Irish acute hospitals. The average age of the Irish medical or surgical staff nurse is 35 years, according to our data. Given the predominantly female gender of the Irish nursing workforce many of these staff nurses are in child-bearing years and despite increases in the duration of statutory maternity leave over recent years, this is still likely to impact on the illness / absentee patterns in this particular group of staff.

Workforce management and planning

7. On the basis of the findings of this study the model of nurse workforce planning in Irish acute hospitals is largely historical. A more rational basis for nurse workforce planning must be identified. (HIQA (2012b, Theme 6 on workforce, articulates some of the relevant considerations.) Recent work by Behan et al (2009), on behalf of the Expert Skills Working Group, should be built on and extended to take into account such factors as the educational level of staff, skills, patient acuity and dependency and so forth, in order to both develop a sufficiently complex model and generate guidelines for safe staffing levels / staff-patient ratios (also see recommendations 15 and 18 below). The developing evidence base regarding the mediating effect of the nurse work environment, on both nurse and patients outcomes, should be monitored and integrated in workforce planning and management models where relevant.

8. Introducing a streamlined performance management and development system (PMDS) and/or Personal Development Planning (PDP) process across the organisation would enable nurse managers to discuss with nursing staff their career goals and continuing professional development needs. Training and development requirements, thus identified, could feed into hospital service plans, action plans and continuing professional development initiatives across the organisation. At present hospital training budgets and continuing professional development (CPD) initiatives seems somewhat ad hoc. Such PMDS discussions with staff would go a significant way in portraying, to staff, that both unit and hospital managers are interested in the personal career development of staff members; and wish to support this in a systematic way, in so far as resources allow.

Organisational Management and Leadership

9. The effects of both internal and external drivers of change (that impact on staff and work environment in particular) should be identified, measured, monitored and managed, in ways that prioritizes protection of patients and front line staff in their provision of patient care. This is a key responsibility of senior hospital management, particularly in the current austere environment.

10. Consistent with recommendations from the report of the national empowerment study on nursing and midwifery (Scott et al 2003) we recommend , once again, that existing organisational communication strategies be reviewed, and measures taken to ensure the existence of meaningful strategies to address the perceived invisibility of nursing in the organisation. In particular cognisance should taken of the need to balance medical, nursing and administration input into strategic planning and both strategic and operational decision making. Directors of Nursing should, by virtue of their role and responsibilities, sit at the corporate table to represent, visibly, nursing in such decision making processes. This should be the case through the various layers / levels of the HSE – or any such body that replaces it in the future. It goes without saying that nurses in leadership roles must ensure that they are equipped to fulfil these roles effectively; thus ensuring appropriate influence and contribution to the management of our acute hospitals and, in particular, to the quality of care and patient safety agenda.

11. Nurses' perceptions of empowerment are of interest because an empowered, committed workforce is a requirement for the delivery of high quality, humane, patient-centred health care. In the national empowerment study (Scott et al 2003) the nurses and midwives surveyed, clearly articulated empowerment as including both personal and institutional factors. The recommendations in that national study included a focus on organisational development, management

development, educational provision and practice development. Although many of the recommendations have been addressed over the past decade some, particularly in the area of organisational development, have not. Also some of those that were in the process of being addressed such as management development, continuing educational provision and practice development are in serious danger of being undermined in the current environment of austerity. It is recommended that a review be carried out on progress to date in implementing the recommendations from Scott et al (2003), and that an updated action plan be prepared and implemented.

12. There is a growing evidence base suggesting that the work environment of nurses impacts on both patient and nurse outcomes. Our findings suggest marked within-hospital and between- hospital variation in the work environments of the nurses in our study. Key areas for intervention at hospital and ward levels, are improving leadership and management support and involving nurses in decision-making and governance. It is recommended that Directors of Nursing consider the inclusion of nurses involved in the provision of direct care in hospital governance, within relevant committees, to improve cohesion amongst staff from across the organisation.

13. There is a need to monitor, on an ongoing basis, both nurses' satisfaction with their job and with nursing as a career. This is in order to ensure that nursing remains a desirable career in Ireland, especially as graduate opportunities remain limited and public sector conditions are under consistent review.

14. Increasing patient-to-nurse ratios, high levels of burnout, concerns about the quality of care and patients safety issues are among the list of factors that Lu et al (2005, 2012) indicate are associated, internationally, with reduced levels of job satisfaction and increasing intention to leave. Within the Irish acute hospital context these factors are, increasingly, being compounded with reduced lengths of stay, ever increasing demands for hospital care and deteriorating pay and conditions. Despite, or perhaps because of, the current climate of austerity, and against a worsening world shortage of qualified nursing staff, health service managers and leaders need to work to retain our highly capable nursing workforce. This can be achieved by supporting improvements in those elements of the nurse work environment that are not solely dependent on additional costly investment – e.g. staff involvement and positive recognition and feedback.

Care Quality and Safety

15. There was considerable variation in both nurse-patient ratios and staff-patient ratios across hospitals in this study. Some of this variation is likely appropriate given the different patient profiles both within and across the acute hospital sector in Ireland. However, in light of the variation found in this study, combined with the fact of the dominance of historical staffing as the predominant model of workforce planning in and across the acute sector, this matter requires further attention. Given the international evidence (replicated in this study), supporting a close association between nurse-patient ratios and patient safety, the time would appear ripe to work with HIQA to consider carefully the development of guidance on safe-to-optimum nurse-patient ratios; taking into account the differing needs and dependency levels of difference groups of patients in institutional care in the acute hospital sector in Ireland. The HSE, perhaps in collaboration with HIQA, should consider the development of a standard in this area, recognising elements such as the positive mediating effect of staff education levels and positive work environment. On the basis of the standard staffing guidelines could then be generated.

16. Nurse participants in three quarters of the study hospitals reported a lack of confidence that management in their hospitals would respond to patient care problems identified and reported to management. This is a very worrying finding which suggests a requirement for urgent attention from hospital management, as identified by HIQA (2012a). Systems should be implemented that ensures that (a) staff are encouraged to raise concerns regarding patient care with hospital management when appropriate, (b) that management, in turn, acknowledge such concerns and outline the proposed course of action, and (c) that appropriate governance oversight is maintained, as recommended by HIQA (2012a,b) . Failure to do so ignores the recommendations from the Commission on Patient Safety (Government of Ireland 2008), HIQA recommendations (2012a,b) and explicit HSE policy on whistle blowing (HSE 2011). Such failure would also suggest that our health service leaders and managers have not learned the lessons emanating from the Lourdes Hospital Inquiry (DoHC 2006).

17. An integrated approach to clinical governance should be developed in a manner that ensures the most effective impact of the safety officer role, within the new clinical directorates and integrated hospital groups currently being developed within the HSE. Such an approach did not appear to exist consistently, at the time of data collection, across the Irish acute hospital system. However, as indicated above, the requirement for such an approach has been clearly detailed by HIQA (2011).

Further Research

18. Our findings provide insight into both the level and type of nursing work reported as "left undone" due to time / resource constraints. The study also provides insights into the levels of non-nursing work reported to be engaged in frequently by nurses across the acute hospital sector. We recommend that a focused piece of research be conducted into the actual levels of clerical and other "non-nursing" work engaged in by nurses in our larger acute hospitals, including an analysis of the nursing-related content of this work, if any. Such research would contribute an element of an evidence base to decisions regarding both current nursing activity and the most appropriate use of the nursing workforce. It may also help clarify a more effective way to manage clerical work at ward / unit level.

19. As can be seen from figure 15 (see p.48) nurses generally viewed the ability, leadership and support received from unit nurse managers positively. However there is clearly room for further improvement and mean hospital statistics masks within hospital differences that should be investigated further. It is recommended that the impact of clinical management training, to date, be further evaluated. Building on the current work of the National Leadership & Innovation Centre for Nursing & Midwifery (NCLINM), further needs analyses for continuing professional development with regards to ward / unit managers, assistant directors and directors of nursing grades should be conducted, to ensure that relevant structures, tools and training is provided to support local, middle and senior managers especially in the current very turbulent environment – a context that is likely to continue for the next 3 – 5 years at a minimum.

20. The impact of International work experience on practitioner practice is poorly investigated in health service research. However literature from business and managements disciplines indicates that international work experience improves the ability to plan and problem solve: both important facilities in achieving positive patient outcomes (Robinson et al 2003, Michel and Stratulat 2010). In light of (a) the large number of Irish nurses who have either been educated and / worked overseas as nurses, and who have returned to work in the Irish health service, and (b) the significant number of overseas nurses who have been recruited into the Irish health service over the past decade or so, it seems pertinent to incorporate such information into staff profile data bases. It is also timely to engage in research that explores the impact of international health service experience on nurse performance, judgement and decision making.

21. Further research is required which would explore and identify any relationships that may exist between nurse experience levels and organisational outcomes such as hospital hygiene, rates of MRSA and other hospital acquired infections,. Existing data from HIQA, HSE Health Protection Surveillance Centre and other routinely collected sources would facilitate such research.

22. The Quality and Patient Safety Directorate of the HSE has recently conducted a pilot study of the culture of safety in Irish hospitals, using the Agency to Healthcare Research and Quality (AHRQ) instrument part of which was used in this RN4CAST study. Rolling that study out to all the acute hospitals will give a baseline for safety culture in Ireland against which outcomes can be measured in future studies.

INTRODUCTION AND STUDY OVERVIEW

Health systems around the world are challenged to meet the health needs of populations through the provision of safe and high quality care. Citizens are living longer and enjoy better health. As people live longer, it is expected that there may be increasing numbers of older people with severe disabilities and in need of long-term care. Moreover, as the population ages, so does the workforce. Assessment is therefore needed regarding the types of specialist skills that will be required, taking into account that healthcare treatments change with the introduction of new technology, the effects of the ageing population on the pattern of disease, and the increase in the number of older patients with multiple chronic conditions. Consequently European health systems will have to invest in an efficient and effective work force of the highest quality.

A number of international studies by Professor Linda Aiken (University of Pennsylvania) and her team demonstrate negative effects of non-optimal nurse deployment (numbers and qualification) on both nurse (e.g. burnout, job satisfaction, intention to leave) and patient care outcomes (e.g. mortality, failure to rescue) (International Hospital Outcomes Study, Aiken et al., 2001, 2002 & 2003).
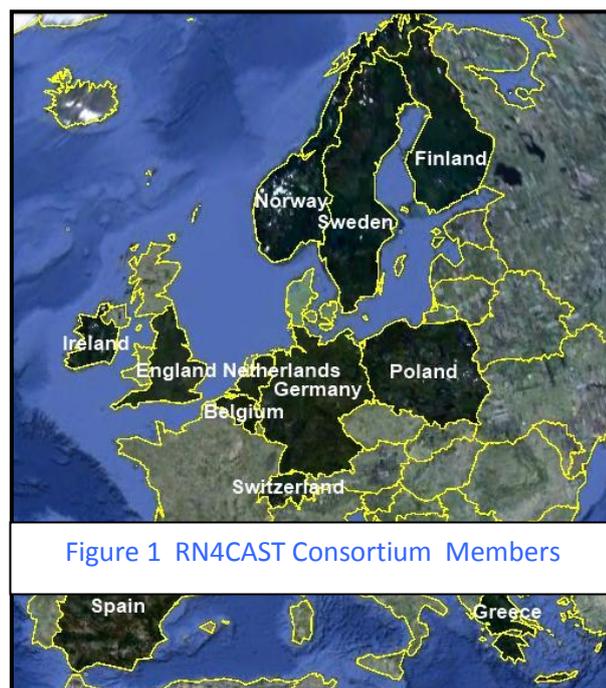

Figure 1 RN4CAST Consortium Members

The RN4CAST consortium (Figure 1) consists of 12 European countries (Belgium, England, Finland, Germany, Greece, Ireland Netherlands, Norway, Poland, Spain, Sweden and Switzerland).

Three International Co-operating Partner Countries (ICPC) of the European Commission (Botswana, China and South Africa) provided a broader perspective to the study.

The consortium was funded under the 7th Framework Programme of the European Commission (FP7) to carry out the three-year RN4CAST project (1 January 2009- 31 December 2011). It was coordinated by Professor Walter Sermeus, Catholic University Leuven, Belgium, with Professor Linda Aiken, University of Pennsylvania, as Vice-Coordinator.

Dublin City University was the Irish member of the consortium. The Irish team was led by Professor P Anne Scott, Principal Investigator, and involved Dr Anne Matthews, project coordinator, Dr Roisin Morris, research fellow, Professor Anthony Staines, expert on administratively collected patient discharge data, and Ms Daniela Lehwaldt and Dr Marcia Kirwan, researcher assistants / PhD students on the project. In the early months of the project an Irish Stakeholder Advisory Group was established, comprising representatives from key nursing, healthcare and patient organisations in Ireland. This advisory group provided important input and advice through the duration of the project, from issues regarding access through to advice on dissemination of project findings.The **aim of the RN4CAST** study was to introduce an innovative approach to forecasting health workforce requirements by enriching standard forecasting methods with considerations of quality of both nursing staff and quality of patient care; in addition to focusing on traditional supply and demand factors. This entailed expanding typical forecasting models with factors that take into account how, for example, features of work environments and qualifications of the nursing workforce impact on nurse and patient outcomes. The project therefore required the completion of a number of inter-related work packages, as shown in Figure 2 below. The DCU team led Work Package 8 (WP8): Human Resource Policy Synthesis. The work carried out under that work package is not included in this report and a summary can be found at http://www.dcu.ie/snhs/pdfs/RN4CAST%20-%20Workforce%20planning%20update.pdf).

This report focuses on the findings of the nurse survey and, where appropriate, some findings from the organisational survey, carried out within Work Package 5 of the RN4CAST, as outlined below.

Figure 2 RN4CAST Work Package responsibilities
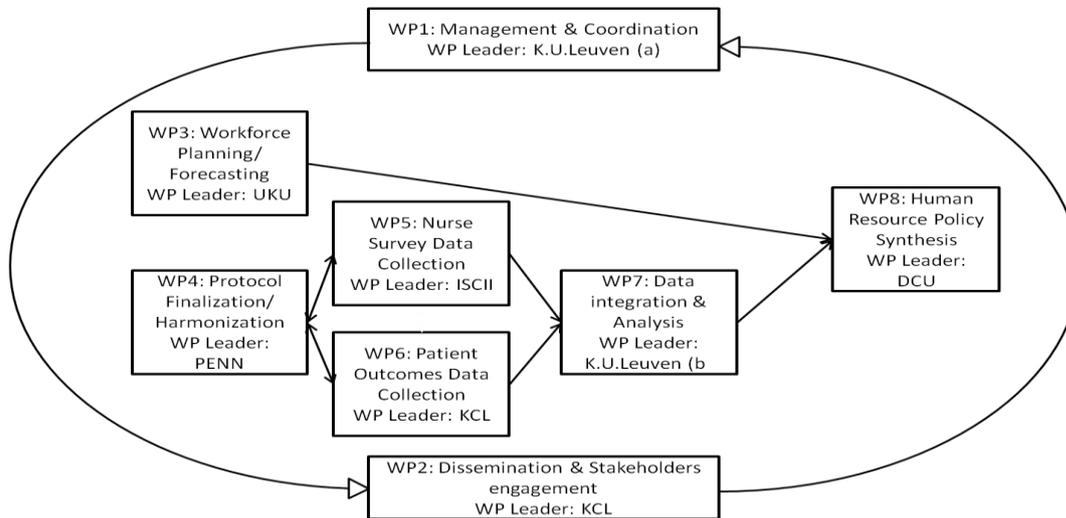
KU Leuven	*Katholieke Universiteit Leuven, Belgium*
KCL	*King's College London, UK*
UKU	*University of Kuopio, Finland*
PENN	*University of Pennsylvania, USA*
ISCII	*Investen-ISCIII Instituto de Salud Carlos III, Ministerio de Ciencia e Innovción, Madrid Spain*
DCU	*Dublin City University*

RN4CAST project overview

Data collection throughout the consortium was focused on general medicine and surgery wards in acute hospitals. The following Table 1 shows the numbers of hospitals and nurses included in the study across all participating European countries.

Table 1 Participating hospitals and nurses across all countries

Country	Hospitals	Nurses	Nurses per hospital Mean(standard deviation)
Belgium	67	3186	48 (21)
England	46	2918	63 (26)
Finland	32	1131	35 (15)
Germany	49	1508	31 (17)
Greece	24	367	15 (7)
Ireland	30	1406	47 (14)
Netherlands	28	2217	79 (41)
Norway	35	3752	107 (65)
Poland	30	2605	87 (15)
Spain	33	2804	85 (37)
Sweden	79	10 133	128 (108)
Switzerland	35	1632	47 (17)
TOTAL	488	33 659	65

Aiken et al (2012a)

In Ireland general medical and surgical wards in 30 acute adult hospitals were included in the study. This comprises all acute hospitals in Ireland, with one exception[1], which had in excess of 100 beds at the time of hospital recruitment. Thus within the Irish context the RN4CAST study provides a detailed snapshot of the national acute hospital sector during the data collection phase: 2009 – 2010.

It is intended that this report will assist health service and nurse management within hospitals to plan the nurse workforce in their hospitals effectively, and to address the issues raised in relation to nurse and patient outcomes. However, it is necessary to look at these issues also at both national and regional levels. It is therefore anticipated that this report will be useful to a number of national and regional bodies such as the Department of Health, Office of the Nursing & Midwifery Services

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[1] One acute hospital with over 100 beds declined to participate in this study due to pressure of work and lack of resources during the 2009/10 data collection period.

Directorate of the HSE, the Directorate of Quality and Patient Safety (HSE), Health Information and Quality Authority (HIQA) and regional Nursing and Midwifery Planning and Development Units.

In common with all participating countries four categories of data were collected as part of the study:

1. Organisational characteristics (number of beds, teaching status and so forth) of the participating hospitals. The organisational questionnaire can be found at Appendix C.

2. Nurse survey data: questionnaire completed by nurses working in 30 acute hospitals concerning their practice environment, job satisfaction, workload, and perceived quality of care. The questionnaire used for this study can be found in Appendix B.

3. Patient survey data: questionnaires completed by patients on their individual hospital experience. The patient satisfaction questionnaire used in this research came from the US based Hospital Consumer Assessment of Health care Providers and Systems (2005). The patient survey was carried out in 10 of the 30 study hospitals. The patient questionnaire used in the study can be found in Appendix D. The results of the patient survey are fully detailed in Appendix A of this report.

4. Patient outcomes data: information on length of stay, diagnoses, procedures, discharge status, and so forth. Each hospital was asked for permission for the study team to access their Hospital In-patient Enquiry (HIPE) data through the Health Service Executive's (HSE) *Health Atlas*. We learned about patient outcomes through the use of routinely collected discharge data for patients with specific medical conditions or who had specific surgical procedures. <u>Results relating to this aspect of the study are not included in this report.</u>

The following Figure 3 seeks to clarify the combination of data collected for the RN4CAST study and its potential in terms of data analysis.

Figure 3[2] RN4CAST data collected
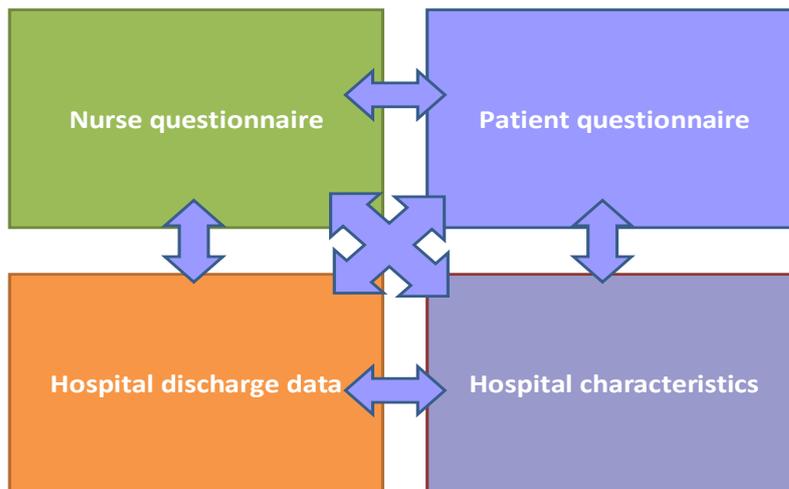
During the analytical process the four data sets were linked together. After these sets of data were linked by hospital, all hospital identifiers were removed and hospitals were coded with a number.

The focus of this report is on the findings from the organisational survey and the nurse survey for all participating hospitals. The patient survey was carried out in 10 of the 30 study hospitals. Full details of the result of the patient survey can be found in Appendix D of this report. The anonymity of individual participants, nursing units and hospitals is preserved. No hospitals or individuals are identifiable in any reports produced from this study.

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[2]Designed by Luk Bruyneel for a presentation by Prof W Sermeus entitled RN4CAST Nurse Forecasting: Human Resources Planning in Nursing, presented at Policy Dialogue on the Planning for a well-skilled nursing and social care workforce in the European Union. Venice - Italy, 12 May 2009.

ETHICAL CONSIDERATIONS AND PROCEDURES

Based on the hospital inclusion criteria for the European study, 32 hospitals with more than 100 inpatient beds at the time of hospital recruitment, and where routinely-collected patient discharge data were available, were approached in Ireland. Ethical approval for the study was obtained from Dublin City University Research Ethics Committee (REC) in March 2009. Following this all 32 eligible hospitals were approached seeking ethical approval to conduct the study.[3] Ultimately 30 hospitals participated in the study.

Although the processes varied greatly in many cases, approval for the study was obtained in the 31 hospitals. Some Research Ethics Committees (REC) accepted applications for more than one hospital site. These groupings are based on Health Service Executive regional groupings or hospital groupings. However some of these hospitals had additional local access permission procedures which either preceded or followed the application to the REC. Other hospitals had a local REC only and separate applications were prepared for all of these. Very little consistency was found across the processes.

Responses from RECs also varied considerably. In some cases chairperson's approval was granted as the project was deemed to have no ethical issues which needed to be considered by a full committee. In other cases clarification was required on some issues following consideration by the REC. Patient information leaflets were adjusted to reflect recommended changes. In one case the committee requested that a new application be submitted, and this extended the process to eight months. The process of obtaining ethical approval to conduct the study in all hospitals took over nine months. The length of time for this process varied between 1.5 weeks and twenty six weeks.

Following the obtaining of ethical approval, access to the hospital and its nurses was sought through the Directors of Nursing (DoNs). This process was often prolonged as

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[3] One of these hospitals subsequently declined to participate (related to a substantial drop in bed numbers) and another refused access within a group approval process.

meetings were sometimes requested and clarifications sought. In one case, during this element of the process, access was denied; thus reducing the number of hospitals to 30. During this access negotiation phase "link persons" were identified by the DoNs as the first point of contact for the DCU researchers. This was a really crucial resource and the research team are very grateful for the help and support given by these 30 individuals. The link persons were generally members of the nurse management team or from Nursing Practice Development within the hospital.

The cover letter which accompanied the nurse questionnaire clearly explained that by submitting the questionnaire the nurse (and patient for patients' satisfaction survey) was giving consent for the data to be used by the researchers. It also explained that withdrawal was possible at any time and researcher contact details were supplied.

ORGANISATIONAL SURVEY RESULTS

Data collection

Data for the organisational profile questionnaire were collected between October 2009 and April 2010. Directors of Nursing (DoNs) were approached prior to the study and following the granting of ethical approval from Research Ethics Committees and/or Nursing Research Access Committees. Thirty out of thirty one DONs gave approval and support for the study. Either the DoN or an appointed RN4CAST link person completed the organisational questionnaire. Some parts of the questionnaire required liaison with Finance or Human Resources (HR) departments of the hospital (for example, overall expenditure and medical staffing numbers). This proved to be problematic in some cases as organisational data collection coincided with industrial unrest in the Irish health service. A work-to-rule at hospital level delayed or inhibited the provision of certain data. Feedback following completion of the questionnaire noted the large amount of detailed information required and the difficulties in accessing the data, due in part to the work-to-rule at hospital level. Some questions and responses required further clarification at the time of data analysis, and at this point hospital link people were invaluable to the project team. Organisational profile data were obtained from all 30 participating adult acute care hospitals from across Ireland. This data provides a very interesting overview of the Irish public, acute hospital sector in 2009-10.

Description of study hospitals

All of the hospitals included were public, as per the inclusion criterion of having HIPE discharge data available. Twelve hospitals were university hospitals. Eighteen classified themselves as regional referral centres and six hospitals were national referral centres. Hospital services included emergency (30), intensive care (28), open heart surgery (4) and transplant surgery (4). Variations in annual activity, bed occupancy and number of beds in medical and surgical wards were also evident. Factors that influenced the running of hospitals were reported as mergers with other hospitals, moving of wards, substantial increase in bed numbers and substantial

decrease in bed numbers. Some hospitals opened new buildings and facilities, while others had to close major facilities.

There have been many reported reconfigurations and changes within participating hospitals, including:

- 19 had reconfiguration of wards
- 11 had a substantial decrease in bed numbers
- 11 had new facilities opened
- 11 had new buildings opened
- 8 reported the closure of major facilities
- 8 reported mergers with other hospitals
- 4 reported substantial increase in bed numbers

At the time of data collection (September 2009 – May 2010) a recruitment moratorium was in place across the Irish health service (effective from March 2009 and ongoing). This moratorium prevents the replacement of staff members who leave the public health service, or of those who are on various types of leave – such as long-term leave due to illness, holiday leave and maternity leave. The moratorium is a measure introduced by government to reduce staff costs in the health service, in response to a global recession and a severe downturn in the Irish economy since September 2008. Many of the above reported reconfigurations were explained as being influenced either by the recruitment moratorium and /or increase in day-case activity. Irrespective of which particular set of issues were at play, this data portrays the Irish acute hospital sector as operating in a context of dynamic change and challenge from both internal and external drivers.

Key indicators relating to the hospitals are shown in the following Table 2.

Table 2 Hospital Characteristics*

Number Open beds*	Size of hospital (levels set in RN4CAST according to bed numbers	University/ Not	High technology hospital (heart or transplant surgery)	Inpatient admission/ year	Number of registered nurses- WTE
892	Large (>400)	yes	yes	22,689	1,375
702	Large	yes	Yes	32,583	1,307
623	Large	yes	Yes	27,000	987
620	Large	yes	Yes	15,911	1,051
612	Large	yes	Yes	16,228	954
605	Large	yes	Yes	21,833	955
554	Large	yes		24,137	948
474	Large	yes		23,156	688
435	Large	yes		24,086	726
402	Large	yes		9,993	504
349	Medium (200-399)	yes		9,581	374
334	Medium			16,683**	455
333	Medium			19,144	596
332	Medium			20,476	538
324	Medium			14,065	462
317	Medium			15,957	395
283	Medium			14,118	341
262	Medium	yes		8,750	301
246	Medium			15,478	529
220	Medium			11,313	284
213	Medium	yes		7,675	267
206	Medium			14,826	334
199	Small (<200)			18,829	287

*Hospital data listed in order, starting with the greatest number of beds

** 2010 data taken from the HSE Regional Service Plan West 2011 (HSE 2011)

***Hospital Identifiers are not used in this table as to do so would enable identification of hospitals throughout the report

An inquiry into bed occupancy rates was also included in the organisational survey. Nineteen

hospitals reported their rate. A bed occupancy rate of greater than 85% can be

expected to impact negatively on quality of care and hospital functioning (Keegan

2010, http://download.drfosterintelligence.co.uk/Hospital_Guide_2012.pdf).

Thirteen of the 19 who responded had occupancy rates above 85%.

Table 3 Average bed occupancy rates per hospital

Hospital ID	Occupancy rate
1	
2	93
3	83
4	
5	98
6	
7	96
8	
9	
10	86
11	66
12	99
13	
14	
15	82
16	95
17	
18	
19	97
20	96
21	93
22	
23	85
24	120
25	96
26	95
27	
28	83
29	100
30	84

Contracted weekly working hours

Weekly working hours were reported for medical staff, registered nursing staff and healthcare assistants (HCAs). The range reported was between 37.5-39 hours, with some medical staff having a 33 hour working week. Nurses in Ireland working fulltime, work a standard 37.5 hours per week. Differences in medical working hours reflected recent changes to consultant contracts (Health Service Executive (HSE) 2008a)

Staff numbers

As the organisational profile was completed by a member of the nurse management team, the participants were generally able to provide numbers for registered and non-registered nursing staff. However medical staffing numbers often had to be requested from other departments within the hospital. This seems to have led to missing responses to a number of these questions. This may be due to poor communication practices between departments or may be associated with the work-to-rule. It does however indicate that there is little communication between the professional groups in Irish hospitals with regard to workforce planning. This may be of some concern as skill mix changes are taking place with both professions in Ireland which could have consequences for care delivery.

The primary focus of the RN4CAST study was on nurses in direct care provision, in medical and surgical units in acute hospitals (i.e. staff nurses). However data on other staff working in these hospitals were also collected, in order to examine relationships between the staff groups. Some of the terms used to collect these data in the organisational questionnaire required clarification. While "ward manager" referred to Clinical Nurse Manager I (CNM1) and Clinical Nurse Manager II (CNM 2), "other registered nursing staff" referred to Clinical Nurse Manager III (CNM 3), Assistant Directors of Nursing (ADoNs), DoNs, Clinical Nurse Specialists (CNSs) and Advanced Nurse Practitioners (ANPS). "Non-registered nursing staff" in the Irish setting referred to Health Care Assistants (HCAs).

The following table, Table 4, contains information regarding ratios between key staff groups in Irish hospitals.

Table 4 Ratios between key staff groups in Irish hospitals

Hospital ID	Number of nurses per doctor in the hospital	Number of staff nurses per NCHD	Medical Wards: number of staff nurses to HCA staff	Surgical Wards: number of staff nurses to HCA staff
1	3.6			
2	3		7.8	5.7
3	3.2			
4	3.1	3.8	5.4	5.8
5	3.3			
6	4.6	4.3	2.8	9.1
7	2.5	3.2	28	26
8	3.1	3.4		
9	4.5			27.5
10	4.3		8.4	
11	3.6		2.6	3.4
12	2.4	2.8	2.5	7.8
13	2.9	3.5		
14	2.5		11.4	12
15	3.1	3		
16	3	3.2	3.6	4.1
17	3.8	4.2	8.9	9
18	3.7			
19	3.2	3.9	5.4	6.1
20	4	4.4	6.1	13.7
21	4.3	5.2	4.8	13.5
22	3.1		6.3	3.8
23	3.4	3.9	4.3	4.8
24	3.7	3.5	2.7	1.9
25		4.1	3.5	3
26	2.4	3	3.5	4.3
27	4.4	5.2	5.5	3.8
28	3.4	3.6	3.4	2.1
29	2.8	3.5	9	4.6
30	2.6	5.5	32.2	28.3

From the above table it is evident that there are stark differences in grade mix in this group of large acute Irish hospitals. Participating hospitals provided data which suggests that in medical wards, for example, the variation in ratio can be as great as from three nurses to each member of HCA staff, up to 32 nurses per member of HCA staff. This is important for a number of reasons not least of which is that

further, more sophisticated analysis of this data (on nurse patient ratios and staff skill mix) provides evidence that not only are nurse staffing levels critical to patient safety, but the ratio of nurses to other staff members is also of critical importance (Kirwan et al 2013). See section below on patient safety for some discussion of this issue.

Staff turnover

Staff turnover information was difficult to retrieve; data on registered nurse turnover were available from only 7 hospitals. While some hospitals did not record nurse turnover, other records could not be obtained due to the work-to-rule which occurred at the time of data collection. The mean for those who did report nurse turnover was 10.71%, somewhat similar to previous findings from within Ireland (McCarthy, Tyrell and Cronin 2002).

Nursing staff education and non-EU qualifications

Hospital respondents were asked in this study for the numbers of their nursing staff educated to degree (either pre-registration or post-registration) or Masters level. Additionally they were asked for data on the numbers of their nursing staff who trained outside the European Union (EU). Not all hospitals responded to these questions as the data were not, and currently are not, routinely recorded. Some hospitals gave estimates rather than a definite figure.

It would seem important to collate this type of data for workforce planning purposes. In particular the education levels of the nurse workforce have been repeatedly linked to the quality of patient care (Aiken et al 2003, Sasichay-Akkadechanunt et al 2003, Estabrooks et al 2005, Bruyneel et al 2009, Kendall-Gallagher and Blegen 2009, Aiken et al 2011, Kendall-Gallagher et al 2011). In this study data regarding the education levels and country of training of nurses were collected through the nurse questionnaire also. However these reflect data from the respondents to the nurse questionnaire rather than data held at the institutional level. Thus cross-checking of data from the nurse survey with organisational data or verification of institutionally held data is not possible.

Sickness/absence

Although this question was not answered by all respondents, it was possible to calculate overall results. The percentage of sickness/absence annually was 5.89% for registered nurses and 6.88% for non-registered nursing staff. This is consistent with Healthstat statistics for 2012 (Healthstat 2012) which reports average nurse absentee rates as running at 5.6%, with some hospitals reporting rates as high as 12.5%. This is clearly a significant challenge for hospital managers in general and nurse managers in particular. Such illness / absentee rates are also significantly higher than the HSE target of 3.5% set in the National Service Plan for 2012 (HSE 2012). It is worth noting that the Boorman Review (2009) of the UK NHS, stressed the need to invest in staff health and well-being. The report indicates that organisations which prioritise staff health and well-being have lower rates of sickness absence, improved patient satisfaction and better overall performance.

Organising and managing work in the hospital

The RN4CAST study revealed details about workforce planning on wards in the study hospitals. Hospitals were asked how they planned the nursing workforce. Staffing levels on wards were found (out of a possible n = 30) to be:

- largely historical (n=24)
- not based on a formal system (n=25)
- varying across wards (n=23),
- reviewed regularly in almost half the hospitals (n=14)
- not determined by reference to benchmarks, in just over half the hospitals (n=17)
- not set to match existing benchmarks (n=20)
- not set to exceed existing benchmarks (n=28)
- not matched to patient acuity or dependency (n=-21)
- somewhat based on informal review of patient acuity (n=18)
- not planned on a shift-by-shift basis using patient acuity/ dependency (n=23)

Staff appraisal

- staff do not have a formal annual appraisal review with managers (n=24)
- training needs of nursing staff are reviewed at least once a year in half of the hospitals (n=15)
- there is a lack of annual professional development review for nursing staff (n=20)
- financial support for nurses' professional development and training (n=24)
- study leave support for professional development and training (n=27)

Hospital budget for education and training of nurses

Only 9 hospitals answered a question about the budget for medical and surgical nurse training and development. Others stated that the Centres for Nurse & Midwife Education, Nursing & Midwifery Planning and Development Units and/or Practice Development Units hold the budgets.

Patient safety

Patient safety has become a primary focus for healthcare organisations worldwide (Kirwan et al 2013). In the Irish setting this has gained momentum in recent years for a number of reasons including the following:

- Investigations and inquiries into some very public failures in healthcare provision in Ireland (Government of Ireland, 1997; Department of Health and Children (DoHC) 2006; Health Information and Quality Authority (HIQA), 2008).

- The formal establishment of HIQA, an agency with formal responsibility to set standards for health and social care in Ireland oversee quality assurance of this provision. HIQA was established in 2007.

- The acceptance, by Government, and the implementation of the recommendations of the Report of the Commission on Patient Safety and Quality Assurance (DoHC 2008)

Previous work has shown correlations between both nurse education levels (Aiken et al 2003, Estabrook et al 2005) and nurse – patient ratios (Aiken 2002, Needleman et al (2006) and Needleman et al 2011), and patient safety outcomes. Organisational safety culture is also frequently linked to safety outcomes. The RN4CAST study gave us an opportunity to take an overview snapshot of the safety culture in the 30 acute hospitals participating in this Irish national study. The research team decided to include, in the nurse questionnaire, seven items drawn from the larger Hospital Survey on Patient Safety Culture (Agency for Healthcare Research and Quality, 2007a).

In the study nurses were also asked to give their ward an overall grade on patient safety. This item originated in the Agency for Healthcare Research and Quality's survey (2007a) on patient safety culture. It was coded on a 5 point scale from ''failing'' to ''excellent'', with higher scores indicating better patient safety.

In response to organisational survey questions, hospitals reported that there are staff members in quality and safety roles. A lack of national guidelines around appointments to such roles has led to inconsistencies in grading (see Table 5). This has implications for the advancement of patient safety in Irish hospital (Kirwan 2012). Responses also indicated that staff are trained in issues related to quality and safety, that safety audits are conducted and trends analysed.

Table 5 Quality and safety personnel in post in study hospitals in 2009-2010

Safety Posts	Yes (n)	Assistant Director of Nursing	Clinical Nurse Specialist	Clinical Nurse Manager 2	Admin Grade 6	Admin Grade 7	Admin Grade 8	Medical Scientist	Chief Pharmacist	Senior Pharmacist	Grade not Specified
Quality Manager	22	3	1	3	1	2	6				**6**
Clinical Risk Manager	26	5		2		6	4				**9**
Haemovigilance Officer	30		7					1			**22**
Pharmacovigilance Officer	**10**								**1**	**3**	**6**

Table 6 In-service safety training provision in participating hospitals in 2009 – 2010.

Regular in-service training in the following areas:	Yes (n)	Is training mandatory?			
		Yes (n)	No (n)	Missing	Valid % yes
Clinical risk management /Patient safety	27	6	12	10	33.3%
Infection control	30	21	2	7	91.3%
Blood transfusion practice	29	22	1	7	95.7%
CPR	30	24	0	6	100%
Manual handling	30	24	0	6	100%
Adverse clinical event reporting	26	6	13	10	31.6%
Informed Consent	14	3	7	18	30%
Open disclosure for adverse clinical events	21	4	10	15	28.6%
Medication safety	26	10	6	12	62.5%

NURSE SURVEY

Questionnaire

The questionnaire used in the nurse survey was an 8-page questionnaire that had been developed by the consortium. Wording was harmonised for all partners in this European RN4CAST study; no rephrasing of items within questionnaires was possible. The questionnaire included:

- Demographics, including gender, age, nurse education, fulltime status, years worked.
- The 32 item Practice Environment Sub-scale of the Nursing Work Index, incorporating the following scales (from Lake 2002):
    - Staffing and resource adequacy
    - Nursing foundations of quality of care
    - Nurse participation in hospital affairs,
    - Nurse manager ability, leadership and support for nurses,
    - Collegial nurse-physician relationships.
    - Additional items (mostly relating to nurse-physician relationships).
- The Maslach Burnout Inventory (Maslach et al 1996).
    - Three subscales: Emotional Exhaustion, Depersonalisation and Personal Accomplishment.
- Job satisfaction, intention to leave and recommending the hospital to others (Sochalski et al 1997, Sochalski and Aiken 1999, Clarke and Aiken 2008)
- Two global items on empowerment from the University of Western Ontario Work Empowerment Program (Laschinger 1996).
- Perceptions of quality and safety, (Sochalski et al 1997, Sochalski & Aiken 1999, Clarke and Aiken 2008) incident occurrence, adverse event reporting (added for Irish RN4CAST study).
- Three questions relating to frequency of events reported taken from the Hospital Survey on Patient Safety Culture (Agency for Healthcare Research and Quality 2007a); safety and quality-related in-service education (Ireland only).

- Workload (Sochalski et al 1997, Sochalski and Aiken 1999, Clarke and Aiken 2008).
    - Hours worked, workload and colleagues – (Sochalski et al 1997, Sochalski & Aiken 1999, Clarke & Aiken 2008).
    - Non-nursing work and work left undone (Sochalski et al 1997, Sochalski and Aiken 1999, Clarke and Aiken 2008).

Content validity indexing

Content Validity Indexing (CVI) is a process whereby independent expert raters evaluate the content of the questions asked in a survey. Raters score each item on a 1 to 4 scale, with 1 = not relevant and 4 = highly relevant. Raters are asked to rate the questions in relation to the target audience of the survey. For the RN4CAST (Ireland) survey, the experts were 8 nurses who worked in hospitals in Ireland. These volunteers comprised a convenience sample, identified through personal contacts, following additional ethical approval from the DCU Research Ethics Committee (this element of the study was not part of the original submission to the DCU REC). The volunteer participants rated the questions on the survey with regards to whether the questions were relevant to the participant's work context. Participants completed the rating process online, anonymously, in September 2009. The scores were aggregated and analyzed for chance agreement between raters. The CVI rating scores indicates to the researcher whether or not the instrument measures what he/she hopes it will measure, and the likelihood that the data collected reflects the context under analysis. For the RN4CAST study CVI ratings were calculated for two scales included in the nurse questionnaire. The CVI rating on the Practice Environment Scale was 0.79. For the Maslach Burnout Inventory the CVI rating was lower at 0.64 (possible range 0-1, lowest to highest); Both ratings were deemed acceptable. [4]

Procedure

Between October 2009 and May 2010, questionnaires were distributed among nurses working at 112 medical and surgical wards at the 30 participating hospitals across Ireland. Between 2 and 4 wards per hospital took part. The relevant wards were selected with the Directors of Nursing and the hospital link persons, where more than 4 wards were available.

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[4] Polit et al (2007) developed a formula integrating an I-CVI score into a modified kappa statistic calculation in order to correct for chance. The modified kappa evaluation criteria are: Fair 0.40–0.59; Good 0.60–0.73; and Excellent ≥0.74. See Squires et al (2012) for further discussion of content validity indexing.

The findings from this national survey of nurses working in medical and surgical wards in 30 out of 31 large acute hospitals in Ireland are presented below.

NURSE SURVEY RESULTS

Response rate

The nurse survey was distributed in Ireland to a total of 2,495 nurses in medical and surgical wards in 30 acute hospitals. A total of 1,406 nurses completed the survey, which equates to an overall response rate of 56%. Response rates per hospital ranged from 38-78%, while those at ward level ranged from 5% to 100% (i.e. from 1 to 24 respondents).

Table 7 Nursing response rates for participating hospitals

HOSPITAL ID	Number of nurse responses	% Response rate
1	27	39%
2	55	62%
3	60	78%
4	36	51%
5	42	59%
6	30	58%
7	32	52%
8	44	51%
9	43	51%
10	29	64%
11	29	38%
12	45	68%
13	82	62%
14	59	56%
15	56	59%
16	60	76%
17	55	54%
18	50	71%
19	48	53%
20	32	54%
21	57	54%
22	33	56%
23	19	38%
24	53	54%
25	51	55%
26	47	54%
27	48	59%
28	59	51%
29	59	67%
30	66	69%

Overall, of those nurses who responded to the nurse survey, 44.6% (n= 622) were working in surgical wards, 48.1% (n=670) in medical wards and 7.3% (n=102) in mixed medical/surgical wards.

In order to ensure anonymity for nurse participants only hospital level results are presented.

Table 7 presents the response rates for participating hospitals.

Demographic profile of nurse respondents

Overall 94% of the nurse respondents were female. The majority of respondents were aged between 30 and 39 (44%) while almost 32% of respondents were less than 30 years of age. Twenty five percent of nurses were aged between 40 and 59 while less than 1% were over 60 years of age.

Figure 4 contains a breakdown of the mean age of nurse respondents (i.e. respondents in direct care) across all participating hospitals.

Figure 4   Breakdown of mean age of nurses in direct care across hospitals (overall mean is 35)
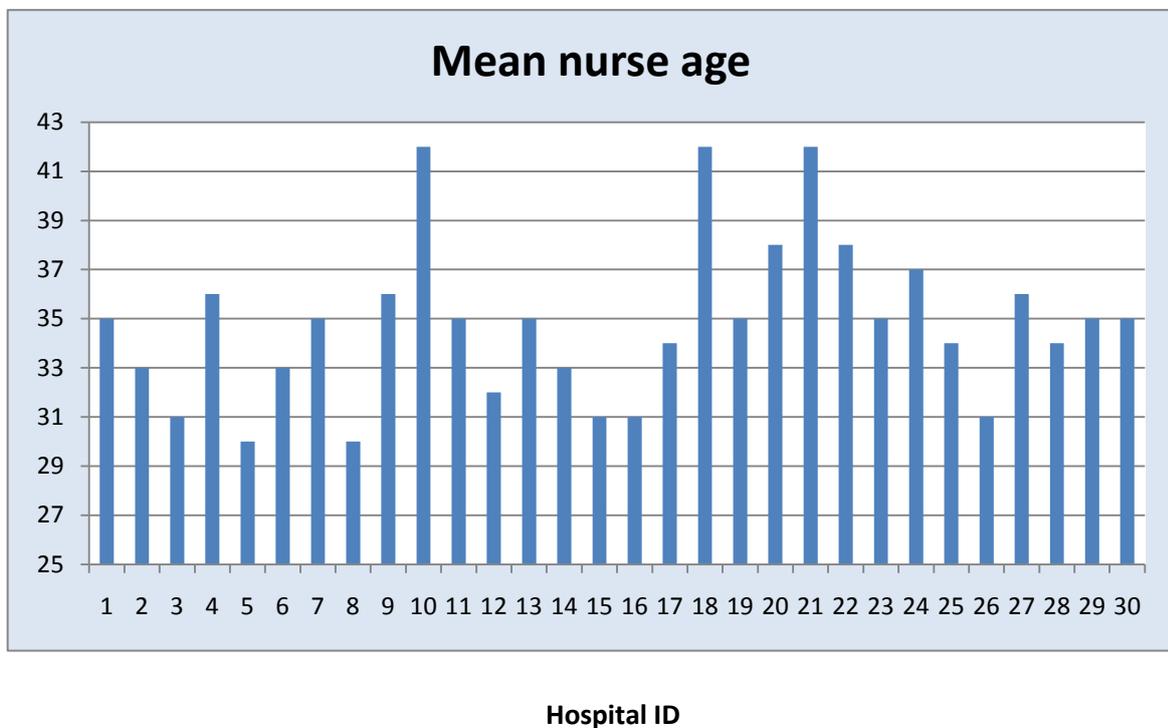
Hospital ID

Working patterns and experience levels

Eighty four percent of respondents in the Irish study worked on a full time basis, 50% were working in the survey hospital for less than 5 years, 29% were working in the hospital for between 5 and 10 years while approximately 14% were working in the hospital for between 10 and 20 years. Based on our RN4CAST data, hospitals outside Dublin and / or smaller hospitals have older, more experienced nurses (as defined by number of years since qualification) although the patient profile may not be as acute as in the large Dublin hospitals. This would suggest that attention needs to be paid to the profile, including the

experience level, of the ward nursing team. For example Blegen et al 2001, Manojlovich et al 2011 and Patrician et al 2011 all draw attention to the experience level of nursing staff as being an important factor in preventing adverse events such as medication errors, patient falls and infections.

Figure 5 illustrates the mean number of years the respondents spent working as nurses across hospitals.

Figure 5   **Mean number of years respondents worked as a nurse – displayed across hospitals (overall mean 12 years).**
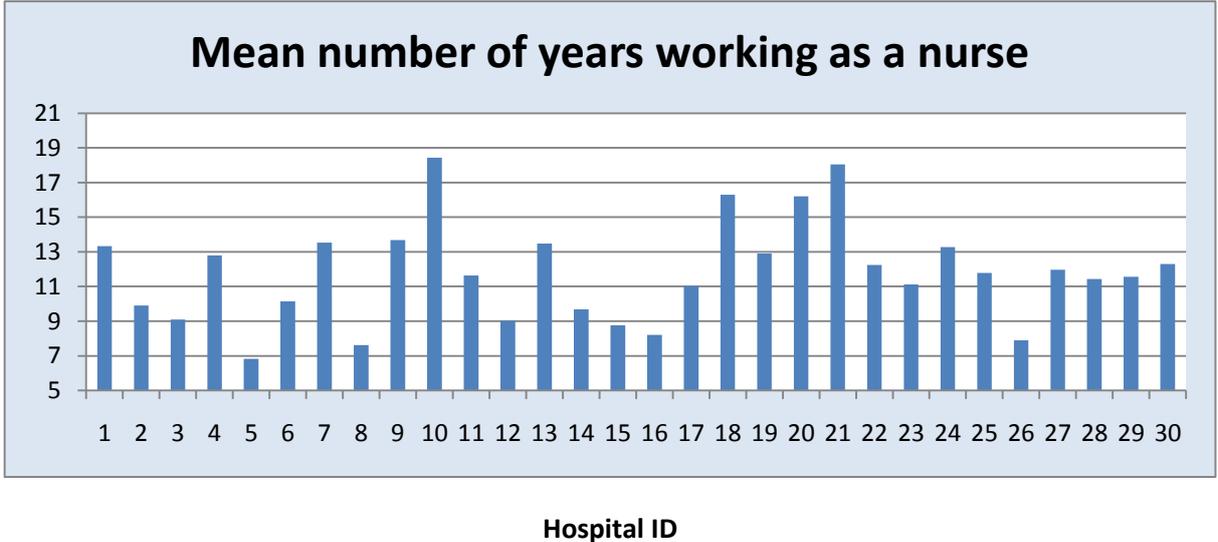
Hospital ID

Nurses were also asked how many years they worked in their current field (medical or surgical). This is an indication of the level of expertise of the nurse workforce in those areas. The average number of years across all the hospitals that nurses had worked in their particular field of nursing was 10 years.

Figure 6 illustrates the mean number of years the respondents have spent in their current area of nursing.

Figure 6   **Mean number of years nurses worked in their current field (medical or surgical)**

Mean number of years in the current field
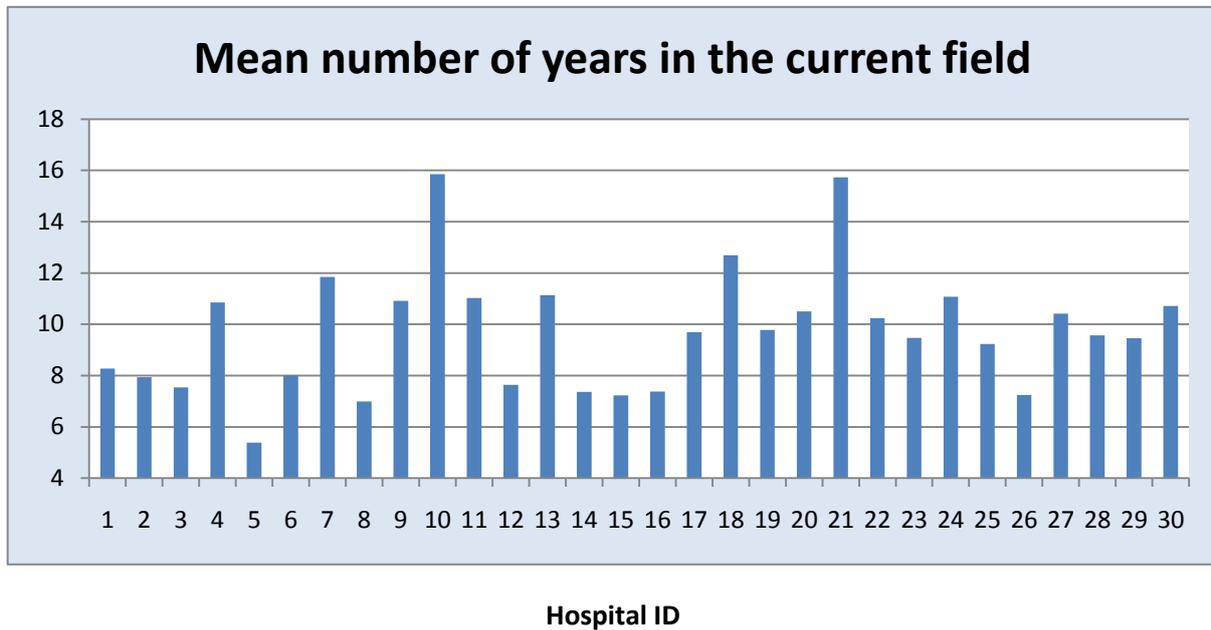
Hospital ID

The data presented above, which have been provided to the individual participating hospitals, may help hospital managers to examine the experience and expertise of their nursing workforce in comparison with other acute hospitals in the sector.

Nurse empowerment

Staff perceptions of empowerment are of interest because an empowered, committed workforce is a requirement for the delivery of high quality, humane, patient-centred health care. Survey responses to global empowerment questions within the RN4CAST study were found to be consistent with those observed for a national random sample of nurses (from all areas of practice) and midwives, in a survey of empowerment, in Ireland in 2001 (Scott et al 2003). Approximately 50% of respondents across both surveys agreed that overall, their work environment empowered them to accomplish their work in an effective manner. Approximately 38% of respondents across both surveys agreed that they considered their workplace to be an empowering environment.

Nurse Workload

Three findings considered to be reflective of nurse workload in the study are:

- Patient to nurse ratio

- Levels of non-nursing work carried out

- Levels of necessary work left undone

Patient to nurse ratio

Nurses were asked to indicate the total number of patients on the ward on their last shift, along with the total number of registered nurses who provided direct patient care on that shift. These data were used to calculate the patient-to-nurse ratio. This can be used as an indication of nurse workload. Across the hospitals the mean patient-to-nurse ratio was 7 patients per nurse.

The following graph illustrates differences in overall patient to nurse ratios across participating hospitals.

Figure 7   Nurse-reported patient-to-nurse ratio (i.e. the number of patients per registered nurse on the last shift)

Patient to nurse ratio
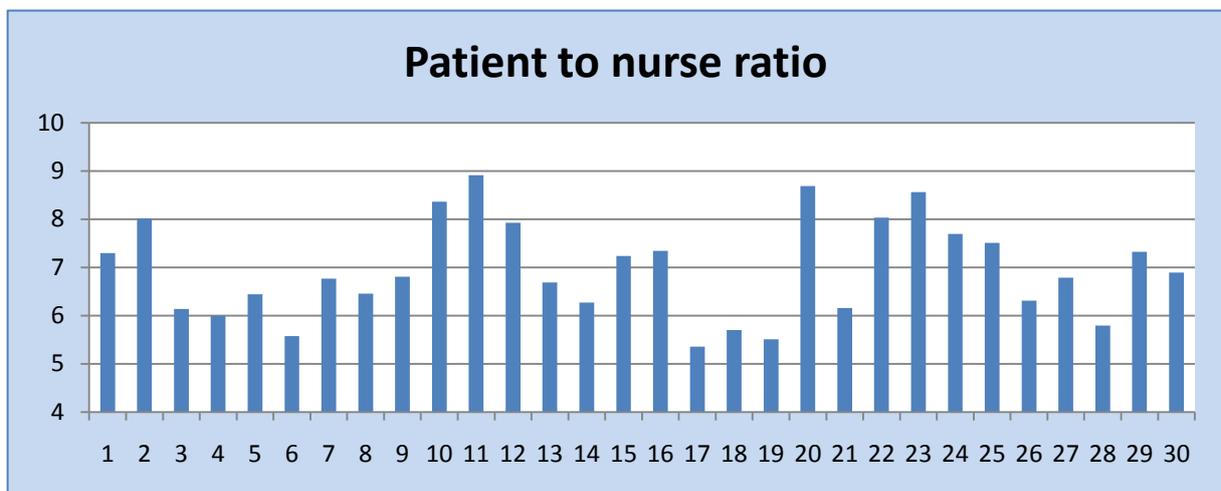
Hospital ID

Another indication of workload was calculated using the total number of patients on the ward and the total number of staff who provided direct care (registered nurses and other care staff, for example care assistants). Across the hospitals the mean for this ratio was calculated as 5 patients per member of the direct care staff. The following graph suggests differences across hospitals between the patient-to-registered nurse ratio and the patient-

to- total staff ratio. As can be seen there is considerable variation across hospitals. Nurses in some hospitals reported average nurse-to-patient ratios as high as 8.9 patients per nurses. The most favourable nurse-to-patient ratio reported was 5.35 in hospital 17.

Figure 8 Patient-to-registered nurse and patient-to-total direct care staff (staff nurses, HCAs)

Hospital ID
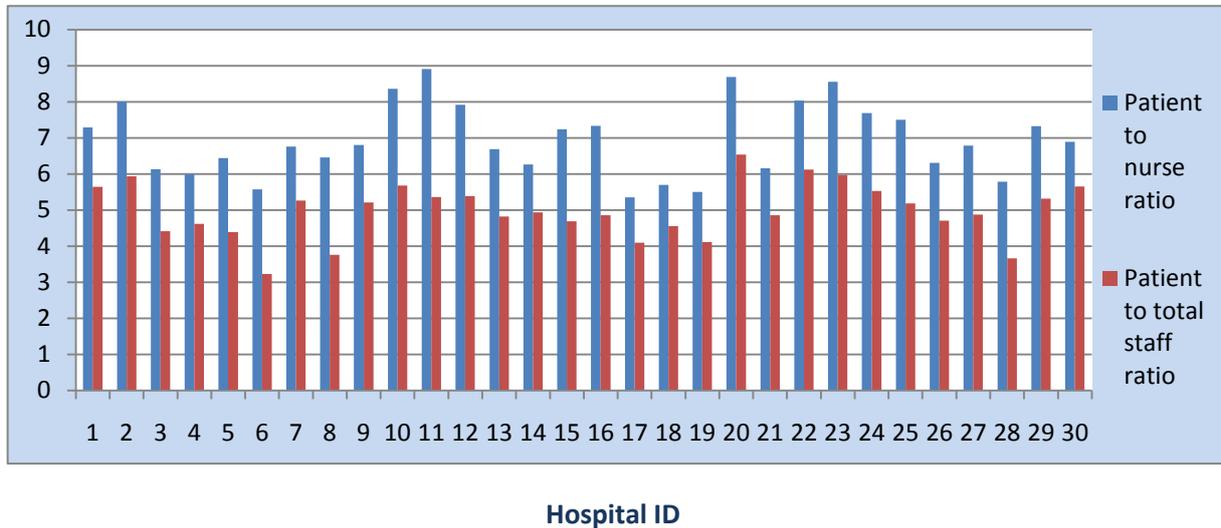
Levels of non-nursing work carried out

A list of items which might be seen as "non-nursing" activities was provided in the questionnaire and nurses were asked how often they performed these tasks on their most recent shift. The overall results for these items are presented below in Figure 9.

Figure 9　　　**Non-nursing work carried out across all 30 hospitals**

Frequency of tasks carried out by nurses on their most recent shift
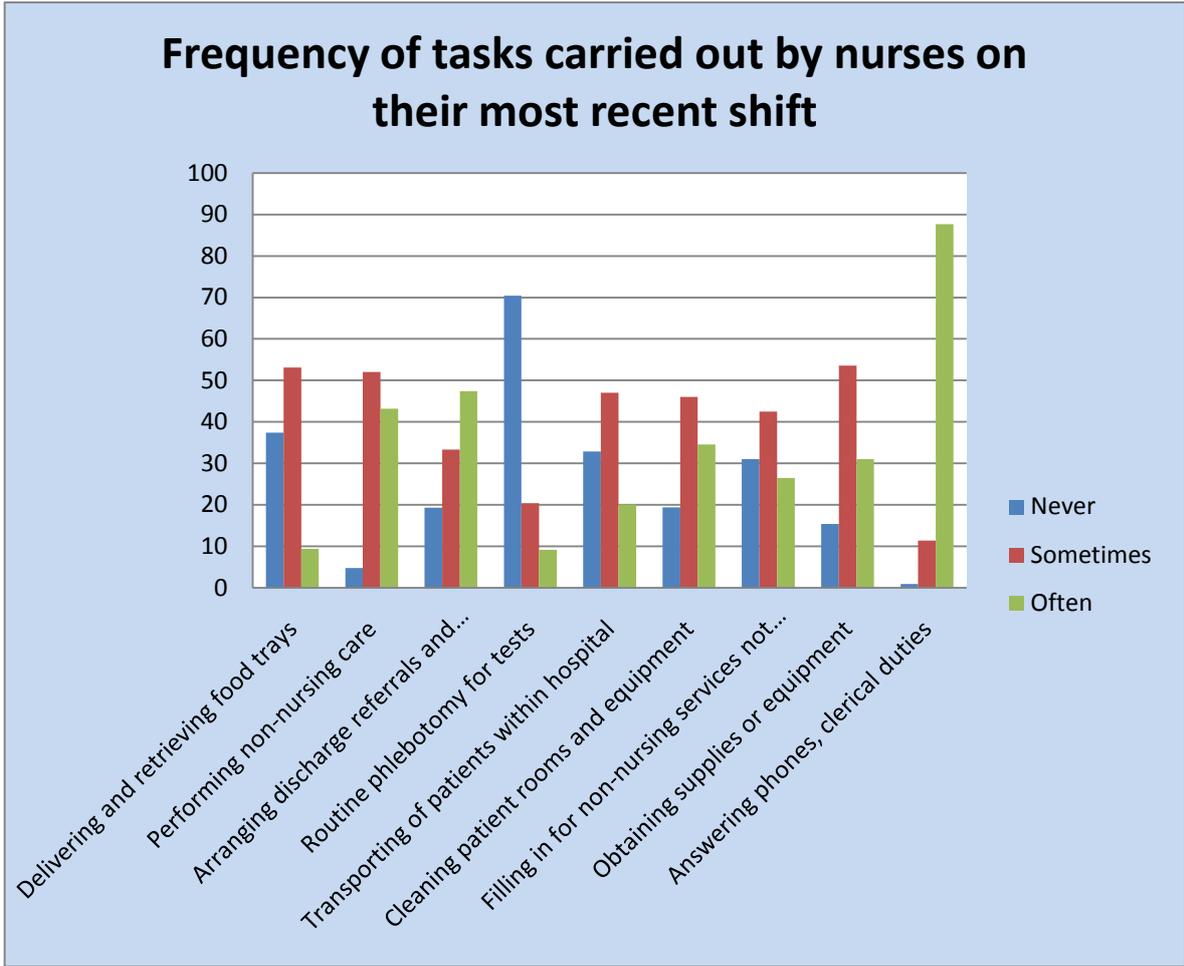
In an Irish context some of these tasks are carried out by nurses as part of their normal duties, therefore it is not useful to break these results down further. However two items which can be argued to be most clearly non-nursing (at least when carried out frequently) are presented below with differences notable between hospitals. These items, taken from the nurse questionnaire, are "performing non-nursing care" and "answering phones and clerical duties". The graphs illustrate the numbers of nurses who responded either yes or no to the question regarding the tasks, therefore they must be interpreted keeping in mind the overall number of responses from each participating hospital.

Figure 10   Numbers of nurses, per participating hospital, who indicated that they "perform non nursing care" either <u>sometimes or often</u>
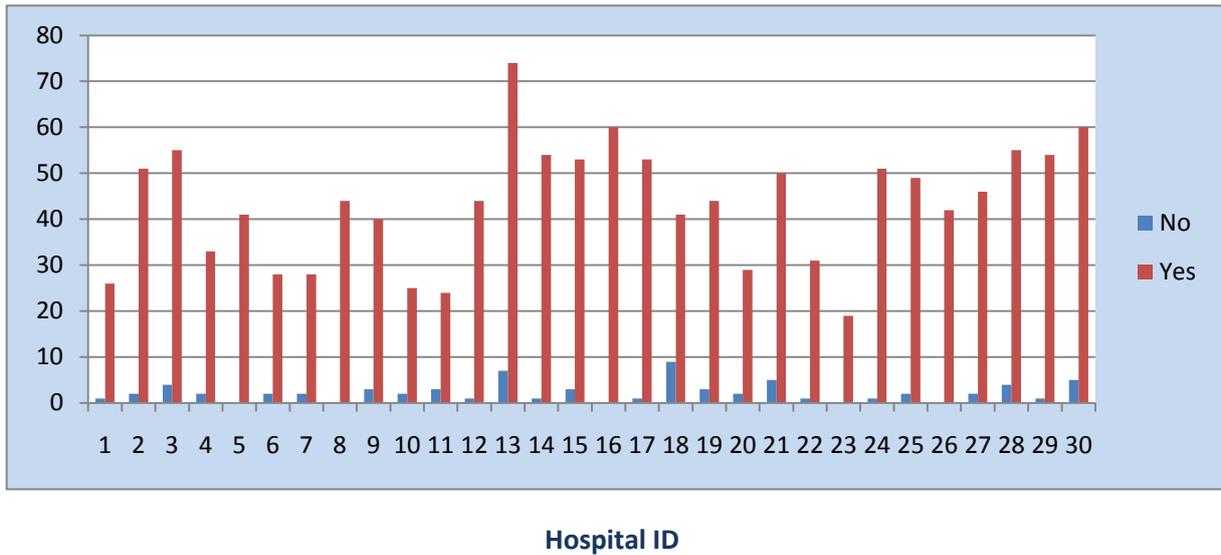
Hospital ID

Figure 11   Numbers of nurses, per participating hospital, who indicated that they perform "clerical duties such as answering phones" either <u>sometimes or often</u>


Hospital ID
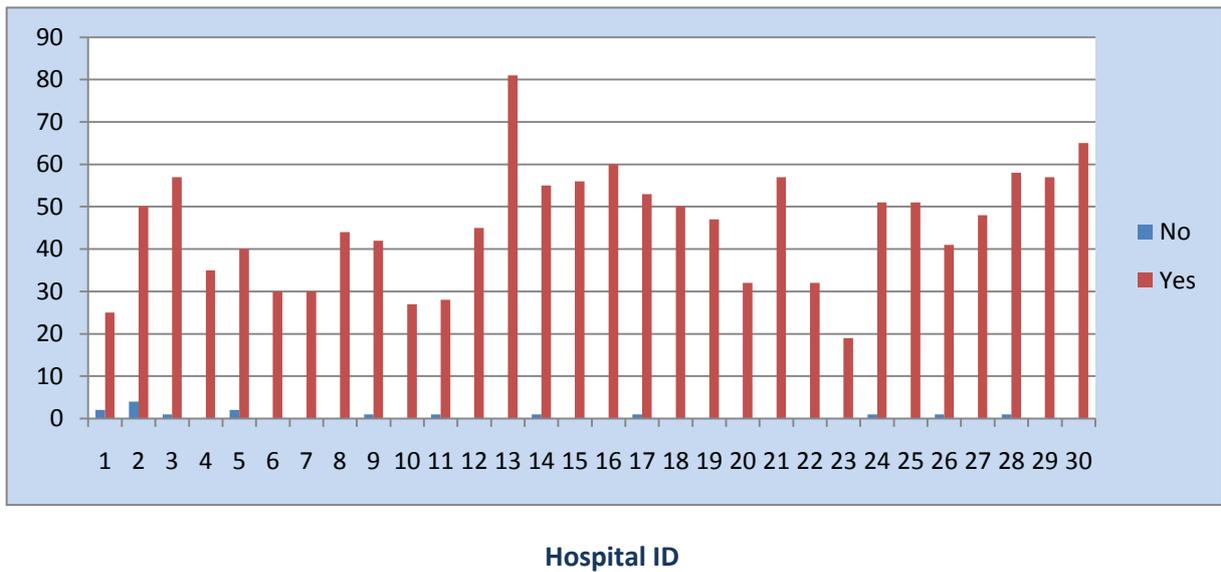
Levels of necessary nursing work left undone

Nurses were asked to indicate which nursing activities were necessary but left undone because they lacked the time to do them, on their most recent shift. Thirteen items were listed as below

1. Adequate patient surveillance
2. Skin care
3. Oral hygiene
4. Pain management
5. Comfort/talk with patients
6. Educating patients and family
7. Treatments and procedures
8. Administer medications on time
9. Prepare patients and families for discharge
10. Adequately document nursing care
11. Develop or update nursing care plans/care pathways
12. Planning care
13. Frequent changing of patient position

The number of items identified as left undone varied considerably between nurses (between 0 and 13 items). The following graph indicates the mean number of items left undone on the last shift by nurses in participating hospitals due to lack of time.

Figure 12   Mean number of necessary nursing activities reported as left undone on the last shift due to lack of time

Mean number of activities left undone

Hospital ID
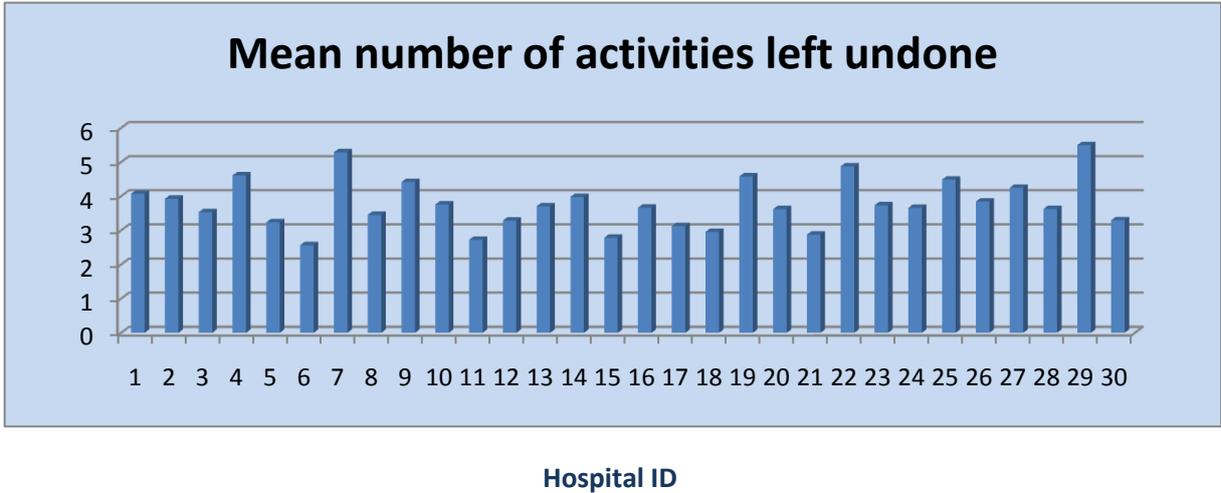
The Nursing Work Environment

The Nursing Work Index (NWI) is an internationally validated questionnaire for surveying nurses on their practice environment. The instrument allows the measurement, evaluation and comparison of important dimensions/factors in the nurse practice environment. The questionnaire was developed from the Magnet Hospitals research, (Kramer et al 1989; McClure et al 1983).

Factor analysis resulted in three NWI derived questionnaires: the Revised Nursing Work Index (NWI-R; Aiken & Patrician, 2000), the Practice Environment Scale of the Nursing Work Index (PES-NWI; Lake, 2002) and the Practice Environment Index (PEI; Estabrooks et al 2002). In the RN4CAST study the PES-NWI was used since this is recommended as a Nursing Care Performance Measure by the American *National Quality Forum* (Lake 2007). This factor analytic derivation was specifically developed to measure the dynamics within the nursing work environment. It helps us analyse the consequences of these dynamics on both nurse and patient outcomes (Lake, 2002). The instrument contains 32 questions about the practice environment on a 4-point Likert scale ('strongly disagree', 'disagree', 'agree', 'strongly agree'). A higher score indicates a higher degree of consensus on the presence of the item. Five factors are traditionally visualized using the PES-NWI, depending on the care setting and selection of questions (Taunton et al 2001; McCusker et al 2004; Li et al 2007; Bruyneel et al 2009; Gunnarsdottir et al 2009; Van Bogaert et al 2009; Slater et al 2010)

- ▪ 'Staffing and resource adequacy'

- ▪ 'Collegial nurse-physician relations'

- ▪ 'Nurse manager ability, leadership and support of nurses'

- ▪ 'Nurse participation in hospital affairs'

- ▪ 'Nursing foundations for quality of care'

In the international literature, these factors are consistently shown to be significantly related to consequences for the well-being of nurses. Examples of the Belgian RN4CAST pilot study will be used to illustrate this relation to burnout, job satisfaction, and intention to leave the

hospital/the profession. Also, more recent research links the presence of these factors to a high degree of patient satisfaction/better patient experiences with hospital care (Vahey et al 2004; Kutney-Lee et al 2009).

In Figures 13 – 17 below the results from the nurses surveyed in participating hospitals are presented. For each of the five factors (listed above), the variation across Irish acute hospitals is illustrated. Since nurses score every item from 1 (strongly disagree) to 4 (strongly agree), the mean is 2.5. **If the score is above 2.5, one could say that nurses tend to agree with the presence of the item in their practice environment, and vice versa.**

Staffing and resource adequacy

The mean response across all hospitals to this subscale was 2.04, the lowest score of the five subscales. This may be an unsurprising result in light of the current recruitment embargo and reduced funding for hospitals (data were collected in 2009/2010). However the consistency emerging across the larger acute hospitals should be noted.

The following graph demonstrates how nurses in participating hospitals rated staffing and resource adequacy. The red line (2.5) indicates the level above which the results can be interpreted as positive. As can be seen in only three out of the 30 larger acute hospitals in the study (5, 17, 18), was staffing and resource adequacy seen as positive by nurse participants.

**Figure 13   Staffing and resource adequacy (sub-scale mean score)**
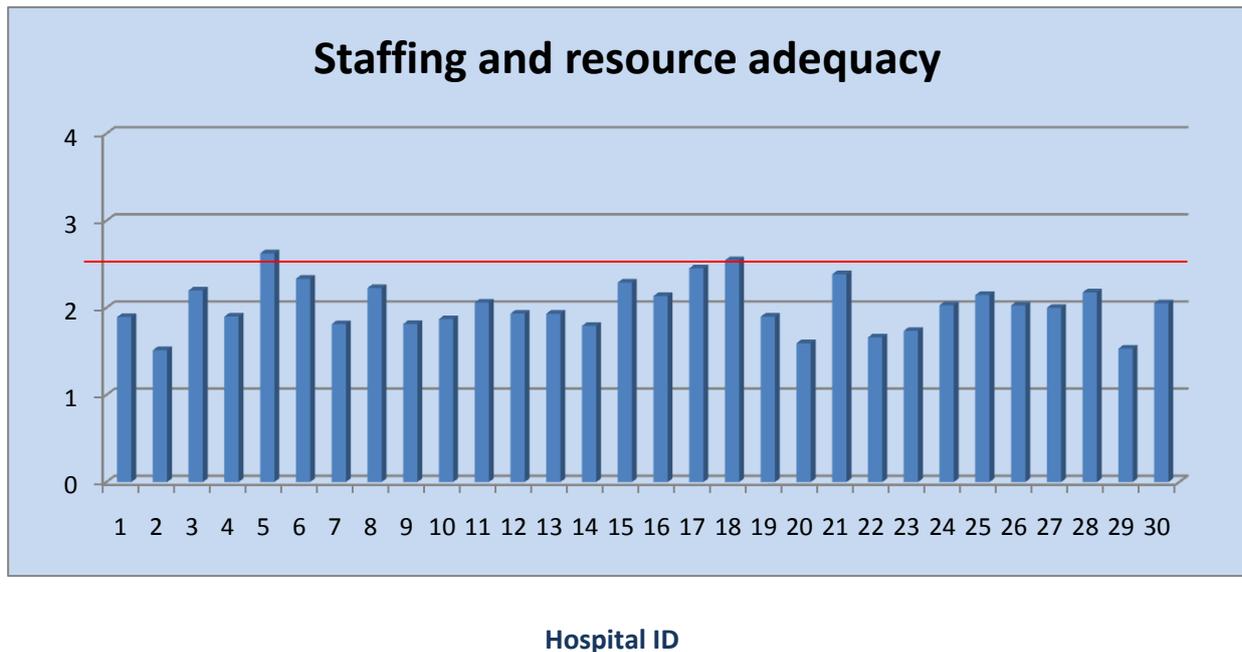
Hospital ID

In light of the continuing recruitment moratorium in the HSE, staffing levels are likely to have deteriorated since the data collection period.

Collegial nurse-physician relations

This subscale measures the teamwork between two key staff groups in the health sector. Effective teamwork can enhance the quality of care provided to patients and the work environment of staff. The mean response to this subscale across all hospitals was 2.73. The following graph indicates how nurses in participating hospitals rated the relationship which exists between nurses and medical staff. The red line (2.5) indicates the level above which the results could be deemed positive.

Figure 14   **Nurse-physician relationships (subscale mean score)**

Hospital ID
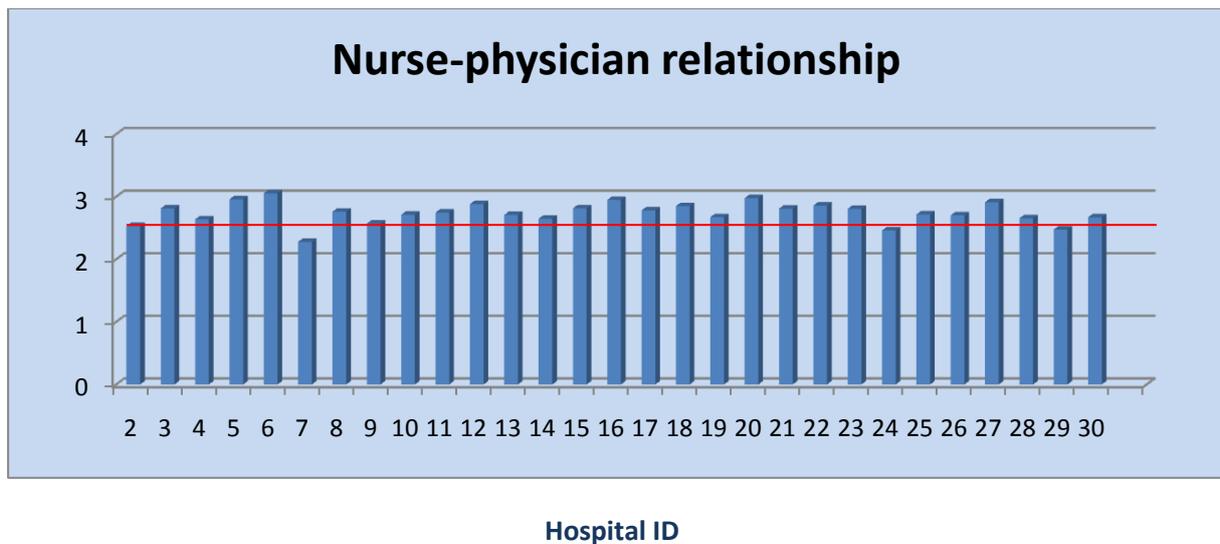
Nurse manager ability, leadership and support of nurses

This subscale examines management at unit level and the leadership and support shown to nurses in the unit. The mean response to this subscale was 2.70. The red line (2.5) indicates the level above which the results can be seen as positive. As can be seen from figure 15 below nurses generally viewed the ability, leadership and support received from unit nurse managers positively. This seems a noteworthy finding and is likely to be reflective of the resources invested in clinical leadership training in the Irish health service over the past decade or so. However there is clearly room for further improvement and average hospital results mask within-hospital differences that should be investigated further. Variation between wards in the study hospitals was quite marked in some hospitals. Ward managers have a significant influence in creating and maintaining the work environment for staff. Therefore continued attention and support for this group can help improve the work environment for staff.

Figure 15   **Nurse manager ability, leadership and support**

## Nurse manager ability, leadership and support

Hospital ID

Nursing foundations for quality of care

This subscale examines the provision made for staff development in the hospital and the organisational expectations of nursing. It attempts to examine the value placed on nursing by the organisation overall.

The overall mean response to this subscale was 2.88. The red line (2.5) indicates the level above which the mean result can be seen as a positive result.

Figure 16   **Nursing foundations for quality of care**

Nursing foundations for quality of care
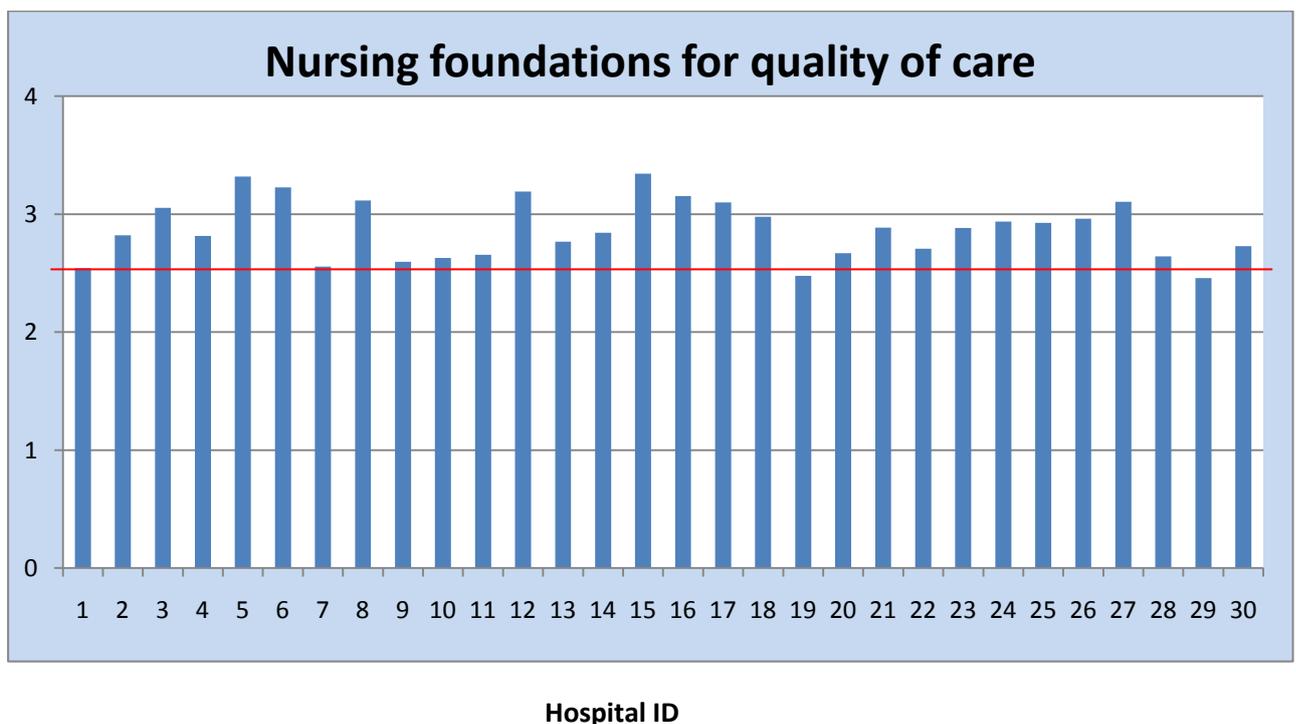
Hospital ID

Nurse participation in hospital affairs

This subscale examines the perceptions of nurses regarding the participation of nurse management in the overall management of the hospital. It examines the status of nurse managers within the organisation and therefore the status of nursing. The overall mean for this subscale was 2.33. The mean response from nurses in participating hospitals is illustrated below. The red line (2.5) indicates the level above which the results can be seen as positive. As Figure 17 indicates nurses responding to this survey perceive that there is a low level of participation in hospital affairs within the organisation.

Figure 17   Nurse participation in hospital affairs
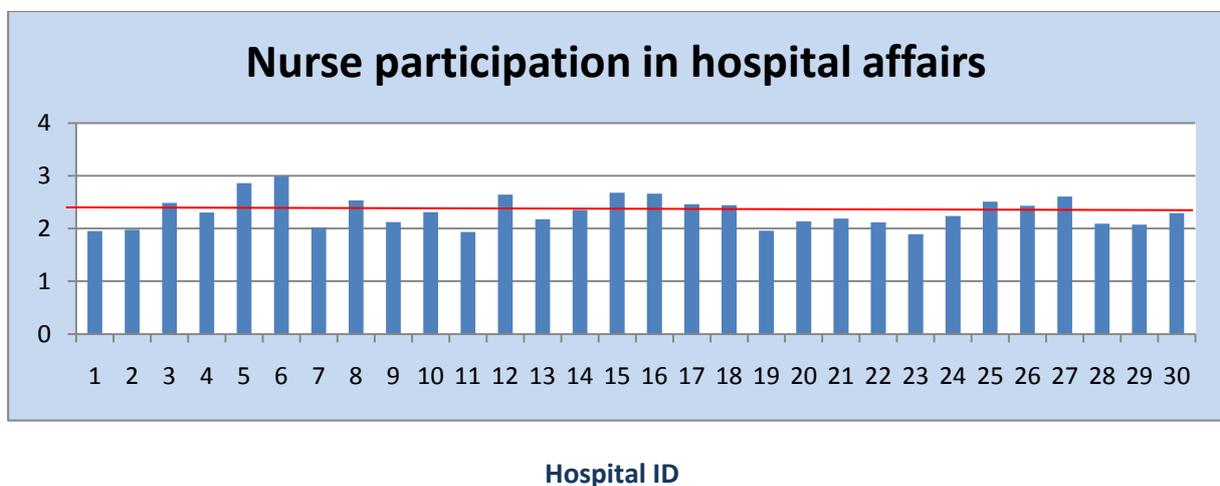
Hospital ID

Overall score for the nurse work environment

Recent studies such as Mallidou et al (2011) and Weinberg et al (2012) show the positive contribution that a good practice environment makes to high-quality, safe care. Hospitals can be characterised as having "better", "mixed" or "poorer" work environments, based on quartiles, calculated using the overall hospital mean scores for the Practice Environment Scale. The top quartile represents "better" environments, the bottom quartile "poorer" environments, and the middle two "mixed" environments. The following graph illustrates the results for participating hospitals overall, showing that three hospitals have "better" environments, with a score of 2.84 or above in this study.

Figure 18   **Nurse work environment mean score**

Overall nurse work environment mean score
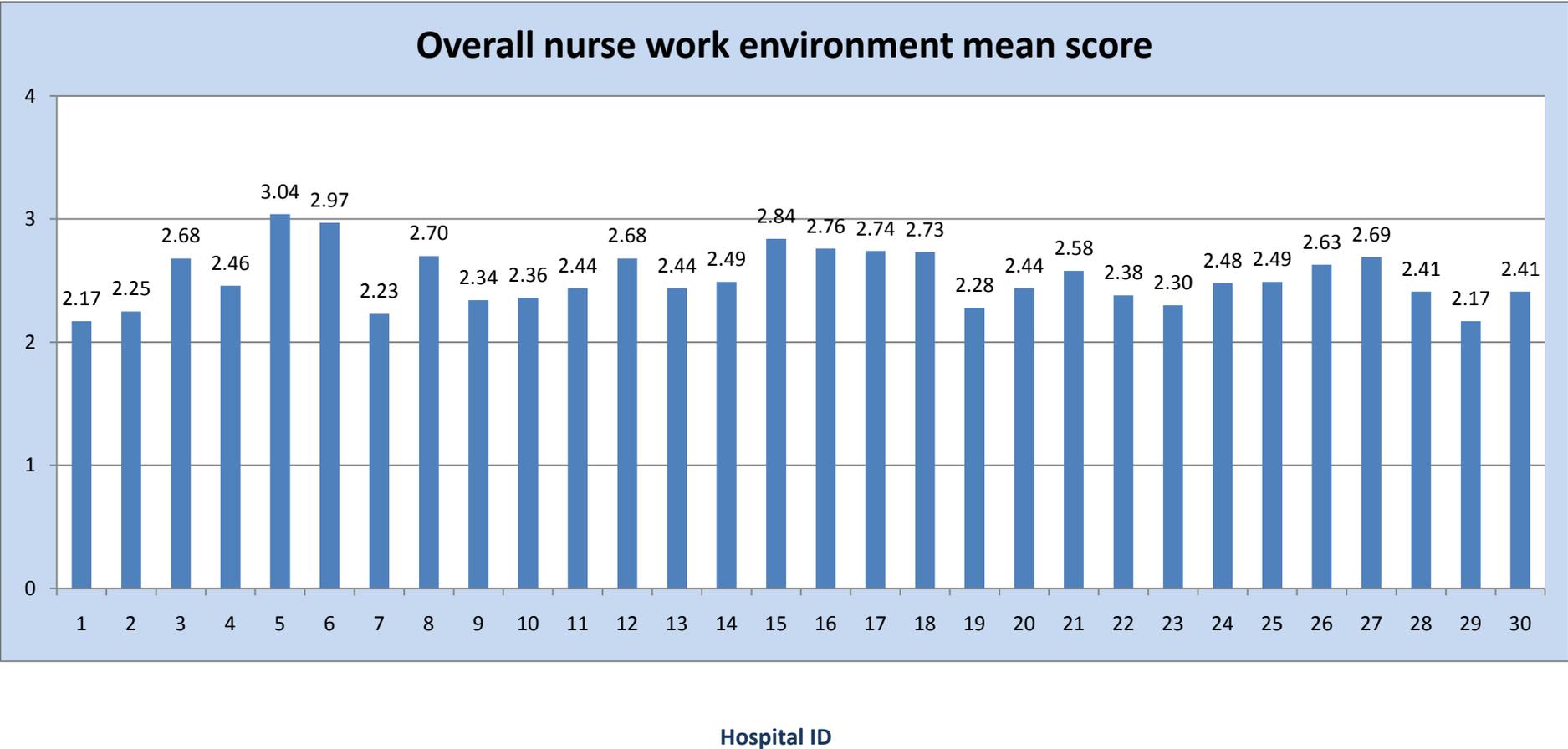
Hospital ID

Nurse Outcomes

Nurse outcomes measured in this study include the following:

- Work-related burnout (emotional exhaustion)

- Job satisfaction

- Intention to leave the hospital

- Willingness to recommend the hospital

Work-related burnout

The Maslach Burnout Inventory (MBI) as described by Maslach, Jackson and Leiter (1996) is the gold standard for measuring work-related burnout. Although the MBI contains 22 items related to three components of burnout (Emotional Exhaustion, Personal Accomplishment and Depersonalisation), each measured on a 7 point Likert scale ('never', 'a few times a year or less', 'once a month or less', a few times a month', 'once a week', 'a few times a week' 'every day'), it is the subscale measuring Emotional Exhaustion which is deemed to be the most reliable measure of burnout. Higher scores on this subscale represent an increased degree of emotional exhaustion (9 items, maximum score = 54).

The RN4CAST pilot study in 4 Belgian hospitals (Bruyneel et al., 2009) showed that a more positive perception on the factor 'staffing and resource adequacy' was associated to a four times decrease in the odds of reporting burnout.

Emotional exhaustion

This subscale contains 9 items:

- I feel emotionally drained from my work.
- I feel used up at the end of the workday.
- I feel fatigued when I get up in the morning and have to face another day on the job.
- Working with people all day is really a strain for me.
- I feel burned-out from my work.
- I feel frustrated by my job.
- I feel I'm working too hard on my job.
- Working directly with people puts too much stress on me.
- I feel like I'm at the end of my rope.

The following graph illustrates the hospital results for this subscale. The scoring for this subscale can be interpreted as follows:

A score of 0-16 = Low emotional exhaustion levels

A score of 17-26 = Medium levels of emotional exhaustion

A score of >27 = High levels of emotional exhaustion

The red lines in the following graph illustrate the above cut-off points and are intended to aid interpretation of results.

Figure 19   Results of Emotional Exhaustion Subscale mean score
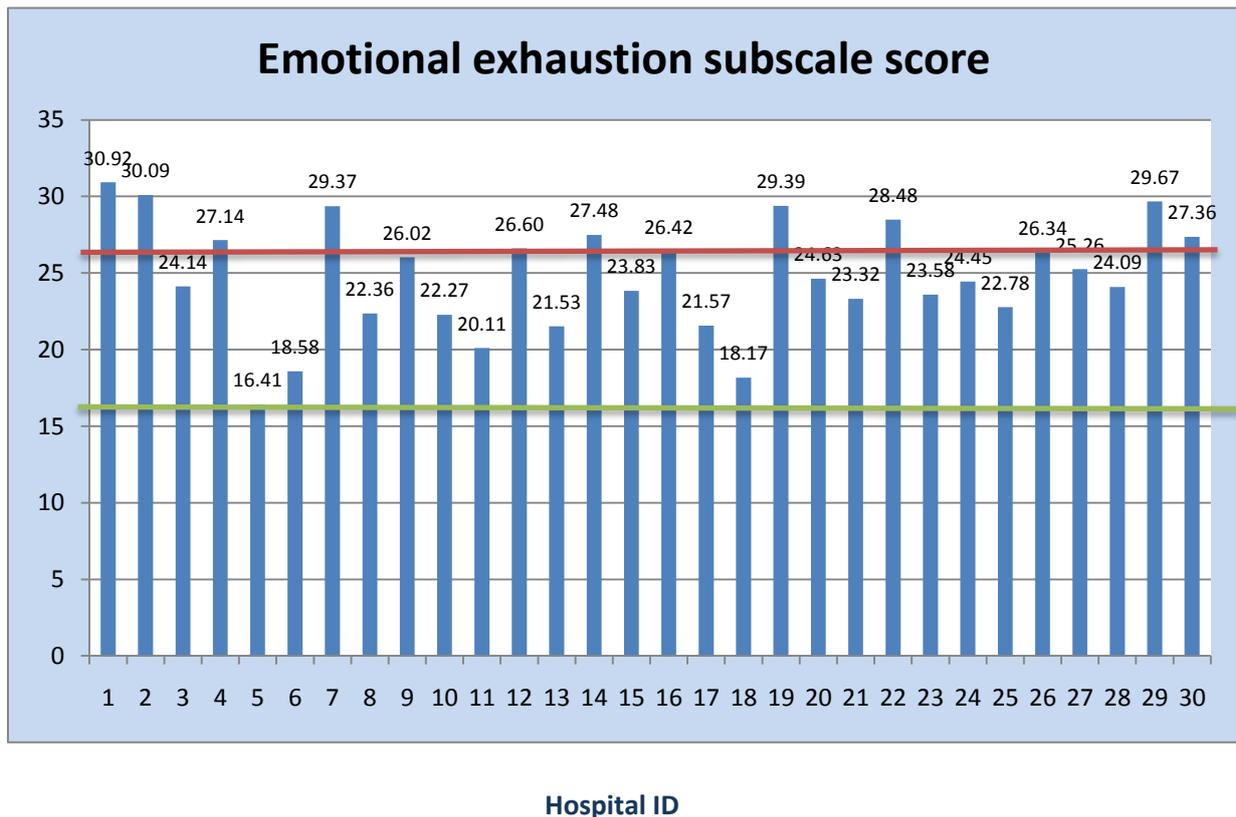
Hospital ID

Above red line indicates high level of Emotional Exhaustion (>= 27)
Below green line indicate low level of Emotional exhaustion (<=16)

As can be seen in the above graph nurses in 29 out of 30 Irish acute hospital reported moderate to high levels of emotional exhaustion. Nurses in nine of those hospitals, i.e. almost one third of larger Irish acute hospitals, reported high levels of emotional exhaustion. This finding is consistent with nurse participants' negative perceptions of staffing and resource adequacy. Such a finding should raise serious concern for the well-being of these nurses. Further concern is also raised regarding the current situation, given the continuation of the staffing moratorium and the deteriorating budgetary situation, despite increasing demands on the acute hospital sector, since the data collection period in 2009/2010.

Nurse job satisfaction

Job satisfaction among nurses is widely described in the international literature. For an extensive literature review we refer to *Job satisfaction among nurses: a literature* review (Lu, 2005, Lu et al 2012). It is important to acknowledge that several previously described factors in the nurse practice environment are directly or indirectly related to job satisfaction. The RN4CAST pilot study in 4 Belgian hospitals (Bruyneel et al., 2009) showed that a more positive perception on the factor 'staffing and resource adequacy' was associated to a three time increase in the odds of reporting high job satisfaction. Also a more positive perception on the factor 'collegial nurse-physician relations' was associated to two and a half times increase in the odds of reporting high job satisfaction.

Nurses were asked how satisfied they were with their current job **(1 = very dissatisfied, 2 = a little dissatisfied, 3 = moderately satisfied, 4 = very satisfied)**. Figure 20 illustrates the results across hospitals (overall mean 2.54). As can be seen many nurses participating in this national study are dissatisfied with their job. Nurses in two out of the 30 hospitals reported high levels of dissatisfaction, nurses in two of the hospitals reported being, on average, moderately satisfied; while nurses in the remaining 26 hospitals report, on average some degree of dissatisfaction. No hospital cohort of nurses reported high levels of job satisfaction. These data should be interpreted within the context of the numbers of nurses responding from each hospital (see table 7 above). However these findings on job satisfaction are consistent with both the levels of emotional exhaustion reported by these hospital nursing cohorts and the nurses reported perceptions of staffing and resource adequacy.

Figure 20 **Levels of job satisfaction across hospitals**


Hospital ID

Nurses in the survey were also asked about their level of satisfaction with nursing as a career. Again this was measured on a scale 1-4 **(1 = very dissatisfied, 2 = a little dissatisfied, 3 = moderately satisfied, 4 = very satisfied)**. The following Figure 21 illustrates the results across hospitals. Overall mean response = 2.96 indicating that nurses are generally more positive about nursing as a career than they are about their current job. While this is a positive finding, the levels of dissatisfaction reported with nursing as a career should sound some warning regarding future retention and recruitment to nursing as a profession in Ireland.

Figure 21 **Level of satisfaction with nursing as a career (1 = very dissatisfied, 2 = a little dissatisfied, 3 = moderately satisfied, 4 = very satisfied).**
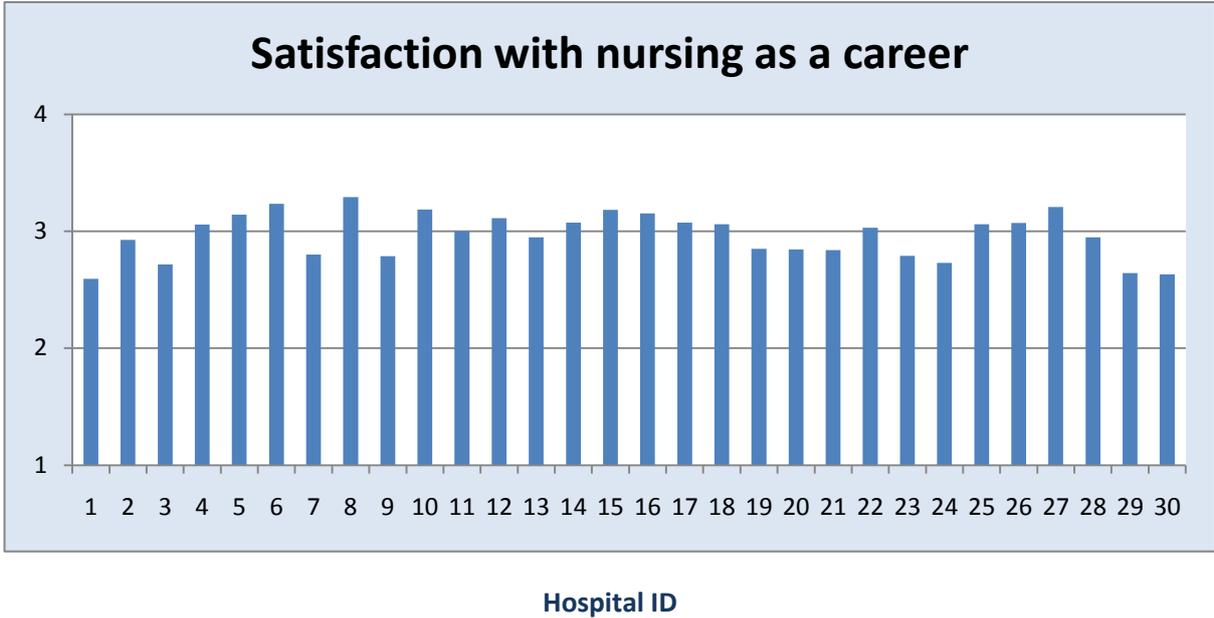
A notable difference is evident in some hospitals between how satisfied nurses are in their career choice and how satisfied they are with their current job. This difference is illustrated in Figure 22 below.

Figure 22 **Comparison between hospital mean results for job satisfaction and satisfaction with nursing as a career**
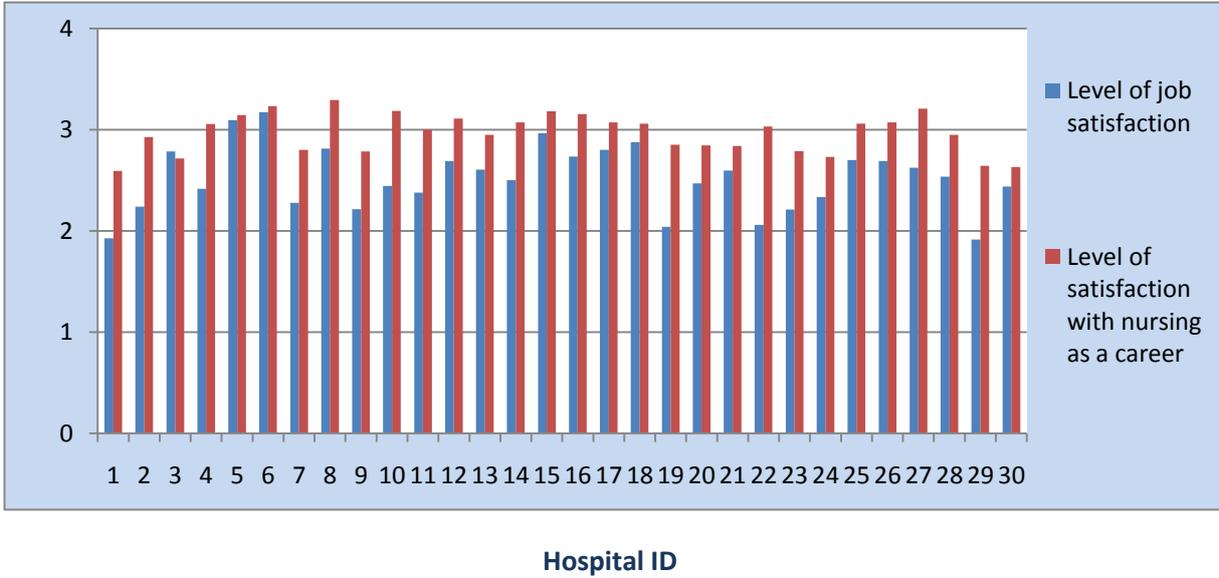
Nurse intention to leave the hospital

In this study nurses were asked to indicate if they would leave their job within the next year, if possible, due to job dissatisfaction. The following table illustrates the numbers of nurses per participating hospital that answered either yes or no to this question. It is important to interpret the answer to this question with reference to the total number of responses from each hospital (see table 7 above).

Figure 23   Intention to leave the hospital: number of nurses in each response category, per hospital
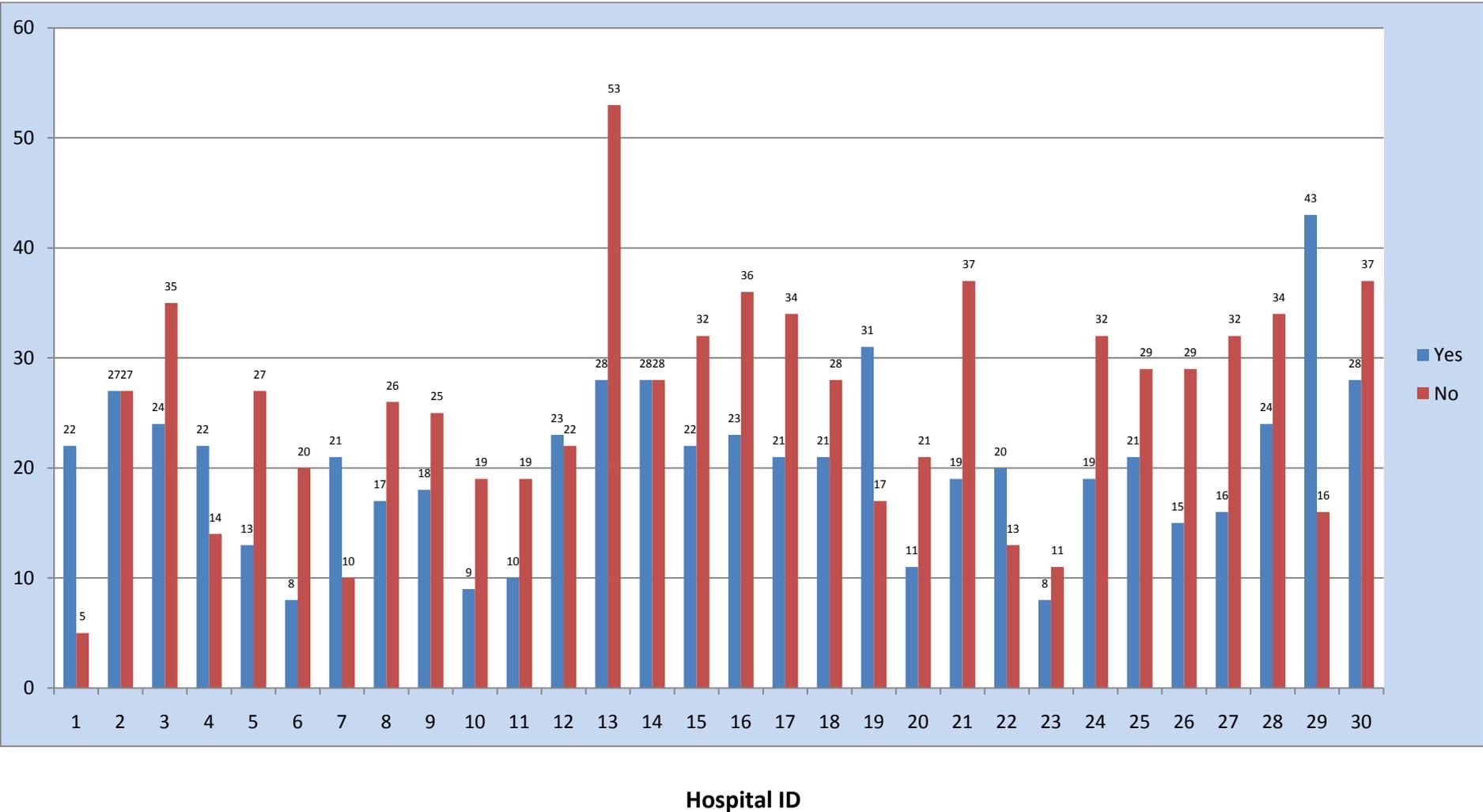
For an extensive literature review on the intention of nurses to leave the hospital or the nursing profession we refer to *Nurse turnover: a literature review'* (Hayes et al, 2006).

Recommending the hospital

Nurses were asked if they would recommend the hospital to a nurse colleague as a good place to work. The answers were recoded and are presented here in Figure 24 as either **yes or no**.

As can be seen from the graph below in one hospital (Hospital 6) the nurses responses were entirely positive i.e. all responding nurses said they would recommend their hospital to a colleagues as a good place to work. The number of nurses responding from this hospital was 30 nurses or a 58% response rate. While the response rate in this particular hospital must be borne in mind the finding is interesting for a number of reasons. For example from Figure 20 above it can be seen that nurses in this hospital scored highest on job satisfaction – though the level of reported job satisfaction was still only "moderately satisfied". However it can also be seen from Figure 22 above that nurses in this hospital reported high levels of agreement in their scores for job satisfaction and satisfaction with nursing as a career. As Figure 23 indicates nurses in Hospital 6 had one of the two lowest "intention to leave" scores across all 30 hospitals in the study. It also has the second highest overall work environment mean score (Figure 18 above). In 22 out of the 30 hospitals more nurse participants responded "yes" to this question than responded "no". Again this is an interesting finding given the reported levels of emotional exhaustion and job dissatisfaction presented in Figures 19 and 20, respectively, above. In one hospital (Hospital 19) responses were evenly balanced between "yes" and "no" and in 6 hospitals (i.e. one fifth of the study hospitals) more nurses responded "no" than responded "yes" to this question. This indicates that in 6 hospitals more than half of the nurse participants per hospital indicated that they would not recommend their hospital to a colleague as a good place to work. It would seem that there are some useful messages here for hospital (including nursing) management.

**Figure 24** **Numbers of nurses recommending the hospital as a good place to work**
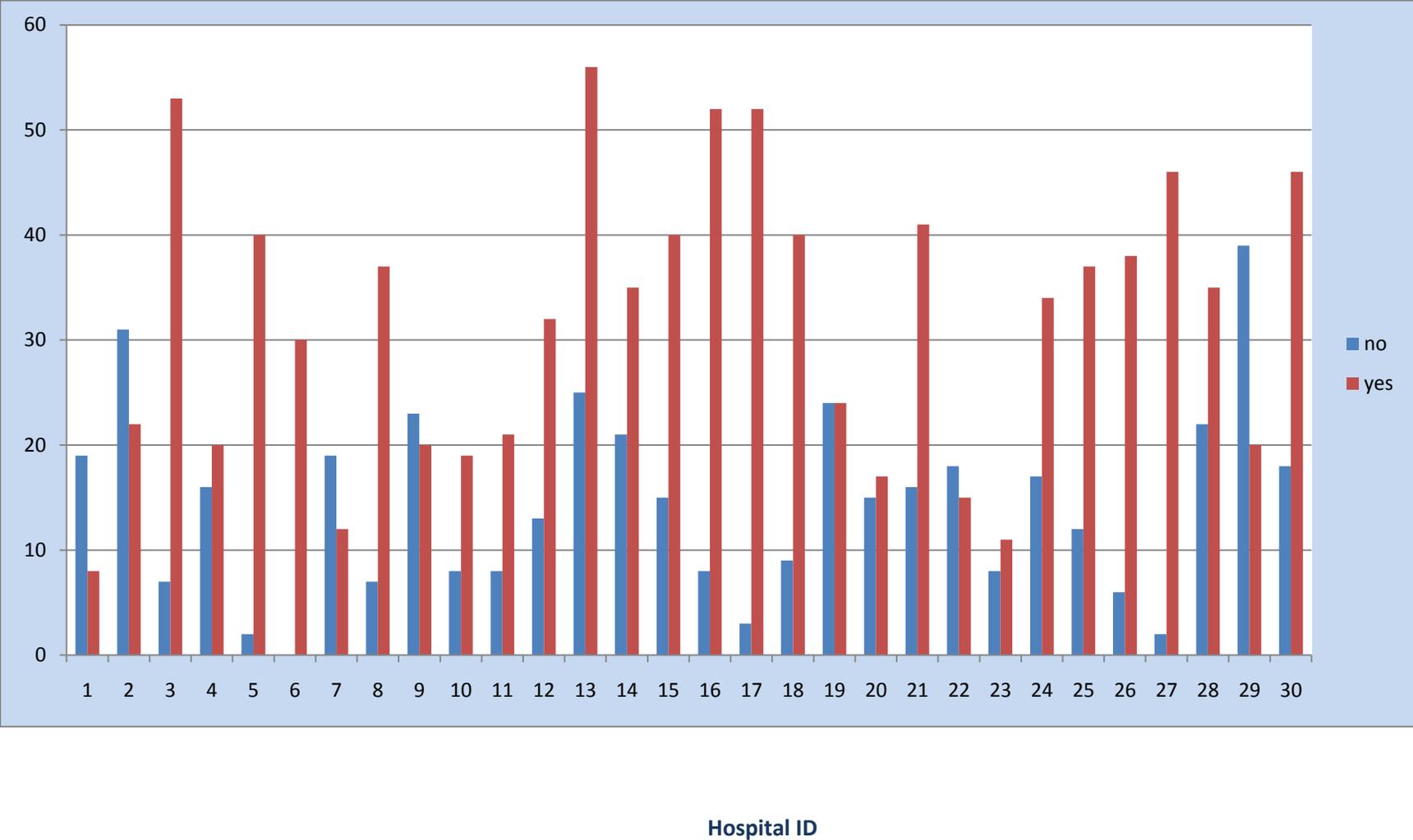
Hospital ID

Figure 25 **Numbers of nurses recommending the hospital to friends or family if they need hospital care**

Hospital ID
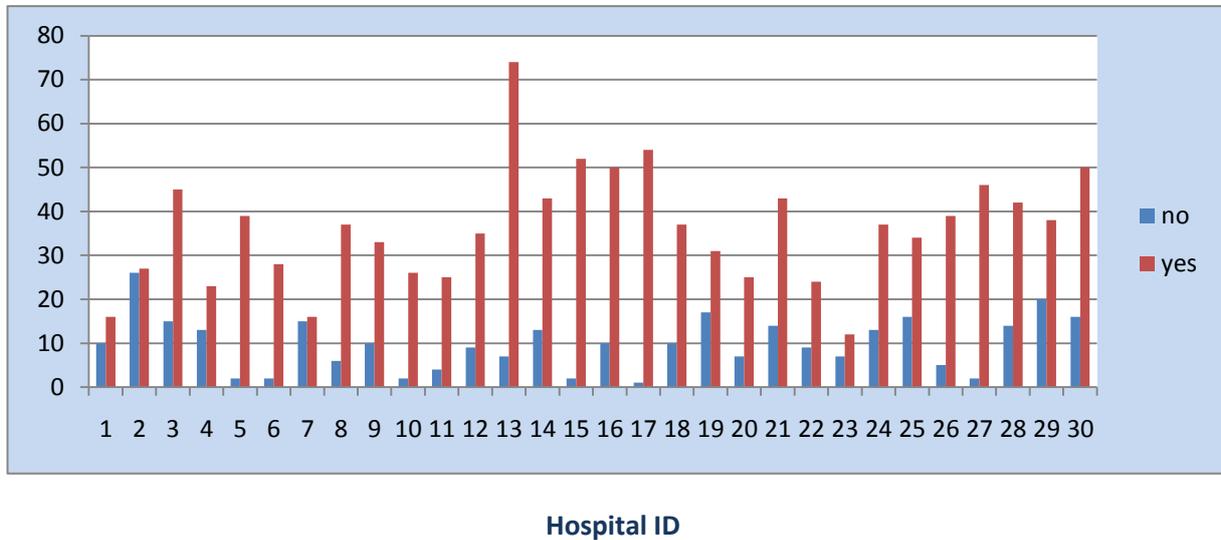
The high levels of positivity exhibited in responses to this question is interesting, both when taken together with nurses responses to the questions regarding staffing and resource adequacy and emotional exhaustion, and in light of nurse responses presented in Figure 24 above. These responses are consistent with nurses reported quality of care, see Figure 26 below.

Nurse-Reported Safety and Quality

In the nurse survey, information was sought in relation to the perceptions of nurses in direct care about quality and safety issues in their work.

Quality of care in the wards

Nurses were asked to describe the quality of care delivered to patients in their wards as either poor, fair, good or excellent. Although overall 52% of nurses described the care as good, only 38% described the care in their wards as excellent. In the following graph the responses for hospitals are divided into those who described the care as good or excellent and those who described it as poor or fair. Again the numbers will need to be interpreted taking the response rate in each hospital into account (see table 7 above).

Figure 26   **Numbers of nurses describing quality of nursing care in their wards as either "good or excellent" or "fair or poor".**
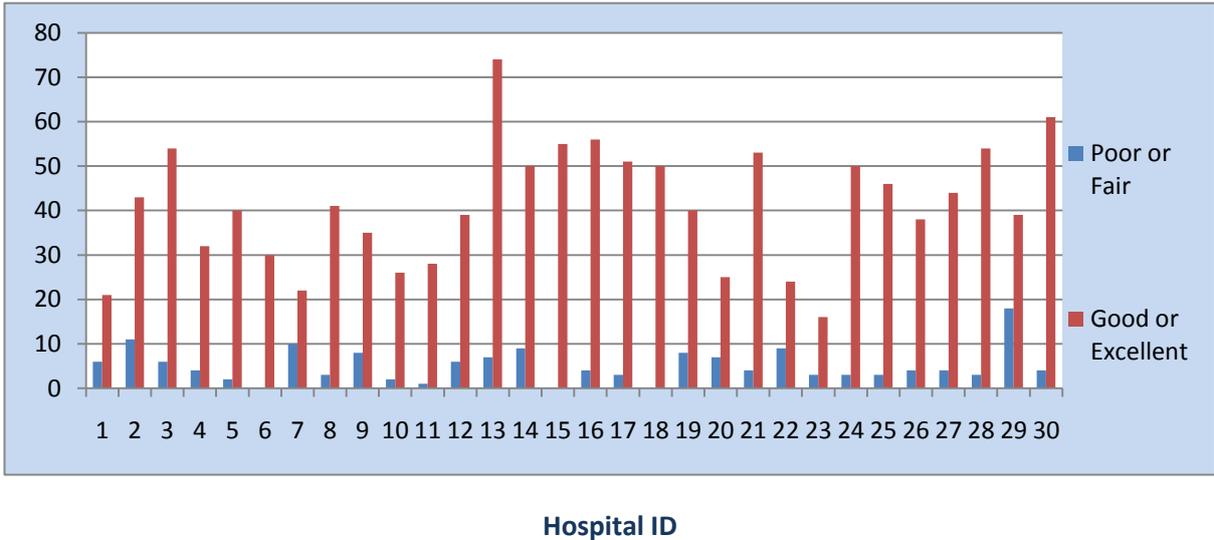

Hospital ID

Nurses were also asked to indicate how quality of care in the hospital has been over the past year: deteriorated, remained the same or improved. The following graph illustrates responses from each hospital. Again this graph represents numbers of nurses who responded and should be interpreted keeping in mind the total number of responses from each hospital.

Figure 27 Numbers of nurses indicating the trend in Quality of Care over the last year

Hospital ID
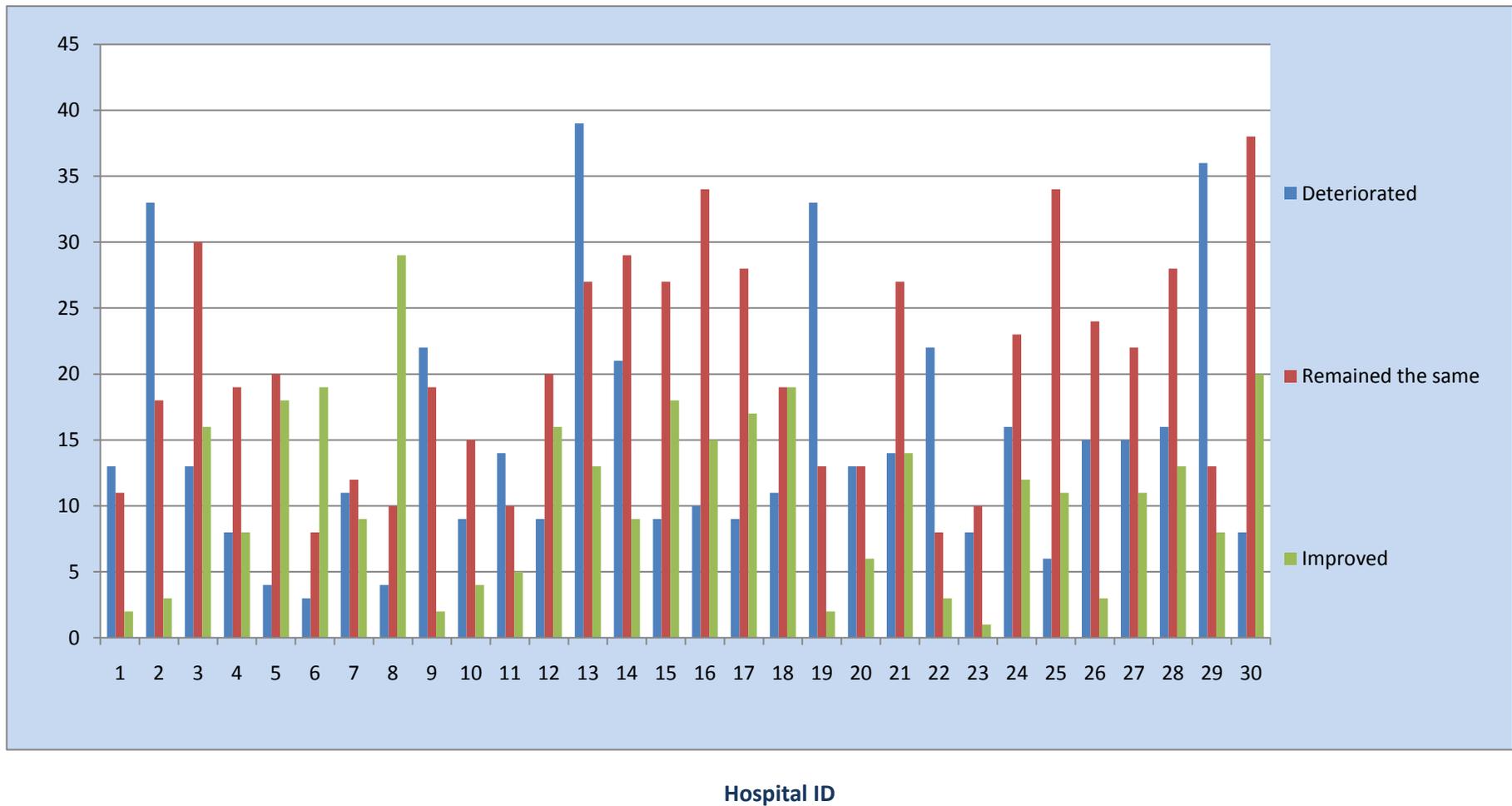
Another measure of quality is the nurse's perception of the ability of patients to manage their care after discharge. Nurses in this survey were asked to indicate their level of confidence that their patients could manage after discharge. The following graph illustrates the answer trends from participating hospitals indicating the numbers of nurses who were either confident or very confident and those who were not confident or only somewhat confident. It is interesting to note the variation in responses from the major Irish acute hospitals.

Figure 28   Number of nurses who are confident (or not confident) that patients are able to manage care when discharged from the hospital
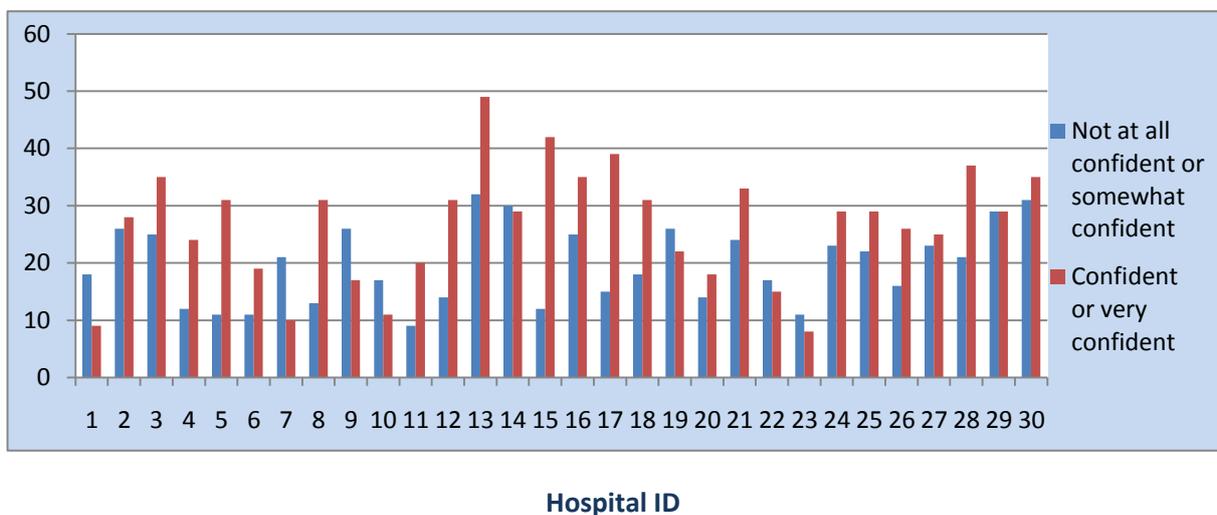

Hospital ID

It should be highlighted that a majority of nurses responding from 8 (26.7%) of the 30 study hospitals reported not being confident that their patients are able to manage their care when discharged from hospital. This may reflect both an increased pressure on hospital beds in acute medical and surgical wards and the HSE policy to reduce length of stay. The impact of the latter policy should be monitored carefully for any deleterious impact on patient outcomes; for example increases in readmission rates and so forth, which are now being monitored in some acute hospitals.

Confidence that hospital management will act to resolve problems

Nurses' perceptions regarding the support they would receive from management if they reported problems in patient care is an important measure of safety culture within hospitals. In this survey nurses were asked to indicate their level of confidence regarding this issue. The following graph illustrates the numbers of nurses in participating hospitals who indicated that they were confident or very confident, and also those expressing a lack of

confidence or those who were only somewhat confident in management. Again the graph should be interpreted taking overall response rates into account (see table 7 above).

Figure 29   Numbers of nurses who are confident (or not confident) that management will respond to problems in patient care reported to them by staff
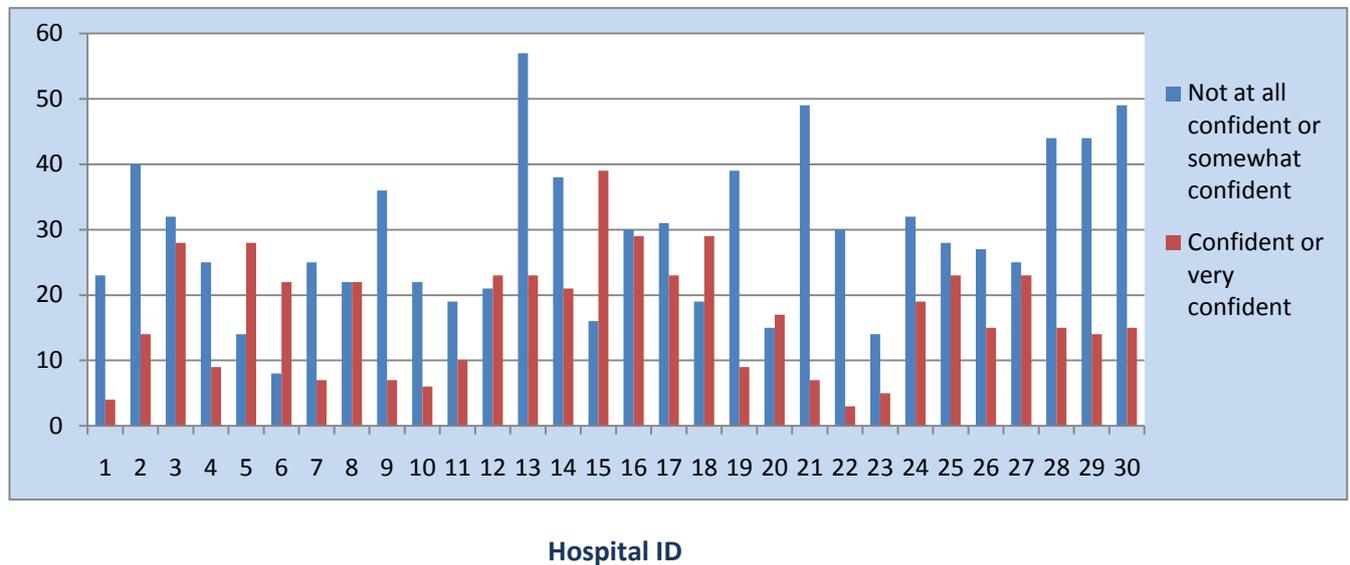

Hospital ID

A majority of nurse respondents in 23 out of 30 larger Irish acute hospitals reported a lack of confidence that hospital management would respond to staff reports of problems in patient care. Thus nurse participants in 76.7% study hospitals (i.e. 74% of the larger acute hospitals in Ireland) report a lack of confidence that management in their hospitals would respond to patient care problems identified and reported to management by staff. Conversely, respondents from 6 of the study hospitals (20%) reported confidence that hospital management would respond to such reports. This is a very worrying finding and would seem to require urgent attention from hospital management. Leadership on quality and safety issues must come from managers in organisations (O'Toole 2002). Findings from the organisational survey in this study indicate that Irish hospitals are addressing safety issues, through safety posts, training and audits. However the question above acts as a real indicator of how successful they have been. If the staff members are convinced of management's commitment to safety, they are more likely to engage in the patient safety. This engagement can be seen through higher levels of adverse incident reporting by nurses (Kirwan 2012). The nurse survey findings are a barometer of the effectiveness of organisational efforts. Therefore this finding should serve as a warning to hospitals that the work of quality and safety is not addressed by simply ticking boxes regarding staff, training

and audit. A real and visible commitment by management to patient safety is required to convince staff of its veracity

Nurse perceived patient safety in the wards

Nurses were asked to grade patient safety, in the wards in which they work, on a scale from failing to excellent. Overall just 15% of nurses in the study indicated that patient safety in their area was excellent, with 46% indicating that it was very good. The following graph illustrates results across the hospitals by showing numbers of nurses who indicated that patient safety in their ward was either **very good or excellent**, and those who did not. Again this graph should be interpreted in relation to overall response rates per hospital.

Figure 30   Nurse perceived patient safety in their wards (numbers of nurses)
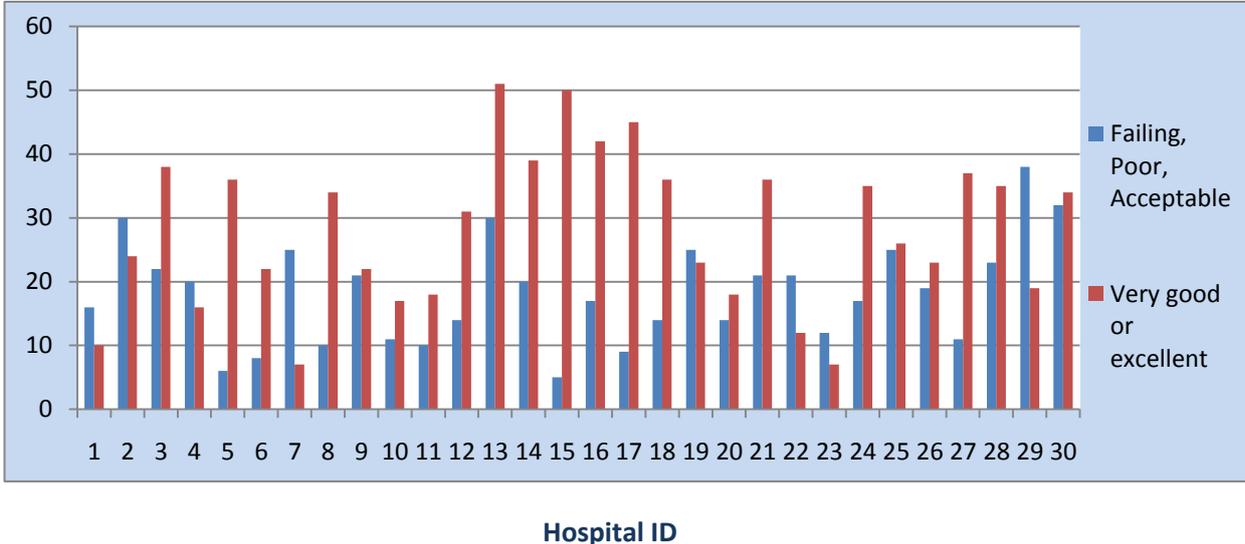

Hospital ID

Patient safety culture

The nurse questionnaire included some measures of organisational safety culture as derived from the Agency for Healthcare Research and Quality (2007) Hospital Questionnaire on Patient Safety Culture. A list of items was presented and nurses were asked to indicate their level of agreement that these items relate to their work setting.

The hospital level findings for three of these items are presented below. In each case the results are divided into numbers of nurses who indicated that they either agreed or strongly agreed that the item related to their work, and those who did not. The graphs must again be interpreted keeping in mind the overall response from each hospital.

Figure 31   Staff feel like their mistakes are held against them
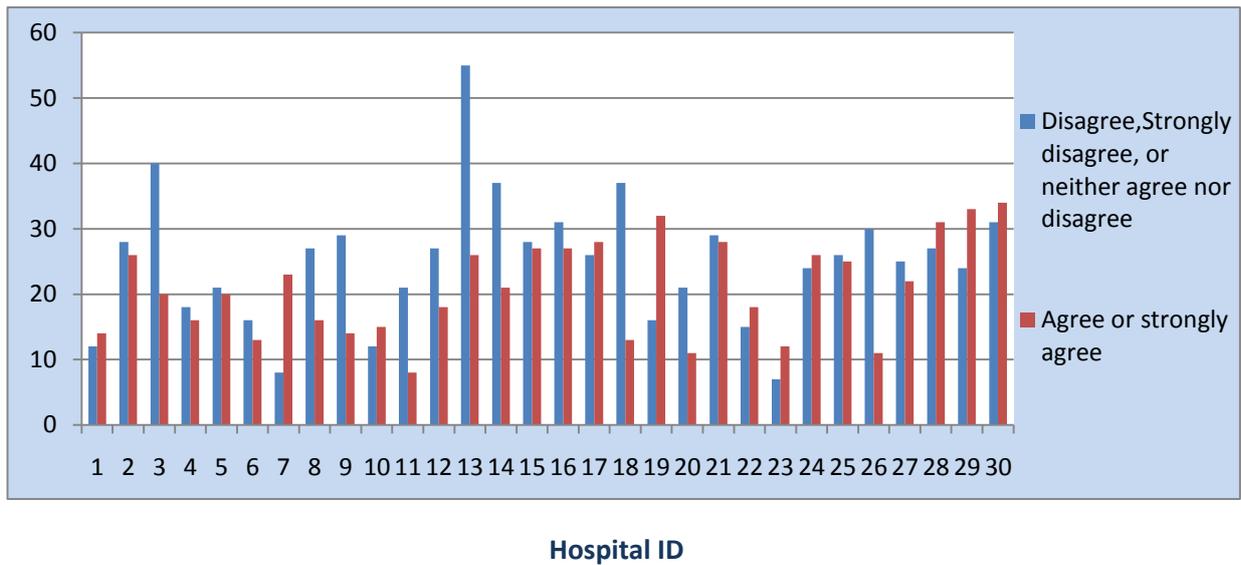

Hospital ID

In 11 hospitals more nurses agree with this statement than disagree. This finding, coming several years after the report of the Inquiry into peri-partum hysterectomies at Our Lady of Lourdes Hospital Drogheda (DoHC 2006), is very disappointing, indicating that many hospitals continue to present a punitive culture to staff around safety issues.

Figure 32   Staff feel free to question the decisions or actions of those in authority
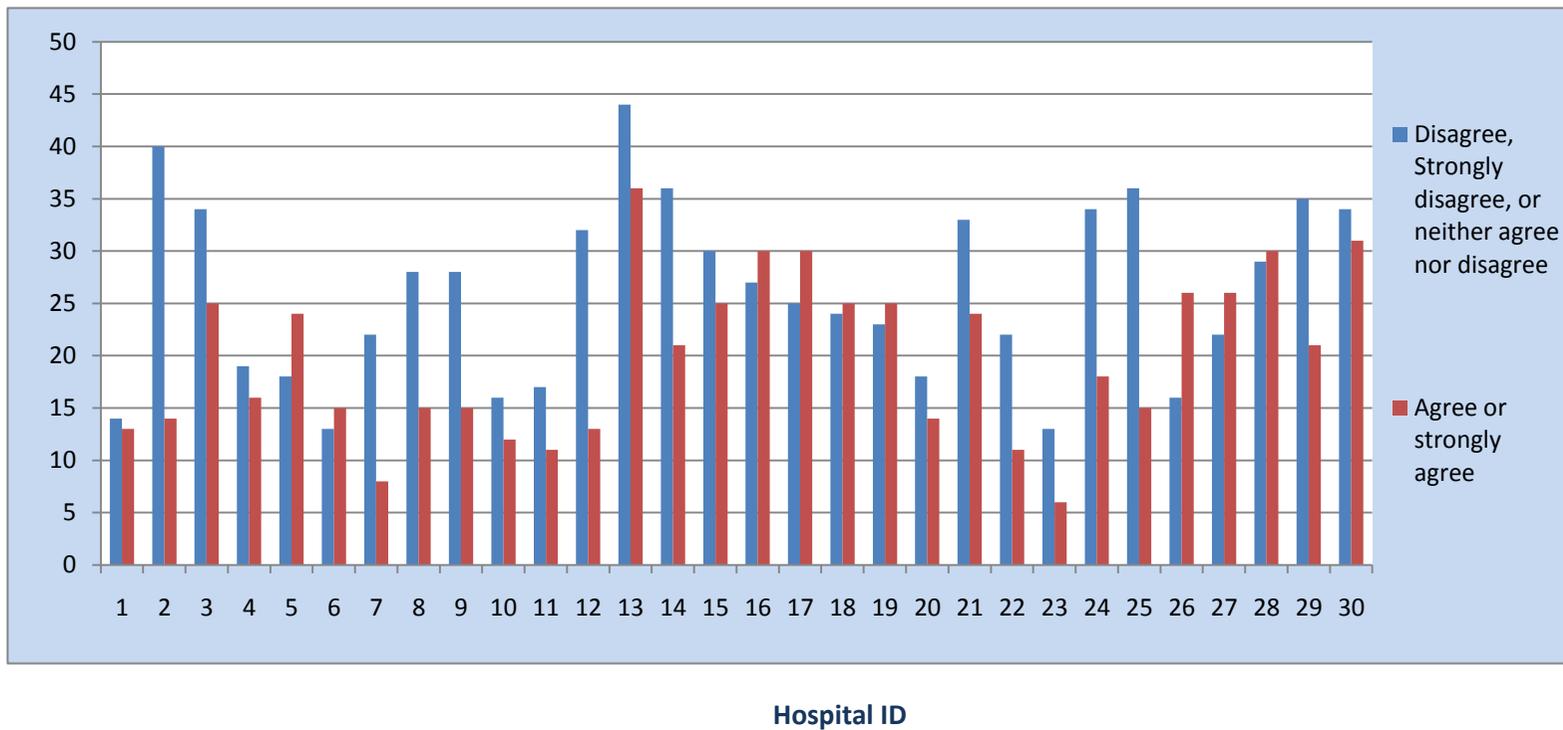
Hospital ID

More nurses in 21 hospitals above seem to disagree than agree with this statement. Again this should signal cause for concern as perceived lack of freedom to question those in authority is a safety hazard (Institute of Medicine 1999).

Figure 33 The actions of hospital management show that patient safety is a top priority
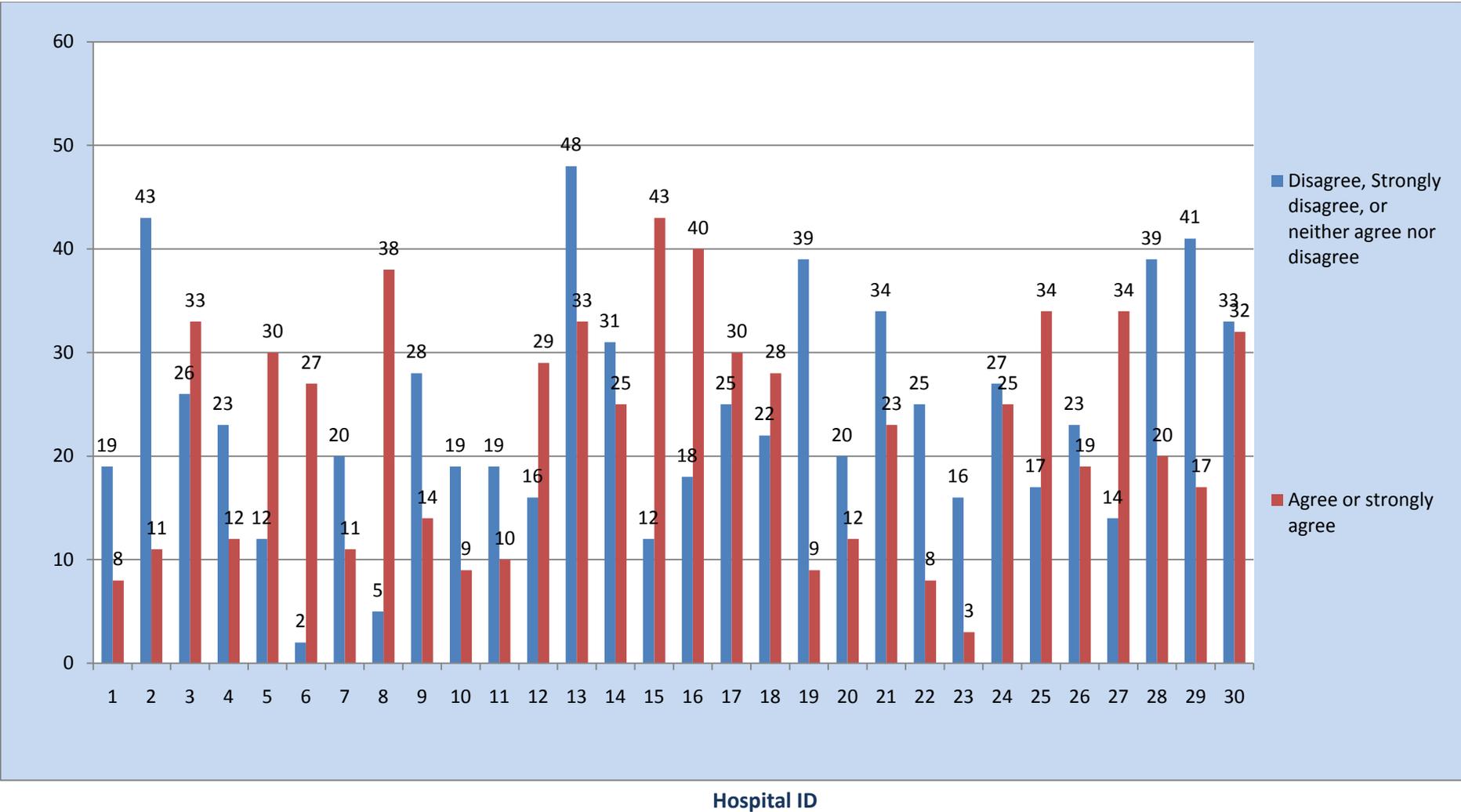
Hospital ID

This graph is a barometer for how staff perceive the efforts of management in relation to safety: there are some very impressive results above (hospitals 6, 8, 15), but some very poor ones also (2, 19, 23). This is consistent with the findings, presented above (figure 29), on nurses' perceptions of the commitment of management to safety issues. It suggests greater visibility of this commitment is required.

Adverse event occurrence

In the survey nurses were provided with a list of adverse events and asked to indicate how often each incident occurs involving themselves or their patients. The following table 8 gives the overall national results for the items listed. Across hospitals the variability was low and the data skewed, with large numbers of nurses indicating that adverse events occur infrequently. For this reason it was difficult to present hospital level results in a meaningful way. This finding should possibly be treated with caution as under-reporting of adverse events is an acknowledged problem (Reason 2000, Johnstone and Kanitski 2006). For instance the results of this study indicate that 28% of nurses answered 'never' when asked how often patients receive the wrong medication or medication at the wrong time. However, when asked in the survey about work left undone at the end of the most recent shift, 18% of nurses in this survey said they did not administer medication in time due to time constraints. It seems unrealistic to suggest that adverse events in the study hospitals occur as infrequently as these results would indicate. It may be that nurses, for various reasons, were reluctant to admit to higher adverse event occurrence rates. This may be linked to their lack of confidence in management, or to the historically punitive culture of healthcare. Frequently according to a recent US study (Levinson 2012), staff members are unsure what constitutes a reportable adverse event and this has been linked to under reporting. Table 9 contains the mean results per hospital and enables you to make comparisons across hospitals. The scale was scored from 0-6. The overall mean score for each item is highlighted at the bottom of each column.

Table 8 **National response to items measuring adverse event occurrence**

How often would you say each of the following incidents occurs involving you or your patients?		Percentage response per item						
Item no.	Item	Never	≤A few times a year	≤ Once a month	Few times a month	Once a week	A few times a week	Every day
7.1	Patient received wrong medication, time, or dose	27.7	56.2	8.5	4.4	1.2	1.2	0.7
7.2	Pressure ulcers after admission	28.1	62.4	7.3	1.5	0.3	0.4	0.1
7.3	Patient falls with injury	10.1	54.6	22.0	9.3	2.3	1.5	0.2
7.4.1	Urinary tract infections	14.4	48.7	19.5	12.4	2.8	1.9	0.2
7.4.2	Bloodstream infections	26.2	50.9	13.7	7.4	1.0	0.7	0.1
7.4.3	Pneumonia	18.4	50.0	18.8	9.8	2.1	0.7	0.2
7.5	Complaints from patients and their families	7.8	45.2	21.0	13.1	4.8	4.7	3.4

Table 9 **Mean results across hospitals for adverse event occurrence rates**

Hospital ID	Patient received wrong medication, time or dose	Pressure sores after admission	Patient falls with Injury	UTI	Bloodstream infections	Pneumonia	Complaints from patients or their families
1	1.22	1.07	1.67	1.88	1.56	1.80	2.30
2	.89	.93	1.56	1.33	1.02	1.36	2.94
3	.98	.76	1.43	1.37	.83	1.22	1.71
4	1.09	.97	1.59	1.47	.84	1.22	1.56
5	.95	1.00	1.13	1.88	1.34	1.54	1.43
6	.78	.86	1.18	1.29	.64	1.00	1.63
7	1.29	.90	1.74	1.94	1.23	1.63	2.26
8	.95	1.12	1.64	1.70	1.20	1.83	1.75
9	1.28	.79	1.88	1.86	1.37	1.62	2.60
10	1.04	.82	1.39	1.19	.84	.96	1.81
11	.79	.66	1.41	1.14	.75	1.07	1.14
12	.73	1.02	1.67	1.49	1.22	1.51	1.82
13	1.08	.60	1.44	1.23	1.03	1.13	2.00
14	1.36	.95	1.23	1.55	1.34	1.51	2.15
15	1.07	.86	1.51	1.48	1.20	1.39	1.69
16	1.05	1.16	1.36	1.84	1.29	1.39	1.53
17	1.00	1.20	1.47	1.64	1.31	1.43	1.38
18	.84	.55	.96	1.49	.79	1.06	1.15
19	1.50	.75	1.54	1.50	1.00	1.49	2.56
20	.87	.50	1.09	1.00	.77	.87	1.44
21	.91	.71	1.34	1.05	.89	1.19	1.85
22	1.25	.71	1.94	1.63	1.44	1.42	2.06
23	.42	.56	1.22	1.11	.61	.83	1.39
24	.78	.90	1.34	1.00	.73	.77	2.18
25	1.04	.96	1.44	1.46	1.06	1.06	1.96
26	1.26	.81	1.38	1.81	1.60	1.74	2.68
27	.64	.43	1.20	1.11	.81	.94	1.80
28	1.12	.96	1.40	1.59	1.18	1.21	1.84
29	1.02	1.02	1.89	1.72	1.33	1.28	2.09
30	.95	.82	1.33	1.39	1.02	1.52	1.71
overall mean	**1.02**	**.85**	**1.44**	**1.47**	**1.09**	**1.30**	**1.90**

(NOTE: Scale is 0-6, 6 indicating the highest frequency)

DISCUSSION OF RESEARCH FINDINGS

The acute hospital sector in Ireland is very varied ranging from the small local hospital to the large tertiary university teaching hospitals. The RN4CAST study included acute hospitals with a minimum of 100 inpatient beds. However, even within this restricted frame, the variation in the sector is still noteworthy. Data on average occupancy rates were provided by 19 out of the 30 acute hospitals in the RN4CAST (Ireland) study (see table 3 above).

Ward staffing numbers seems to be based largely on an historical staffing compliment and thus nursing staff numbers do not appear to be closely associated with bed numbers or inpatient activity. 70% of hospitals surveyed in the organisational survey indicated that ward staffing was not matched with patient acuity or dependency levels. The HSE Corporate Plan 2008-2011 outlines the reduction of average length of stay for acute hospital patients as one of their key objectives (HSE 2008, p 35). This has largely been implemented across the sector. The HSE (2012), for example, had targeted a reduction of 5% of average length of stay for 2012. There is also an increase in the number of elective patients who have their principal procedures performed on the day of admission, thus reducing the average length of stay to 5.8 days currently (HSE 2012). The high bed occupancy levels reported in 13 out of 19 of our acute hospitals sample should also be noted here (table 3). When bed occupancy levels and reduced length of stay for patients is combined with steadily increasing demand for hospital care, the significance of the lack of formal mechanisms, to factor in patient acuity and dependency into ward staffing levels, becomes clear.

An inability to formally integrate such measures in order to help determine staffing needs may suggest that historically-based nurse staffing compliments have not kept pace with the changing profile of the relevant inpatient population. Unless one assumes that, historically, hospital wards were grossly overstaffed, it is very likely that nursing staff in the Irish acute hospital sector has been under increasing, but largely invisible, work pressure over this time period. This may go some way to explaining the

levels of emotional exhaustion, work left undone and lack of job satisfaction found in the RN4CAST study.

In only three out of the 30 larger acute hospitals in the study, was staffing and resource adequacy seen as positive by nurse participants. Nurses in over one quarter of large acute hospitals in Ireland reported deterioration in care over the year prior to data collection. It should also be highlighted that a majority of nurses responding from 8 (26.7%) of the 30 study hospitals reported not being confident that their patients are able to manage their care when discharged from hospital. In light of the continuing recruitment moratorium in the HSE, staffing levels are likely to have deteriorated since the data collection period. (In addition, as noted above, there is ongoing targeted reduction in length of stay for patients in acute hospital beds.) This is potentially a very serious issue for patient safety and patient care; not to mention the impact on frontline staff. As early as 1992 Silber indicated that the number of patients that the nurse is directly responsible for (patient – nurse ratio) is a factor that can affect patient mortality. Recent studies demonstrate an association between patient – nurse ratios and rates of clinical complications related to nursing interventions (Twigg et al 2011), improved quality of care (Kalish and Lee 2011) and reduced emergency department visits within 30 days of discharge (Bobay, Yakusheva and Weiss 2011). However, Griffith et al (2013) cautions that medical staffing is likely to be an important ingredient in this context and is, to date, a relatively under-explored territory.

In a presentation on the new HIQA standards for better safer care, Marie Kehoe (Director of the Safety and Quality Improvement Directorate, HIQA), highlighted that "Reducing budgets and increasing demand" could lead to a "perfect storm" in the Irish health service (Kehoe, 2012). We suggest that hospital staffing levels, including patient-to-nurse ratios, are in the eye of this storm. The identification of safe staffing levels is an issue that needs to be considered carefully by all the key actors in the health service. Staffing level has a direct impact on patient care and patient experience, and is likely to have a significant impact on effective implementation of the new HIQA national standards for better safer care (HIQA 2012b).

Ward-based nurses do not work in a vacuum or as isolated individuals. It is clear from the responses to the organisational survey that there are deficits in the information collected on staff in Irish hospitals. Also the information that is collected is not integrated or easily available to the senior management team. For example, it appears that, in general, information regarding staff numbers and profiles (education levels, length of experience, depth of expertise in specialist area, overseas experience and so forth) is not easily accessible at hospital level. The importance of such information in helping to determine the appropriate ward-based staff skill-mix will be discussed further below.

Our study has found that the average patient-to-nurse ratio, at the bed-side in the larger acute hospitals in Ireland (6.84:1), is midway in the range of such ratios across Europe. Patient-to-nurse ratios were better in the Netherlands, Finland, Norway, Sweden and Switzerland. The patient-to-nurse ratios , as reported by the nurse participants in Irish hospitals, were better in Irish hospitals than those reported in England, Belgium, Germany, Spain, Greece and Poland (Aiken et al 2013). However, the average ratio hides considerable across and within hospital variation. Very high hospital occupancy rates will interact with and compound issues related to unfavourable patient-to-nurse ratios. It is also the case that patient-to-nurse ratios should not be considered in isolation, but should be considered within the context of the broader patient-to-staff ratios within an organisation. Again the reported Irish ratio of 5:1 falls towards the middle of the European average (Aiken et al 2012). These are important findings that should inform debate regarding national policy in this area.

Finding from this Irish RN4CAST study also provides useful data on staff and hospital profiles that may be of value to manpower planners in the Irish health service. For example the percentage of qualified nurses in the direct care workforce in medical and surgical wards in Ireland is 72%. Sixty percent of nurses in medical and surgical wards in acute hospitals in Ireland are educated to undergraduate degree level. The staff nurse-to-healthcare assistant ratio in surgical wards is 9:1 and in medical wards is 8:1; although the ratios vary enormously across the sector. This variation is something that would appear to warrant further investigation, both in terms of ensuring the most

effective use of degree educated nursing staff, and to determine the appropriate skill mix for the huge variety of wards found across the sector. Our findings also indicate that the ratio of the total number of nurses in Irish hospitals to total number of doctors is 3:1, not 5:1 as previously published by the OECD (OECD 2009). It should be noted, however, that there was a significant increase, over the years of the study, in non-consultant hospital doctors (NCHD) rostered and unrostered overtime - which will not be reflected in these numbers; thus the numbers alone give an incomplete picture. It is important to give this matter some consideration. Kirwan (2012) suggests that the overall number of NCHDs is decreasing while numbers of consultants and senior medical staff are increasing, in line with a government policy of moving to consultant-led care; based on the findings of the Task Force on Medical Staffing (2003). If this is correct, a likely consequence is that there will be more pressure on nurses to do the work of junior doctors. Expanding the role of the nurse, other things being equal, may be positive for nurses and patients. However if nurses are then not in a position to provide direct care to patients, this can lead to problems in the provision of safe, good quality patient care.

The dynamic, challenging and rapidly changing environment of health service reform, austerity, political change, when combined - as they have been over the past 5 years - bring particular pressures not only on service managers but on front line delivery staff. For example mergers, and closures of wards and hospitals, have implications for nursing skill-mix; not to mention the personal, economic and emotional fall-out these measures can have on the staff caught up in the changes - while continuing to try to deliver safe, high quality patient care. The potential impact of such organisational change is well recorded in countries such as England and the USA. It would seem reasonable to suggest that Irish hospital management teams should be provided with support to appraise themselves of such international evidence and of potentially effective ways to manage such levels of change and uncertainty; in order to ameliorate the potentially more detrimental effects on staff and patients. We suggest that some of the recommendations from the Boorman Report (Boorman, 2009) in the UK are also of potential value in this context.

The topic of patient safety is not only a key agenda item in the Irish health service (HIQA 2012b) it is a topic of international importance, and has a significant international literature and evidence base. It is important to acknowledge that there have been a number of significant developments throughout the HSE, such as the establishment and work of the Directorate for Patient Safety and Quality of Care, the establishment of clinical directorates and the roll-out of clinical care programmes, both during and since the data collection period for this study (see HSE website www.hse.ie). However on the basis of our findings (data collection period 2009 – 2010) Irish hospital management, in the larger acute hospitals, appeared to be addressing the issues of patient safety largely through the provision of safety posts, in-service training and audit. Inconsistencies exist in the approaches taken, particularly in relation to grading of staff. This is noteworthy as grading may be perceived as an indication of the value placed on the role by hospital management. As HIQA (2012a) underlines governance around safety is a real issue. Lower graded safety personnel may have an impact on the ground, however safety personnel at lower grades have to negotiate through layers of management before anything can be achieved – this takes a lot of time, effort and commitment. Higher graded posts tend to be able to feed directly into management and can draw attention to issues in a timely manner. Nonetheless, whatever the grade such a post is set at, unless the post is fully integrated into a governance structure that sees the hospital management team and, where relevant the hospital board, visibly taking responsibility for the patient safety agenda, patient safety will not be perceived as a priority for the organisation. It is quite clear where both HIQA (2012a,b), and the Minister of Health, see ultimate responsibility for patient safety and quality of care residing – with the hospital management team, the chief executive, and the relevant governing board.

The first step in developing a culture of patient safety in an organisation is determining a mechanism for adverse incident reporting. This enables identification and recognition of the key issues. Without this step, the other elements of the safety agenda cannot be addressed - such as examining the systems which allowed the event to occur, ensuring organisational learning, and putting in place systems to prevent/minimise reoccurrence. Kirwan (2012) shows that while nurses report most

adverse events in the hospital environment, under reporting remains a huge issue. Our findings also indicate that lower nurse confidence in management to respond to safety issues they raise (aggregated to ward level) predicts higher levels of nurse-reported adverse event occurrence (Kirwan 2012).

Further analysis of our data has shown that In-service safety training (including adverse incident reporting), impacts positively on the nurse reported frequency of adverse event occurrence (Kirwan et al 2013). It suggests that if nurses understand the reasons for reporting and understand the organisation's stance on reporting they will report more. This helps address under-reporting patterns which historically have been a problem for health services worldwide.   Attendance rates at in-service safety training can be improved if the sessions are mandatory. However the quality of these sessions needs to be reviewed and monitored and national standards developed and implemented. Currently there are no such standards. The Report of the Commission on Patient Safety and Quality Assurance (Department of Health and Children 2008) recommended review of safety curricula in hospitals and highlighted the Patient Safety Education Project (2008) as a suggested core curriculum. However no matter how well designed or presented such training, and regardless of the voluntary or mandatory nature, the value and impact will be seriously undermined if the importance of the topic is not recognised or accepted throughout an organisation. Again this point is clearly underlined by HIQA (2012a)

A very important and sobering finding from this study was the low levels of confidence that nursing staff portrayed in the commitment of hospital management to patient safety. Given the high profile of this agenda in political and managerial rhetoric, since the publication of the Report of the Commission on Patient safety (Department of Health and Children 2008), this is a very significant and, we would argue, a concerning finding. The tone, ethos and culture of an organisation are set by its leadership. Our findings suggest that nursing staff, at the time of data collection, perceived a significant failure by hospital management, in the Irish acute hospital sector, to model commitment to patient safety and quality of care.

This finding is completely consistent with, for example, findings from the Tallaght (Adelaide, Meath & National Children's Hospitals, AMNCH) Hospital investigation (HIQA 2012, p.201):

> "The Authority found that both the agenda and the minutes of the Review meetings between the HSE and the Hospital did not follow a structured format …The main tenor and focus of the meetings were on the budget and breakeven plan. In five out of the six meetings held in 2010, the budget and breakeven plan was the first item on the agenda whereas the quality, safety and governance of the services, being provided by the Hospital, was not an item on the agenda. It appeared to the Authority that based on the information available to it, the safety of patients or clinical outcomes was not monitored by the HSE or the implications of the financial overspend considered in these terms over this time. However, in the minutes of the June 2011 meeting, it was noted that a member of the HSE Quality and Patient Safety Directorate was to become a standing member of the review meeting."

The question is how seriously has hospital management teams, and where they exist hospital Boards, have begun to take these issues, post HIQA (2012a).

In this study we also found that (a) degree educated nurses reported higher levels of adverse event occurrence and (b) nurses who trained in Ireland reported higher levels of adverse event occurrence. Such findings suggest that, from a safety culture perspective, hospitals need to collect staff profile information, including education level, to aid team skill mix decisions at ward level. We know from the organisational survey results that currently this is done very poorly. Therefore in the interests of patient safety this deficit should be addressed.

The rates of illness/absenteeism found in this study should be of concern to service and institutional managers. The annual percentage of sickness/absence identified was 5.89% for registered nurses and 6.88% for non-registered nursing staff. This is consistent with Healthstat statistics for 2012 (Healthstat 2012) which reports average nurse absentee rates as running at 5.6%; with some hospitals reporting rates as high as 12.5%. This is clearly a significant challenge for hospital managers in general and nurse

managers in particular. Such illness / absentee rates are also significantly higher than the HSE target of 3.5% set in the National Service Plan for 2012 (HSE 2012). It is worth noting that the Boorman Review (2009) of the UK NHS stressed the need to invest in staff health and well-being. The report indicates that organisations which prioritise staff health and well-being have lower rates of sickness absence, improved patient satisfaction and better overall performance.

As indicated above absentee rates can provide insight into staff morale including perceptions of being appreciated and supported in one's job. Nurses, responding to this survey, report a perceived low level of participation and status of nurse managers (and thus of nursing) within the organisation. This mirrors the position reported in the national empowerment study of nurses and midwives in Ireland in 2003 (Scott et al 2003). Despite the recommendations in 2003, which identified measures to be taken to increase nurse visibility and participation in decision making, little seems to have changed over the past decade. In an environment where issues such as "value for money" is pervasive it is vital to position and empower nursing, the largest element of the health care workforce, in a manner that enables nurses to make the highest contribution possible to patient care and health service delivery.   It is also important that the nursing profession rises to this challenge, ensuring that leadership potential is identified and grown; in order that those nurses who find leadership opportunities within their organisations, regionally and nationally are encouraged and equipped for such roles.

The Practice Environment Scale of the Nursing Work Index (Lake 2002) uses 5 subscales to measure the following: staffing and resource adequacy, nurse manager ability, leadership and support of nurses, collegial nurse – doctor relationships, nurse participation in hospital affairs and nursing foundations for quality of care. Our findings indicate that at a ward / unit level 72% of wards in this study were shown to have "mixed" work environments, 13% had "poor" environments and 10% had better work environments suggesting much room for improvement in nurse work environments across the Irish acute hospital sector. However the positive aspect here is that significant improvements could be achieved at relatively little financial cost.

Nurses in 29 out of 30 Irish acute hospitals reported moderate to high levels of emotional exhaustion. Nurses in nine of those hospitals, i.e. almost one third of larger Irish acute hospitals, reported high levels of emotional exhaustion. This finding is consistent with nurse participants' negative perceptions of staffing and resource adequacy. Such a finding should raise serious concern for the well-being of these nurses. This situation is likely to have continued to deteriorate, given the continuation of the staffing moratorium and the deteriorating budgetary situation, combined with increasing demands on the acute hospital sector, since the data collection period in 2009/2010.

In light of the above, and though of considerable concern, perhaps it comes as no surprise that nurses participating in this national study are largely dissatisfied with their job. Nurses in two out of the 30 hospitals reported high levels of dissatisfaction, nurses in two of the hospitals reported being, on average, moderately satisfied; while nurses in the remaining 26 hospitals report, on average some degree of dissatisfaction. No hospital cohort of nurses reported high levels of job satisfaction. These data should be interpreted within the context of the numbers of nurses responding from each hospital (see table 7) However findings on job satisfaction are consistent with both the levels of emotional exhaustion reported by these hospital nursing cohorts and the nurses reported perceptions of staffing and resource adequacy. In a systematic review of the literature on job satisfaction initially published in 2005 and updated in 2012, Lu et al indicate that similar issues impact on nurse job satisfaction across the world; however the salience of the specific issues may differ in countries due to the social context of different labour markets. Kutney-Lee et al (2013), using longitudinal data, confirm improvements in nurse burnout levels, job satisfaction and intention to leave with improvements, over time, in the work environment. As indicated above, the UK's Boorman Review (Boorman 2009) may be a source of useful guidance on this issue.

The findings from the RN4CAST study portray noticeable differences in work environments across wards, within hospitals. Given the increasing evidence that there are strong associations between a positive work environment and positive patient and nurse outcomes (Aiken et al 2012, You et al 2013, Kutney-Lee et al 2013) this seems to

be an area where significant attention should be focused. Such focus and interventions may reap significant benefits and prove cost effective in the current harsh budgetary environment.

Key conclusions

- There is a dearth of information on nursing staff profiles in Irish acute hospitals. This lack of information is likely to undermine attempts to determine both the most effective way to deploy nursing staff throughout the hospital, and the identification of appropriate staff skills mix at ward / unit level. Ultimately such deficit is likely to impact both patient and nurse outcomes.

- This dearth of information may also suggest a lack of awareness among hospital managers, including nurse managers, regarding the potential impact of differing nurse education levels, skill set and experience on patient care and patient outcomes; once again, potentially, impacting patient and nurse outcomes.

- Ward staffing levels across the acute hospital sector seems to be based largely on historical staff complement. Seventy percent of hospitals surveyed indicated that ward staffing was not matched with patient acuity or dependency levels. This reality, combined with reduced lengths of stay for patients and the current ongoing moratorium on staffing, is likely to be impacting significantly on ward-based nursing staff.

- Many nurses, working in acute medical and surgical units across the Irish acute hospital sector, are concerned regarding the ability of patients to manage their care following discharge.

- Many nurses working in medical and surgical units across the Irish acute hospital sector expressed little confidence in hospital management's willingness to respond to problems in patient care reported to them by staff; or in management's commitment to patient safety issues.

- Nurses in over one quarter of large acute hospitals in Ireland reported a deterioration in care over the year prior to data collection, e.g. 2008-2009. Since 2010 a large number of frontline staff members have taken early retirement. When the implications of this fact is combined with the continuation of the moratorium on replacing staff who have left the health service (and other austerity measures

that have been instituted over the past 3 – 4 years), there is reason to believe the situation may have deteriorated further.

- A majority of nurses working in medical and surgical units across the Irish acute hospital sector reported moderate to high levels of burnout and low levels of job satisfaction. Issues of burnout and job satisfaction tend to be associated with features of the nurse work environment. While certain aspects of the work environment in the acute hospital sector such as support from line managers was, in general, viewed positively other elements such as staffing and resource adequacy and nurse participation in hospital affairs were viewed negatively and sometimes very negatively by nurse respondents. Also Hospital average scores hide significant within hospital variation. There are indications from a number of recent international studies that a good work environment can mediate the effects of less than optimal patient-to-nurse ratios on both patient and nurse outcomes. Therefore it would seem that improving the nurse work environment is important both for the advancement of the health care quality and patient safety agenda in Ireland and for reducing burnout levels and increasing job satisfaction among nurses.

- A number of acute hospitals appeared to have exceptionally high bed occupancy rates. International guidelines would suggest that a bed occupancy rate above 85% is likely to impact on quality of care and hospital functioning. Thirteen out of the nineteen hospitals for which we have data reported average bed occupancy rates of over 85%. Nine of these hospitals reported occupancy rates of above 95%. One hospital reported and average occupancy rate of 100% and one hospital reported an occupancy rate of 120%.

- Institutional approaches to meeting patient safety requirements within the acute hospitals are currently, to some degree, open to interpretation by hospital management and therefore lack standardisation. Managers are aware that they must establish safety posts, and institute audits and training. However, how such initiatives are implemented is up to each individual hospital management team, and ultimately the Hospital CEO (or equivalent) and the Board (in the voluntary sector), as evidenced by HIQA (2011). In some hospitals the safety officer post is pitched at senior grade, in other hospitals this is not the case. In some hospitals such posts are

now part of an integrated clinical governance framework that provides assurance to both the CEO and relevant governing board. At present it is unclear how widespread such development is. As indicated above, this has potential implications for both the perceived status of the patient safety agenda within the particular hospital, and the ability of safety post holder to do the job effectively and efficiently. There is similar variation in terms of training, record keeping and quality of the audit process. These latter elements are likely to have an impact on hospital safety culture. However HIQA (2012a,b) has laid down clear guidance on the appropriate governance structure and approach required to ensure the safe delivery of high quality patient care. It is now incumbent on the health service to ensure this approach is implemented across our acute hospital sector.

- A gap exists between the patient safety approach hospitals declare and the reality as experienced by staff, as measured by nurse survey. The patient safety agenda has developed rapidly since the data collection period, and, in particular, as a result of the publication of the report of the investigation into quality, safety and governance at Tallaght Hospital. However, in order to reality-check the actual impact of these developments (as with the roll out of HIQA's national standards for safer better care; HIQA 2012), it would be timely to check the perceptions and experience of front line staff providing patient care.

Recommendations

We have grouped our recommendations under 5 headings for ease of reference:

- Access to relevant staff profile data: an issue for quality and safety of patient care,

- Workforce management and planning,

- Organisational management and leadership,

- Care quality and safety, and

- Further research.

Access to relevant staff profile data: an issue for quality and safety of patient care

1. Significant types of data with regards to staff profile (medical and nursing) do not appear to be collected at the organisational level in the acute hospital sector; or, if it is collected, does not seem to be available to senior nurse managers. Such data sources (and a Business Intelligence System (BIS)), which would enable senior managers' access to vital human resources information and statistics, via a type of dashboard, seems urgently needed. Access to relevant elements of the information should also be available to the ward or unit managers and other relevant groupings within the hospital. This would enable senior hospital mangers to take a holistic view of organisational, unit and team staffing, rather than the current data-poor, silo approach.

2. It is vital to record the educational and experience levels of nursing staff at organisational and unit level. There are internationally identified associations between nursing educational levels and quality of patient care. Such associations have been replicated in the RN4CAST study (Aiken et al 2012). Thus information, on the educational levels of nursing staff, would assist in both human resource planning and shift rostering at unit level; with a view to improving the quality of patient care.

3. On that basis of this study attention needs to be drawn to the relative inexperience (in terms of years since qualification) of large numbers of staff nurses working in the medical and surgical units of the acute hospital sector. This is likely to be a particular issue in the large tertiary centres and university teaching hospitals, where patient acuity and dependency is very high and length of stay is becoming increasingly shorter. From both a patient safety perspective, and from a work environment perspective, unit / ward staff profiles needs careful attention; to ensure appropriate skill mix, level of experience and expertise. Consideration also needs to be given to the appropriate mentoring / clinical supervision of recently qualified nursing staff.

4. Data on medical and nursing staff numbers, and profile (including country of original nursing/medical qualification), should be held in an integrated data base, accessible via an appropriate BIS. Medical and Nursing workforce planning should be an integrated activity at both the national and organisational levels, in order to ensure effective use of staff, experience, expertise and skill mix.

5. Staff turnover rates, in particular nursing staff turnover rates, should be recorded at organisational level and reviewed at organisation, regional and national levels in order to help monitor such issues as staff morale and attrition rates; as these may ultimately impact patient care and patient outcomes. Appropriate monitoring of turnover rates will also assist in more effective manpower planning at organisational level.

6. The importance of recording staff illness / absentee rates at both unit and organisational levels seems clear. Such information can provide vital insights into staff morale on the particular unit. It may also help track the impact of issues such as high patient turnover and increasingly dependent, acutely ill patients (churn) on nursing staff in particular. Such information may also help inform appropriate maternity leave policy development in specific areas of service delivery. This is particularly relevant to nursing staff in Irish acute hospitals. The average age of the Irish medical or surgical staff nurse is 35 years, according to our data. Given the predominantly female gender of the Irish nursing workforce many of these staff nurses are in child-bearing years and despite increases in the duration of statutory maternity leave over recent years, this is still likely to impact on the illness / absentee patterns in this particular group of staff.

Workforce management and planning

7. On the basis of the findings of this study the model of nurse workforce planning in Irish acute hospitals is largely historical. A more rational basis for nurse workforce planning must be identified. (HIQA 2012b, Theme 6 on Workforce, articulates some of the relevant considerations.) Recent work by Behan et al (2009), on behalf of the Expert Skills Working Group, should be built on and extended to take into account such factors as the educational level of staff, skills, patient acuity and

dependency and so forth, in order to both develop a sufficiently complex model and generate guidelines for safe staffing levels / staff patient ratios (also see recommendations 15 and 18 below). The developing evidence base regarding the mediating effect of the nurse work environment, on both nurse and patients outcomes, should be monitored and integrated in workforce planning and management models where relevant.

8. Introducing a streamlined performance management and development system (PMDS) and/or Personal Development Planning (PDP) process across the organisation would enable nurse managers to discuss with nursing staff their career goals and continuing professional development needs. Training and development requirements, thus identified, could feed into hospital service plans, action plans and continuing professional development initiatives across the organisation. At present hospital training budgets and continuing professional development (CPD) initiatives seems somewhat ad hoc. Such PMDS discussions with staff would go a significant way in portraying, to staff, that both unit and hospital managers are interested in the personal career development of staff members; and wish to support this in a systematic way, in so far as resources allowed.

Organisational Management and Leadership

9. The effects of both internal and external drivers of change (that impact on staff and work environment in particular) should be identified, measured, monitored and managed, in ways that prioritizes protection of patients and front line staff in their provision of patient care. This is a key responsibility of senior hospital management, particularly in the current austere environment.

10. Consistent with recommendations from the report of the national empowerment study on nursing and midwifery (Scott et al 2003) we recommend , once again, that existing organisational communication strategies be reviewed, and measures taken to ensure the existence of meaningful strategies to address the perceived invisibility of nursing in the organisation. In particular cognisance should be taken of the need to balance medical, nursing and administration input into strategic

planning and both strategic and operational decision making. Directors of Nursing should, by virtue of their role and responsibilities, sit at the corporate table to represent, visibly, nursing in such decision making processes. This should be the case through the various layers / levels of the HSE – or any such body that replaces it in the future. It goes without saying that nurses in leadership roles must ensure that they are equipped to fulfil these roles effectively; thus ensuring appropriate influence and contribution to the management of our acute hospitals and, in particular, to the quality of care and patient safety agenda.

11. Nurses' perceptions of empowerment are of interest because an empowered, committed workforce is a requirement for the delivery of high quality, humane, patient-centred health care. In the national empowerment study (Scott et al 2003) the nurses and midwives surveyed, clearly articulated empowerment as including both personal and institutional factors. The recommendations in that national study included a focus on organisational development, management development, educational provision and practice development. Although many of the recommendations have been addressed over the past decade some, particularly in the area of organisational development, have not. Also some of those that were in the process of being addressed such as management development, continuing educational provision and practice development are in serious danger of being undermined in the current environment of austerity. It is recommended that a review be carried out on progress to date in implementing the recommendations from Scott et al (2003), and that an updated action plan be prepared and implemented.

12. There is a growing evidence base suggesting that the work environment of nurses impacts on both patient and nurse outcomes. Our findings suggest marked within-hospital and between- hospital variation in the work environments of the nurses in our study. Key areas for intervention at both hospital and ward level are improving leadership and management support and involving nurses in decision-making and governance. It is recommended that Directors of Nursing consider the inclusion of nurses involved in the provision of direct care in hospital governance,

within relevant committees, to improve cohesion amongst staff from across the organisation.

13. There is a need to monitor on an ongoing basis both nurses' satisfaction with their job and with nursing as a career. This is in order to ensure that nursing remains a desirable career in Ireland, especially as graduate opportunities remain limited and public sector conditions are under consistent review.

14. Increasing patient-to-nurse ratios, high levels of burnout, concerns about the quality of care and patients safety issues are among the list of factors that Lu et al (2005, 2012) indicate are associated, internationally, with reduced levels of job satisfaction and increasing intention to leave. Within the Irish acute hospital context these factors are, increasingly, being compounded with reduced lengths of stay, ever increasing demands for hospital care and deteriorating pay and conditions. Despite, or perhaps because of, the current climate of austerity, and against a worsening world shortage of qualified nursing staff, health service managers and leaders need to work to retain our highly capable nursing workforce. This can be achieved by supporting improvements in those elements of the nurse work environment that are not solely dependent on additional costly investment – e.g. staff involvement and positive recognition and feedback.

Care Quality and Safety

15. There was considerable variation in both nurse-patient ratios and staff-patient ratios across hospitals in this study. Some of this variation is likely appropriate given the different patient profiles both within and across the acute hospital sector in Ireland. However, in light of the variation found in this study, combined with the fact of the dominance of historical staffing as the predominant model of workforce planning in and across the acute sector, this matter requires further attention. Given the international evidence (replicated in this study), supporting a close association between nurse-patient ratios and patient safety, the time would appear ripe to work with HIQA to consider carefully the development of guidance on safe-to-optimum nurse-patient ratios; taking into account the differing needs and dependency levels of difference groups of patients in institutional care in the

acute hospital sector in Ireland. The HSE, perhaps in collaboration with HIQA, should consider the development of a standard in this area, recognising elements such as the positive mediating effect of staff education levels and positive work environment. On the basis of the standard the guidelines on staffing could then be generated.

16. Nurse participants in three quarters of the study hospitals reported a lack of confidence that management in their hospitals would respond to patient care problems identified and reported to management. This is a very worrying finding which suggests a requirement for urgent attention from hospital management, as identified by HIQA (2012a). Systems should be implemented that ensures that (a) staff are encouraged to raise concerns regarding patient care with hospital management, when appropriate, (b) that management, in turn, acknowledge such concerns and outline the proposed course of action, and (c) that appropriate governance oversight is maintained, as recommended by HIQA (2012a,b) . Failure to do so ignores the recommendations from the Commission on Patient Safety (Government of Ireland 2008), HIQA recommendations (2012a,b) and explicit HSE policy on whistle blowing (HSE 2011). Such failure would also suggest that our health service leaders / managers have not learned the lessons emanating from the Lourdes Hospital Inquiry (DoHC 2006).

17. An integrated approach to clinical governance should be developed in a manner that ensures the most effective impact of the safety officer role, within the new clinical directorates and integrated hospital groups currently being developed within the HSE. Such an approach did not appear to exist consistently, at the time of data collection, across the Irish acute hospital system. However, as indicated above, the requirement for such an approach has been clearly detailed by HIQA (2012a).

Further Research

18. Our findings provide insight into both the level and type of nursing work reported as "left undone" due to time / resource constraints. The study also provides insights into the levels of non-nursing work reported to be engaged in frequently by nurses across the acute hospital sector. We recommend that a focused piece of research be conducted into the actual levels of clerical and other "non-nursing" work engaged in by nurses in our larger acute hospitals, including an analysis of the nursing-related content of this work, if any. Such research would contribute an element of an evidence base to decisions regarding both current nursing activity and the most appropriate use of the nursing workforce. It may also help clarify a more effective way to manage clerical work at ward / unit level.

19. As can be seen from figure 15 (p.48) nurses generally viewed the ability, leadership and support received from unit nurse managers positively. However there is clearly room for further improvement and mean hospital statistics masks within hospital differences that should be investigated further. It is recommended that the impact of clinical management training, to date, be further evaluated. Building on the current work on the NLICNM, further needs analyses for CPD with regards to ward / unit managers, ADON and DoN grades should be conducted to ensure that relevant structures, tools and training is provided to support local, middle and senior managers especially in the current very turbulent environment – a context that is likely to continue for the next 3 – 5 years at a minimum.

20. The impact of International work experience on practitioner practice is poorly investigated in health service research. However literature from business and managements disciplines indicates that international work experience improves the ability to plan and problems solve: both important facilities in achieving positive patient outcomes (Robinson et al 2003, Michel and Stratulat 2010). In light of (a) the large number of Irish nurses who have either been educated and / worked overseas as nurses, and who have returned to work in the Irish health service, and (b) the significant number of overseas nurses who have been recruited into the Irish health service over the past decade or so, it seems

pertinent to incorporate such information into staff profile data bases. It is also timely to engage in research that explores the impact of international health service experience on nurse performance, judgement and decision making.

21. Further research is required which would explore and identify any relationships that may exist between nurse experience levels and organisational outcomes such as hospital hygiene,   rates of MRSA and other hospital acquired infections,. Existing data from HIQA, HSE Health Protection Surveillance Centre and other routinely collected sources would facilitate such research.

22. The Quality and Patient Safety Directorate of the HSE has recently conducted a pilot study of the culture of safety in Irish hospitals, using the AHRQ instrument part of which was used in this RN4CAST study. Rolling that study out to all the acute hospitals will give a baseline for safety culture in Ireland against which outcomes can be measured in future studies.

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APPENDIX A: PATIENT SATISFACTION SURVEY

Patient satisfaction is used increasingly as a quality indicator by health services. Surveys which address patient satisfaction are common, but responses to such surveys are subjective and interpretation can be difficult as satisfaction ratings are a function of expectations, which are likely to vary between patients (Cleary, 1999). Limitations of patient satisfaction surveys include the fact that they may fail to detect "dissatisfaction" and simply assess "satisfaction" levels; responses can be influenced by social desirability or other biases; they frequently result in high rates of satisfaction being reported (Sitzia and Wood 1997, Coyle and Woods 1999, Harding and Taylor 2010).

The patient satisfaction instrument used in this study originated from the US based Hospital Consumer Assessment of Healthcare Providers and Systems (2005). In the US the HCAHPS (*Hospital Consumer Assessment of Healthcare Providers and Systems*) survey is the first national, standardised, publicly reported survey of patients' perspectives of hospital care. It is a tool which aims to measure patients' perceptions of their hospital experience. It enables comparisons to be made locally and nationally. The survey includes core questions regarding the patients' perceptions and overall hospital experiences. The RN4CAST research team adapted the tool slightly by removing some of the demographic questions and leaving only the respondents' education level and their overall rating of their own health.

Ten of the hospitals included in the overall study were approached in relation to the patient satisfaction study. Ethical approval and access was obtained for all 10 hospitals. A researcher visited each of these hospitals on one day for data collection purposes.

Patients in the wards that had taken part in the larger RN4CAST study were approached by the researcher and asked to participate in the study by completing the questionnaire. The team aimed to collect data from 10 patients in each ward. In all wards the researcher spoke with the ward manager in order to determine which patients would be able to complete the questionnaire. The basic criterion used was

that the respondent should be an in-patient with at least three nights' experience in the hospital. Most patients requested that the researcher assist by reading out the questions and marking the answers.

Two hundred and eighty five patients in 10 hospitals responded to the questionnaire. The response rate varied between hospitals ranging from 83%-100% of patients approached (between 25 and 30 patients per ward). The overall response rate was 93%. Approximately 54% of respondents were in surgical wards, 40% were in medical wards while 7% were in mixed medical/surgical wards.

The following Table A1 illustrates the total number of responses from each hospital.

Table A1 Responses per hospital

Hospital ID	Number of respondents
6	28
7	30
8	30
9	29
15	30
16	29
17	29
19	28
28	27
29	25
Total	285

PATIENT SATISFACTION SURVEY RESULTS

Patient satisfaction surveys overall tend to yield very positive results. Why this is the case has been widely discussed in the literature. Suggested reasons for this include gratitude, demographical profile of hospital patients, and self protection. The results of this patient survey were also very positive overall and variation between hospitals was sometimes minimal. Therefore graphical illustration of the results is not always meaningful. The results, for that reason, are often presented in table format also. This enables comparison of mean responses across the 10 hospitals. Feedback has been provided to participating hospitals.

Patients were asked to respond to questions under certain headings. The survey results are presented below using the same headings:

- Your care from nurses

- Your care from doctors

- The hospital environment

- Your experiences in this hospital

- When you leave the hospital

- Overall rating of the hospital

- About you.

YOUR CARE FROM NURSES

Patients were asked to indicate the level of care they received during their stay from nursing staff. They were provided with a scale on which to indicate their response **(1 = never, 2 = sometimes, 3 = usually, 4 = always).**

The questions included in this section were as follows:

- During this hospital stay, how often did nurses treat you with <u>courtesy and respect</u>?

- During this hospital stay, how often did nurses <u>listen carefully to you</u>?

- During this hospital stay, how often did nurses <u>explain things</u> in a way you could understand?

- During this hospital stay, after you <u>called for assistance</u>, how often did you get help as soon as you wanted it?

The results for this section are presented in table A2 below. The mean results for all the hospitals fall between 3-4 (i.e. between "usually" and "always").

Table A2   Mean score per hospital on items related to 'Your care from nurses' (1 = never, 4 = always)

Hospital ID	How often did nurses treat you with courtesy and respect?	How often did nurses listen carefully to you?	How often did nurses explain things in a way you could understand?	After you called for assistance, how often did you get help as soon as you wanted it?
6	3.89	3.81	3.50	3.75
7	3.73	3.54	3.45	3.31
8	3.73	3.50	3.37	3.13
9	3.90	3.76	3.69	3.48
15	4.00	3.83	3.83	3.83
16	3.97	3.72	3.59	3.45
17	3.59	3.52	3.34	3.32
19	3.89	3.57	3.39	3.48
28	3.70	3.48	3.63	3.50
29	3.84	3.48	3.44	3.20
Mean	3.82	3.62	3.52	3.45

Figure A1 below is a graphical representation of the results **(1 = never, 2 = sometimes, 3 = usually, 4 = always).**

Figure A1   **Mean score on items related to 'Your care from nurses'**

Hospital ID
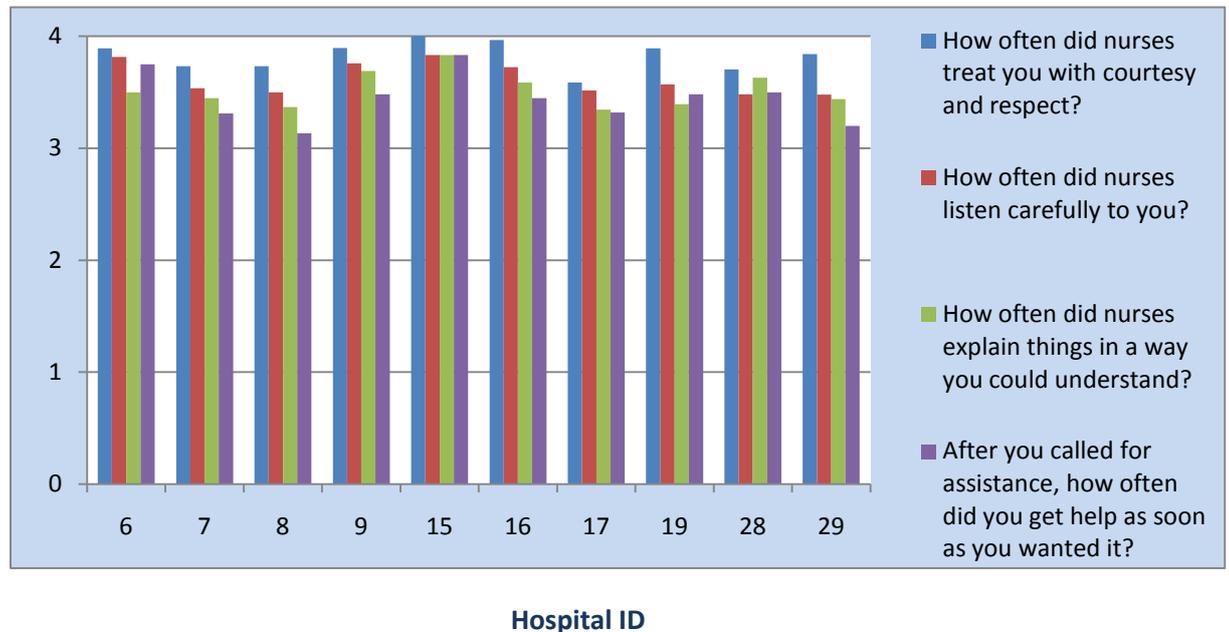
YOUR CARE FROM DOCTORS

Patients were asked to indicate the level of care they received during their stay from medical staff. They were provided with the same scale as above on which to indicate their response **(1 = never, 2 = sometimes, 3 = usually, 4 = always).**

The questions included in this section were as follows:

- During this hospital stay, how often did doctors treat you with courtesy and respect?

- During this hospital stay, how often did doctors listen carefully to you?

- During this hospital stay, how often did doctors explain things in a way you could understand?

The results for this section are presented in table 3a below. The mean results for all the hospitals fall between 2-4 (i.e. between "sometimes" and "always").

Table A3   **Mean score on items related to 'Your care from doctors'**

Hospital ID	How often did doctors treat you with courtesy and respect	How often did doctors listen carefully to you?	How often did doctors explain things in a way you could understand?
6	3.93	3.61	3.64
7	3.80	3.47	3.23
8	3.66	3.41	3.21
9	3.97	3.76	3.69
15	3.80	3.60	3.67
16	3.55	3.45	3.28
17	3.45	3.28	3.21
19	3.52	3.32	3.39
28	3.41	3.15	2.85
29	3.32	3.24	3.00
Mean	3.65	3.43	3.32

Figure A2 below is a graphical representation of the results **(1 = never, 2 = sometimes, = usually, 4 = always).**

Figure A2 Mean score on items related to 'Your care from doctors' (1 = never, 4 = always)
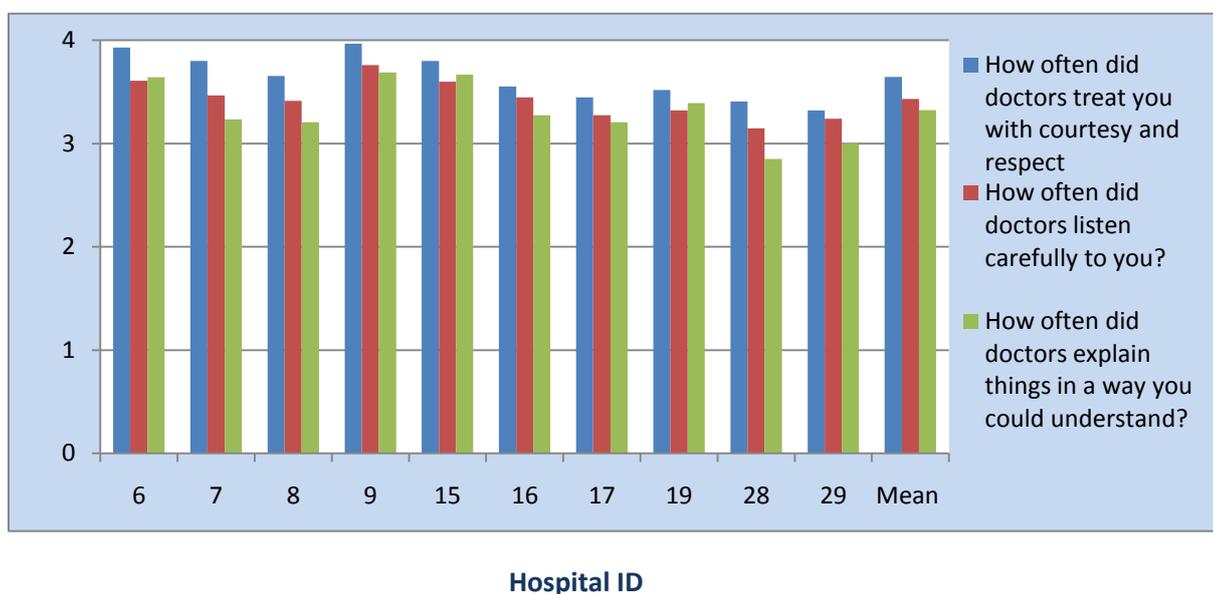
Hospital ID

THE HOSPITAL ENVIRONMENT

Patients were asked to indicate their views on the hospital environment in which they received care during their stay. They were provided with two items and asked to indicate their perceptions. They were provided with the same scale as above on which to indicate their response **(1 = never, 2 = sometimes, 3 = usually, 4 = always).** The items in this section were as follows:

- During this hospital stay, how often were your room and bathroom kept <u>clean</u>?

- During this hospital stay, how often was the area around your room <u>quiet</u> at night?

The results are presented below in table A4.

Table A4 The hospital environment (mean scores per hospital, 1 = never, 4 = always)

Hospital ID	How often were your room and bathroom kept clean	How often was the area around your room quiet at night
6	3.86	2.96
7	3.87	3.27
8	3.83	3.07
9	3.83	3.48
15	3.93	3.57
16	3.66	3.41
17	3.83	3.07
19	3.18	3.50
28	3.96	3.48
29	3.16	3.24
Mean	3.72	3.31

Figure A3 below is a graphical representation of the results.

Figure A3   **The hospital environment (mean scores per hospital, 1 = never, 4 = always)**
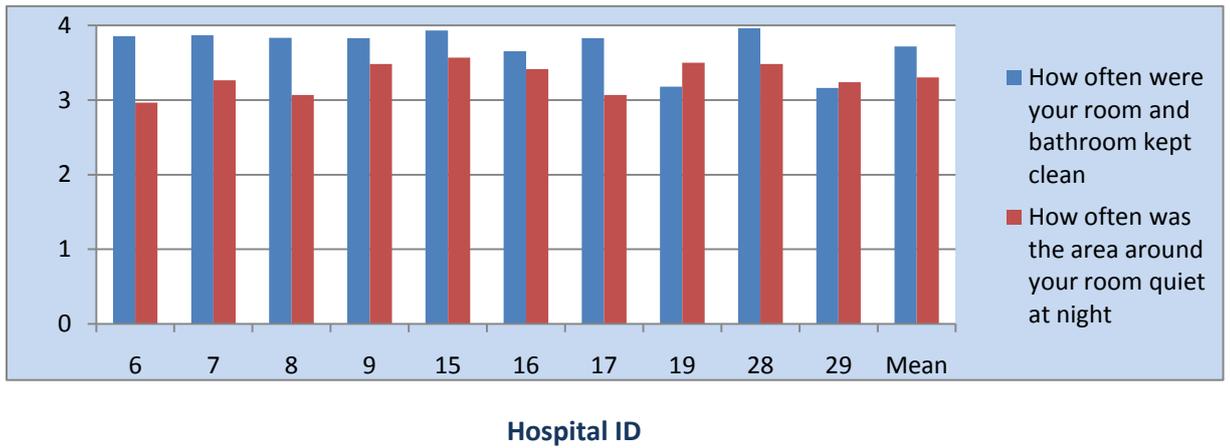
YOUR EXPERIENCES IN THIS HOSPITAL

In this section patients were asked to comment on their experiences of care in the hospital. This included questions on help with toileting, pain control and medication management. The results are presented under these categories.

Patients were first asked:

- During this hospital stay, did you need help from nurses or other hospital staff in getting to the bathroom or in using a bedpan?

Figure A4   **Number of patients who needed help with toileting**
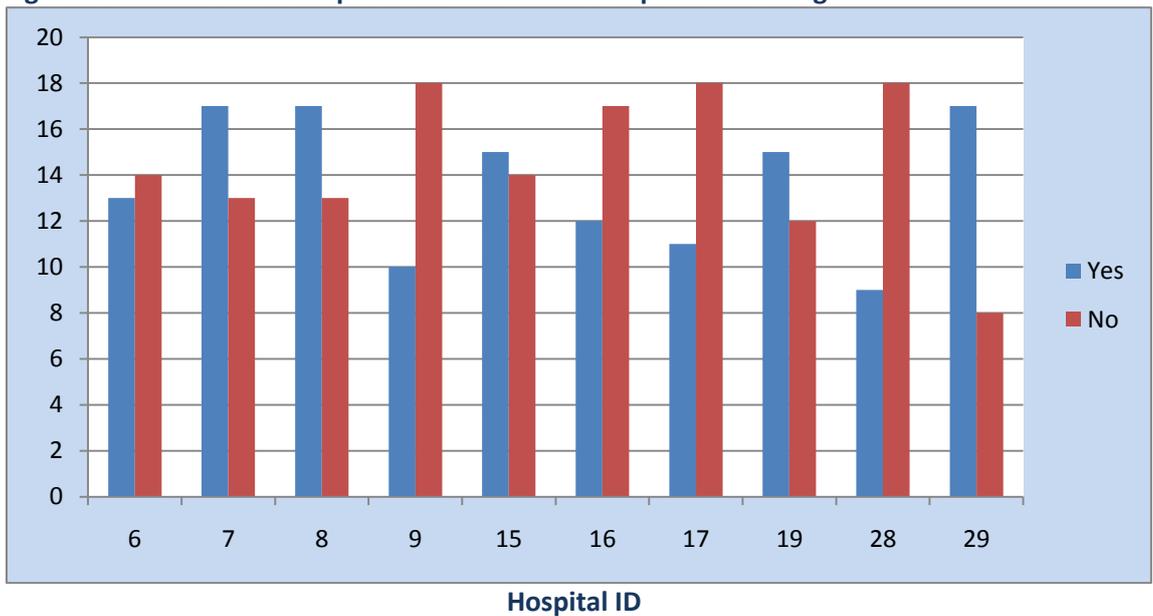
Those patients who answered yes above were asked how often they got that help as soon as they wanted it. They were provided with a scale on which to indicate their experience **(1 = never, 2 = sometimes, 3 = usually, 4 = always).** The results are presented below.

Table A4Help with toileting when needed (mean scores per hospital, 1 = never, 4 = always)

Hospital ID	How often did you get help getting to the bathroom or using a bedpan as soon as you wanted?
6	3.63
7	3.35
8	3.11
9	3.70
15	3.88
16	3.64
17	3.36
19	3.41
28	3.60
29	3.41
Mean	3.49

Patients were also asked about their experiences of pain control while in hospital. Initially they were asked:

- During this hospital stay, did you need medicine for pain?

Figure A5   Number of patients per hospital who needed medicine for pain
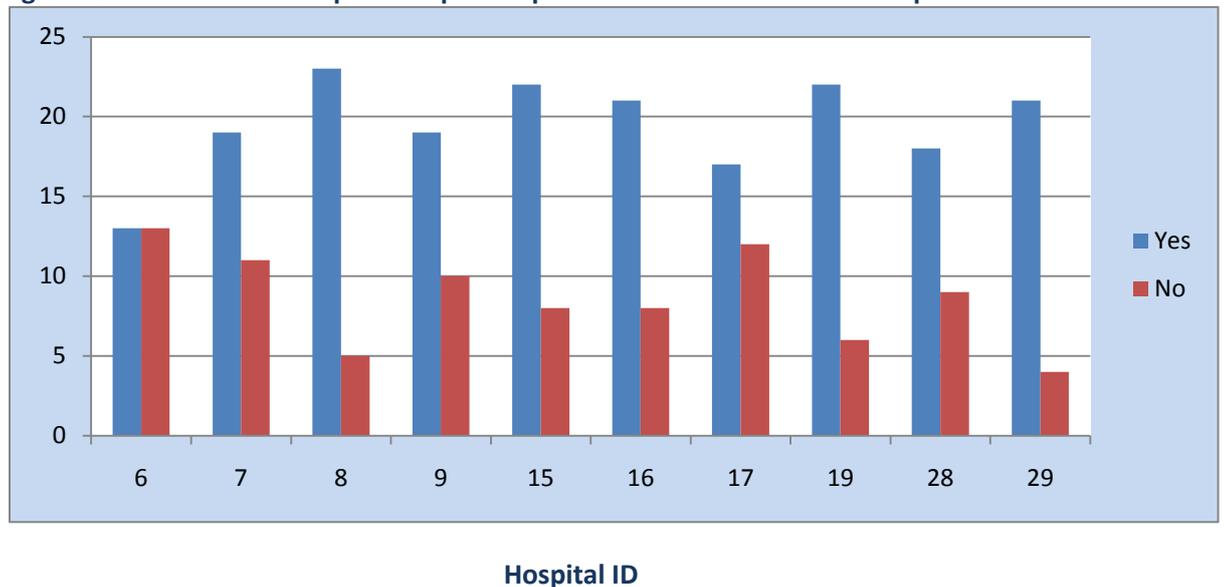
Hospital ID

Those who answered yes to the above question were asked for further details about their experiences:

- During this hospital stay, how often was your pain well controlled?
- During this hospital stay, how often did the hospital staff do everything they could to help you with your pain?

The results are presented below in Table A5 and Figure A6 below.

Table A5 **Mean experience of pain control per hospital (1 = never, 4 = always)**

Hospital ID	How often was your pain well controlled?	How often did the hospital staff do everything they could to help you with your pain?
6	3.71	3.93
7	3.58	3.68
8	3.52	3.52
9	3.37	3.84
15	3.76	3.81
16	3.86	3.90
17	3.41	3.12
19	3.09	3.22
28	3.28	3.06
29	3.57	3.43
Mean	3.51	3.54

Figure A6 **Mean experience of pain control per hospital (1 = never, 4 = always)**
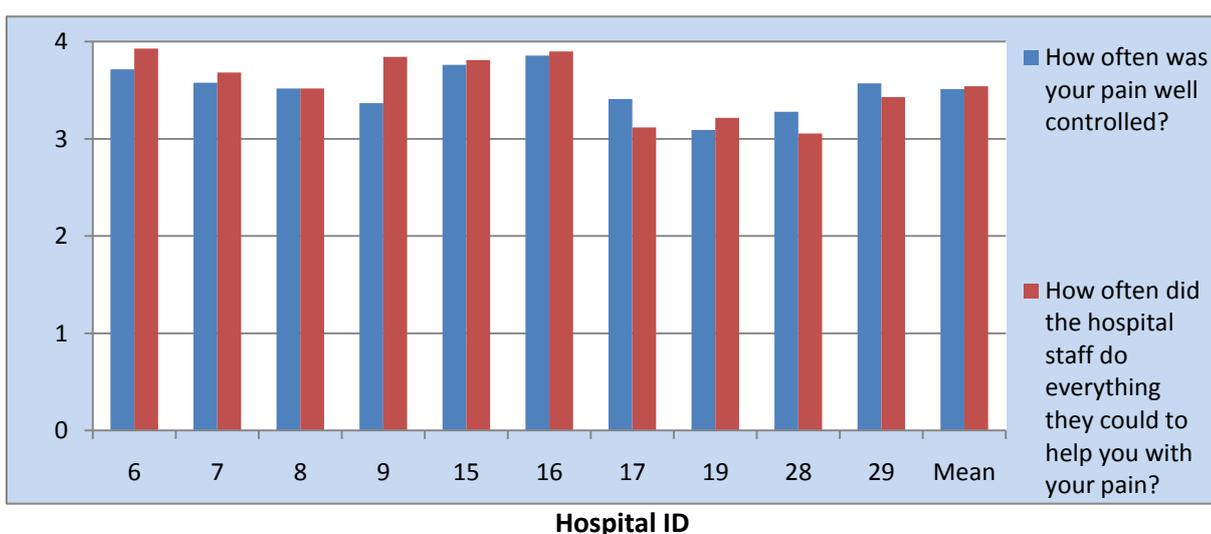
Patients were also asked about their perceptions of medication management while in hospital. Initially they were asked:

- During this hospital stay, were you given any <u>medicine</u> that you had not taken before?

The results per hospital are presented below in Figure 7a:

Figure A7
Number of patients per hospital who were given medicine that they had not taken before
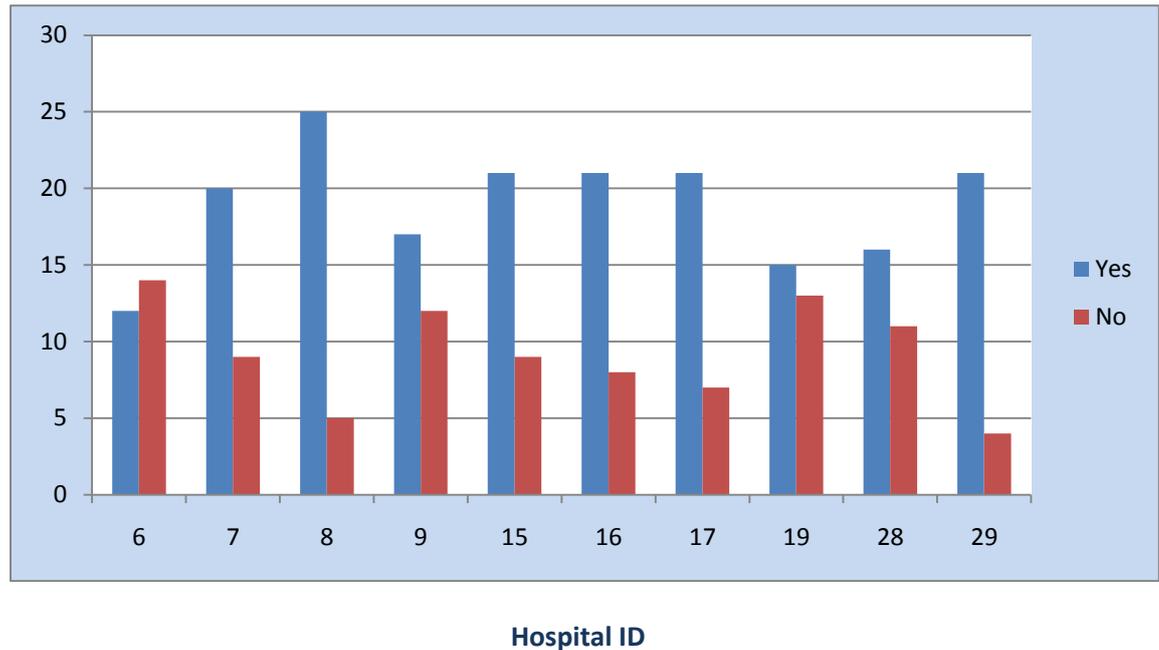
Hospital ID

Those who answered yes to the above question were asked for further clarification of their experiences:

- Before giving you any new medicine, how often did hospital staff tell you what the medicine was for?
- Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?

The results per hospital are presented below in Table A6:

Table A6 Hospital mean results regarding medication management (1 = never, 4 = always)

Hospital ID	How often did staff tell you what a new medicine was for before they gave it to you?	How often did staff describe possible side effects before giving a new medicine?
6	3.40	2.67
7	3.05	2.10
8	2.77	2.22
9	3.53	2.65
15	3.43	3.38
16	3.76	2.52
17	3.10	1.29
19	3.35	1.88
28	3.13	1.50
29	2.95	1.67
Mean	3.23	2.19

Figure A8 Hospital mean results regarding medication management (1 = never, 4 = always)
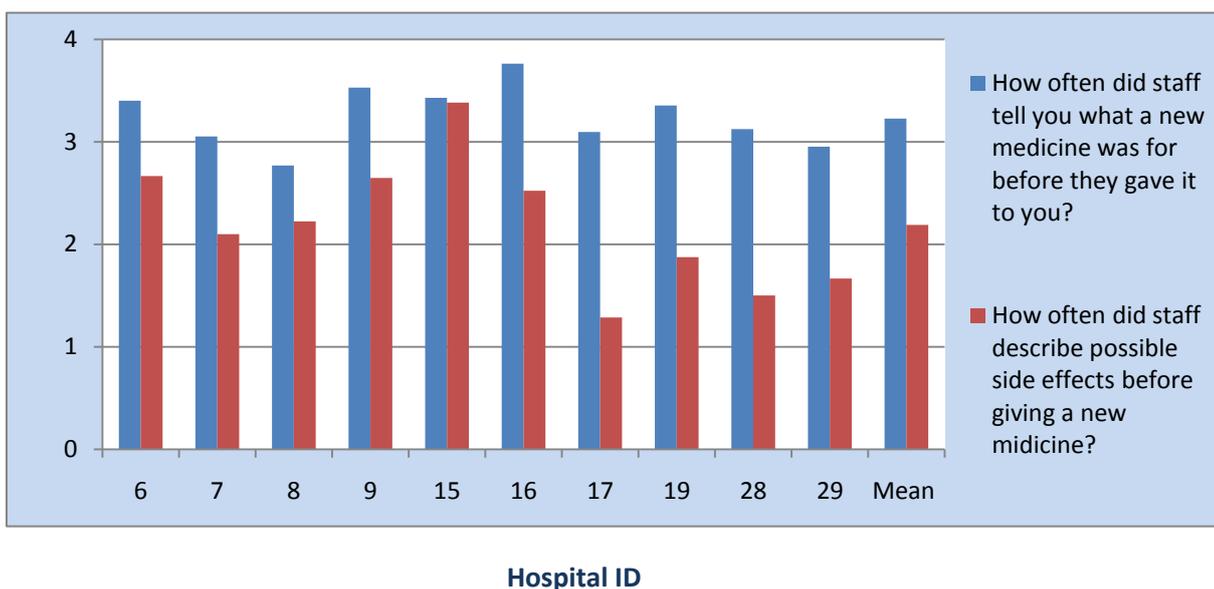
Hospital ID

Variation is evident across hospitals regarding information giving around medications **(1 = never, 2 = sometimes, 3 = usually, 4 = always)**. Across all the hospitals, almost 60% of patients were "always" told the reason for new medications, 50% of them say they were "never" told of the possible side effects.

Medication safety is a concern for hospitals and healthcare workers. The responses to these two questions in this study are stark in contrast to an overwhelmingly positive overall patient satisfaction survey and as such may give rise to further concern.

WHEN YOU LEAVE THIS HOSPITAL

In relation to hospital discharge, all respondents were asked to estimate how many more days they expected to be in hospital. The mean response was 7.4 days. However the responses varied greatly with one or two days being the most common responses (n= 72). Four single respondents each estimated 45, 56, 60 and 80 days.

Patients were asked about discharge planning during their admission:

- During this hospital stay, have doctors, nurses or other hospital staff talked with you about your care after you leave the hospital?
- During this hospital stay, have you gotten information in writing about what symptoms or health problems to look out for after you leave the hospital?

Results of this section are presented below in Figures A9 and A10:

Figure A9   **Numbers of patients per hospital who reported that hospital staff had discussed their care after they leave the hospital**
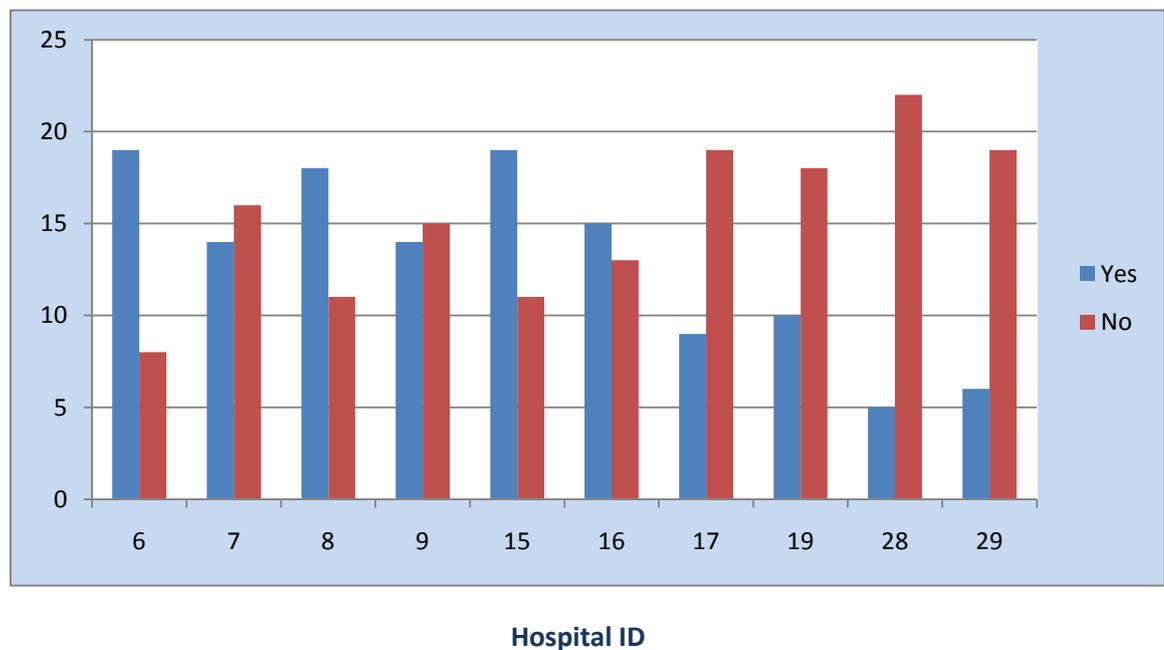
Hospital ID

Figure A10   **Number of patients per hospital who received written information about what to look out for on leaving the hospital**
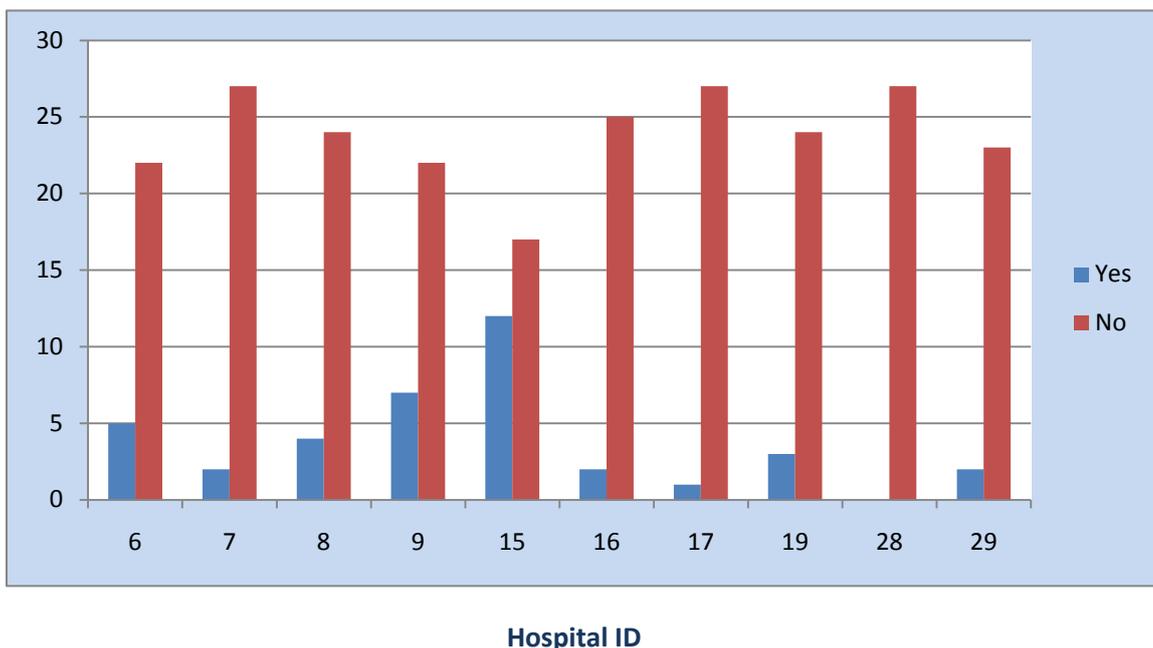
Hospital ID

Again the area of discharge planning demonstrates variation between hospitals. As participating hospitals have received this feedback the findings may help hospitals where discharge planning is under review. These findings may also help draw attention to this issue nationally.

OVERALL RATING OF THE HOSPITAL

Two hundred and eighty three patients responded to a question on their overall rating of the hospital. Out of a maximum score of 10, the mean response for the sample was 8.7. In general the responses were very positive, with 82% (n = 233) rating the hospital at 8 or above. Forty five percent of respondents rated the hospital at 10 (n = 126). The mean hospital rating was very high with 45% of respondents rating the hospital as the best hospital possible.

The mean results across the hospitals are presented below in Figure A11.

Figure A11   The mean rating of the hospital overall (scored on a scale with 0 =minimum, and 10 = maximum)

Mean hospital rating
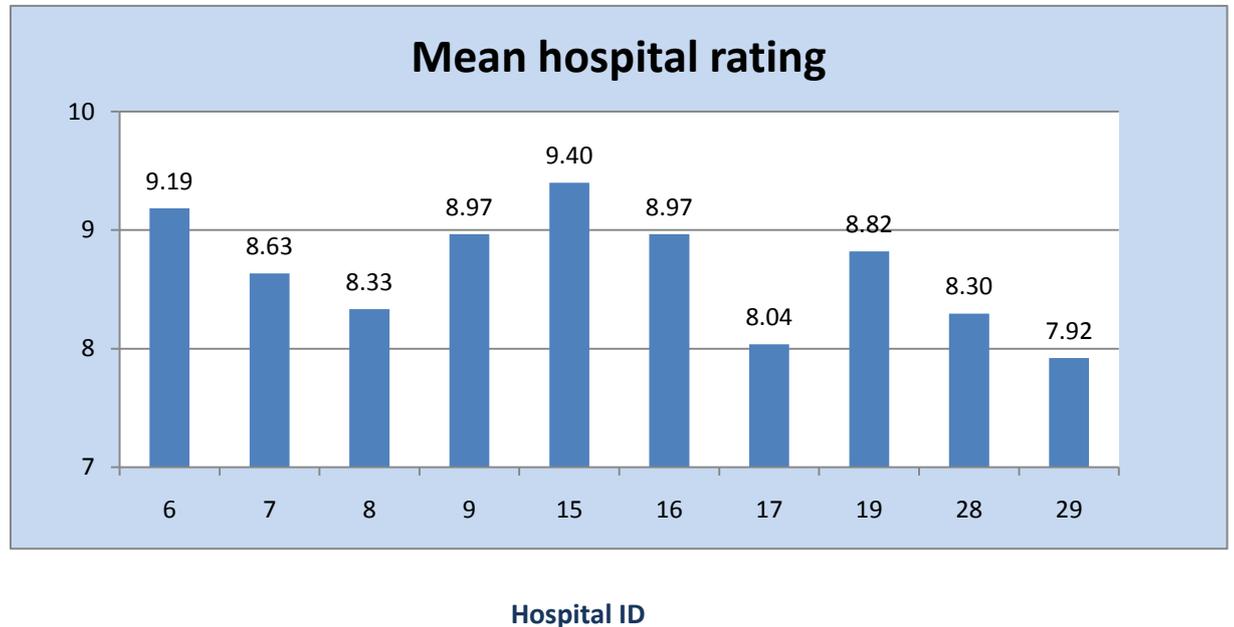
Hospital ID

Patients were also asked if they would recommend the hospital to family or friends. Responses were requested on a four point scale: **1 = Definitely no, 2 = Probably no, 3 = Probably yes, 4 = Definitely yes.**

The results are presented below in Table A7 and Figure A12.

Table A7 Mean results regarding recommending the hospital (Reminder: 1= definitely no, 4= definitely yes)

Hospital ID	Would you recommend this hospital to your friends and family?
6	3.70
7	3.53
8	3.59
9	3.89
15	3.97
16	3.82
17	3.46
19	3.75
28	3.44
29	3.56
Mean	3.67

Figure A12   Mean results regarding recommending the hospital (1 = definitely no, 4 = definitely yes)

Hospital ID

ABOUT YOU

Patients were asked to rate their own health on a scale from 1 to 5 (1 = excellent, 2 = very good, 3 = good, 4 = fair, 5 = poor). For interpretation purposes we have reversed the scoring for this item to ensure that a higher score reflects better health.

The mean results across hospitals are presented below in table 8 and Figure 13.

Table A8 Mean health rating across hospitals (1 = poor, 2 = fair, 3 = good, 4 =very good, 5 = excellent)

Hospital ID	Rate your own health (1= poor, 5=excellent)
6	2.63
7	2.40
8	2.76
9	2.52
15	3.40
16	2.64
17	2.57
19	2.75
28	2.78
29	2.76
Mean	2.72

Figure A13

Mean health rating across hospitals (1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent

Hospital ID
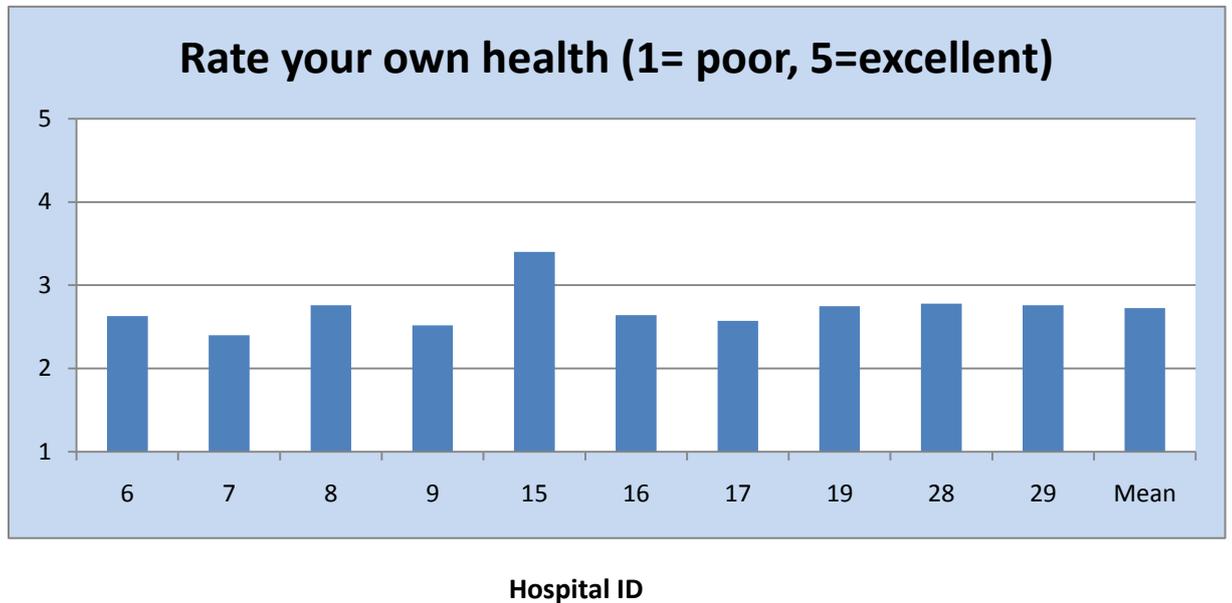
Patients were asked to indicate their highest level of educational attainment on a scale of 1 to 6:

1= primary school

2= some secondary school, but did not complete the leaving certificate

3= completed leaving certificate

4= some college

5= college graduate, degree level

6= more than primary college degree

The mean hospital level results are displayed below in Figure 14a.

Figure A14   Mean highest level of school completed

(1= primary school, 2= some secondary school, but did not complete the leaving certificate, 3= completed leaving certificate, 4= some college, 5= college graduate, degree level, 6= more than primary college degree)
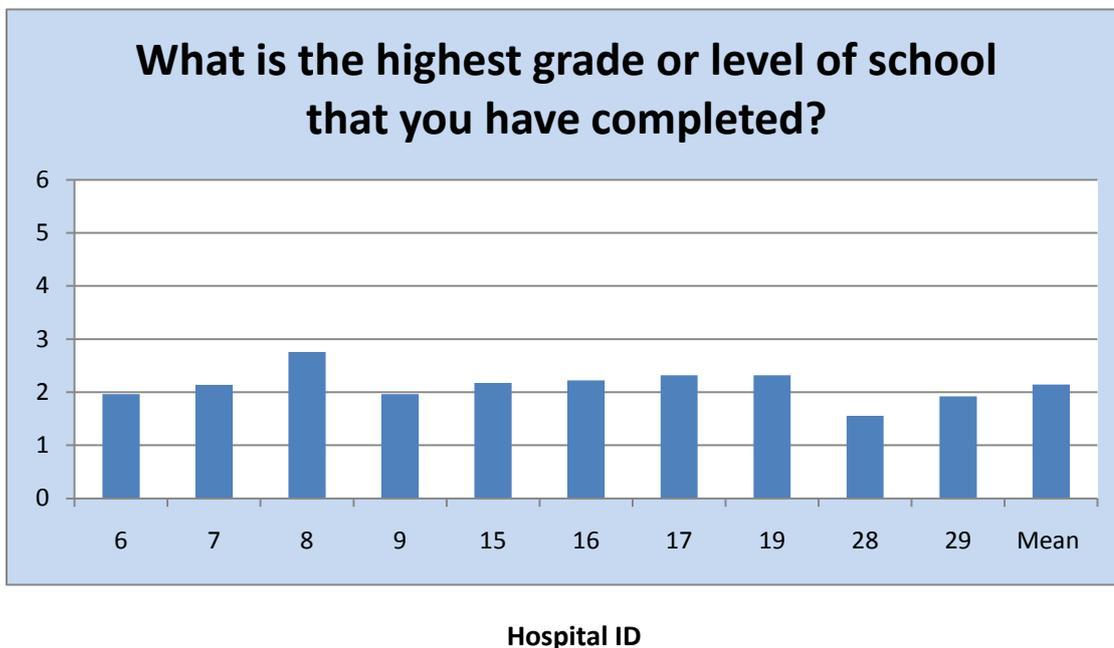
Hospital ID

Conclusion regarding patient satisfaction survey results

These findings provide a snap-shot of the perceptions of patients about their care in medical and surgical wards in 10 general hospitals at a point in time in 2010. As previously noted the results of this study, particularly the mean scores to individual questions and the overall ratings, were overwhelmingly positive. The HSE Insight Survey (2007) similarly found that most (64%) respondents felt the quality of care received in hospital was excellent or very good. Eighty three percent would recommend the hospital in which they were a patient to somebody else.

However the patient survey reported on here did highlight areas which may need to be addressed in some hospitals. These include information giving around the administration of medicines, and discharge planning. It is important that these results are considered in light of the nurse survey findings, to examine areas for improving the quality of care provided to patients.

APPENDIX B: NURSE QUESTIONNAIRE

Please complete this questionnaire ONLY if you are a staff nurse providing direct patient care.

Dear Staff Nurse,

This questionnaire relates to a study which is aiming to develop more innovative methods of planning the nurse workforce into the future. As it is a European-wide study, it is important that the voice of Irish nursing is heard. In order to do this we need to learn more about nurses in Ireland today; their views on patient care and patient safety, and the environment in which they work. We would be very grateful if you choose to help us in this by completing the attached questionnaire.

This study has been approved by your hospital. The survey is voluntary and confidential. Do not write your name on the questionnaire. Your name is not required and not known to us and therefore can never be associated with your responses. The information you provide will go directly to the researchers. Your participation will not affect your employment status in any way. By completing and submitting the questionnaire, you are giving your consent to participate.

Please place the completed questionnaire in the designated RN4CAST study box provided on your ward.

If you have any questions or concerns regarding this study, please call me at 01 7006179 or e-mail me at marcia.kirwan@dcu.ie. If further help is required I will be in a position to provide advice and guidance. Thank you for participating in this research study.

Investigators:

  Marcia Kirwan (Researcher for this hospital)

School of Nursing, Dublin City University, Dublin 9.

DCU

RN4CAST nurse forecasting in Europe

Questionnaire number	

PLEASE MARK AN "X" IN THE BOX CORRESPONDING TO YOUR ANSWER IN EACH QUESTION, OR SUPPLY THE REQUESTED INFORMATION.

A. ABOUT YOUR JOB

1. Please indicate the extent to which you agree that each of the following features is present in your current job.

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
1. Adequate support services allow me to spend time with my patients.	1☐	2☐	3☐	4☐
2. Physicians and nurses have good working relationships.	1☐	2☐	3☐	4☐
3. A supervisory staff that is supportive of nurses.	1☐	2☐	3☐	4☐
4. Active staff development or continuing education programs for nurses.	1☐	2☐	3☐	4☐
5. Career development/clinical ladder opportunity.	1☐	2☐	3☐	4☐
6. Opportunity for registered nurses to participate in policy decisions.	1☐	2☐	3☐	4☐
7. Physicians value nurses' observations and judgments.	1☐	2☐	3☐	4☐
8. Enough time and opportunity to discuss patient care problems with other nurses.	1☐	2☐	3☐	4☐
9. Enough registered nurses on staff to provide quality patient care.	1☐	2☐	3☐	4☐
10. A nurse manager who is a good manager and leader.	1☐	2☐	3☐	4☐
11. A chief nursing officer who is highly visible and accessible to staff.	1☐	2☐	3☐	4☐
12. Enough staff to get the work done.	1☐	2☐	3☐	4☐
13. Physicians recognize nurses' contributions to patient care.	1☐	2☐	3☐	4☐
14. Praise and recognition for a job well done.	1☐	2☐	3☐	4☐
15. High standards of nursing care are expected by the management.	1☐	2☐	3☐	4☐
16. A chief nursing officer is equal in power and authority to other top level hospital executives.	1☐	2☐	3☐	4☐
17. A lot of team work between nurses and physicians.	1☐	2☐	3☐	4☐
18. Opportunities for advancement.	1☐	2☐	3☐	4☐
19. A clear philosophy of nursing that pervades the patient care environment.	1☐	2☐	3☐	4☐
20. Working with nurses who are clinically competent.	1☐	2☐	3☐	4☐

1

	Strongly Disagree [1]	Somewhat Disagree [2]	Somewhat Agree [3]	Strongly Agree [4]
21. Physicians respect nurses as professionals	☐	☐	☐	☐
22. A nurse manager who backs up the nursing staff in decision making, even if the conflict is with a physician.	☐	☐	☐	☐
23. Management that listens and responds to employee concerns.	☐	☐	☐	☐
24. An active quality assurance program.	☐	☐	☐	☐
25. Registered nurses are involved in the internal governance of the hospital (e.g., practice and policy committees).	☐	☐	☐	☐
26. Collaboration between nurses and physicians.	☐	☐	☐	☐
27. A preceptor program for newly hired nurses.	☐	☐	☐	☐
28. Nursing care is based on a nursing rather than a medical model.	☐	☐	☐	☐
29. Registered nurses have the opportunity to serve on hospital and nursing committees.	☐	☐	☐	☐
30. Physicians hold nurses in high esteem.	☐	☐	☐	☐
31. Written, up-to-date care plans for all patients.	☐	☐	☐	☐
32. Patient care assignments that foster continuity of care (i.e., the same nurse cares for the patient from one day to the next).	☐	☐	☐	☐

2. How satisfied are you with your current job in this hospital?

[1] ☐ Very dissatisfied   [2] ☐ A little dissatisfied   [3] ☐ Moderately satisfied   [4] ☐ Very satisfied

3. How would you rate the work environment at your job in this hospital (such as adequacy of resources, relations with co-workers, support from supervisors)?

[1] ☐ Poor   [2] ☐ Fair   [3] ☐ Good   [4] ☐ Excellent

4. How satisfied are you with the following aspects of your job?

	Very Dissatisfied	A Little dissatisfied	Moderately Satisfied	Very Satisfied
1. Work schedule flexibility	[1] ☐	[2] ☐	[3] ☐	[4] ☐
2. Opportunities for advancement	[1] ☐	[2] ☐	[3] ☐	[4] ☐
3. Independence at work	[1] ☐	[2] ☐	[3] ☐	[4] ☐
4. Professional status	[1] ☐	[2] ☐	[3] ☐	[4] ☐
5. Wages	[1] ☐	[2] ☐	[3] ☐	[4] ☐
6. Educational opportunities	[1] ☐	[2] ☐	[3] ☐	[4] ☐
7. Annual leave	[1] ☐	[2] ☐	[3] ☐	[4] ☐
8. Sick leave	[1] ☐	[2] ☐	[3] ☐	[4] ☐
9. Study leave	[1] ☐	[2] ☐	[3] ☐	[4] ☐

2

5 a). If possible, would you leave your current hospital within the next year as a result of job dissatisfaction?

[1] ☐ Yes   [2] ☐ No

b). If yes, what type of work would you seek?

[1] ☐ Nursing in another hospital   [2] ☐ Nursing, but not in a hospital   [3] ☐ Non-nursing

6. If you were looking for another job, how easy do you think it would be for you to find an acceptable job in nursing?

[1] ☐ Very difficult   [2] ☐ Fairly difficult   [3] ☐ Fairly easy   [4] ☐ Very easy

7. Would you recommend your hospital to a nurse colleague as a good place to work?

[1] ☐ Definitely no   [2] ☐ Probably no   [3] ☐ Probably yes   [4] ☐ Definitely yes

8. Would you recommend your hospital to your friends and family if they needed hospital care?

[1] ☐ Definitely no   [2] ☐ Probably no   [3] ☐ Probably yes   [4] ☐ Definitely yes

9. Please mark the response that best describes <u>how frequently</u> you have each feeling in relation to your current job in this hospital.

	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day
1. I feel emotionally drained from my work.	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐
2. I feel used up at the end of the workday.	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐
3. I feel fatigued when I get up in the morning and have to face another day on the job	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐
4. I can easily understand how my patients feel about things.	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐
5. I feel I treat some patients as if they were impersonal objects.	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐
6. Working with people all day is really a strain for me.	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐
7. I deal very effectively with the problems of my patients.	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐
8. I feel burned-out from my work.	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐
9. I feel I'm positively influencing other people's lives.	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐
10. I've become more callous toward people since I took this job.	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐
11. I worry that this job is hardening me emotionally.	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐
12. I feel very energetic.	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐
13. I feel frustrated by my job.	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐
14. I feel I'm working too hard on my job.	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐
15. I don't really care what happens to some patients.	[0] ☐	[1] ☐	[2] ☐	[3] ☐	[4] ☐	[5] ☐	[6] ☐

3

	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day
16. Working directly with people puts too much stress on me.	0☐	1☐	2☐	3☐	4☐	5☐	6☐
17. I can easily create a relaxed atmosphere with my patients.	0☐	1☐	2☐	3☐	4☐	5☐	6☐
18. I accomplish many worthwhile things in this job.	0☐	1☐	2☐	3☐	4☐	5☐	6☐
19. I feel exhilarated after working closely with my patients.	0☐	1☐	2☐	3☐	4☐	5☐	6☐
20. I feel like I'm at the end of my rope.	0☐	1☐	2☐	3☐	4☐	5☐	6☐
21. In my work, I deal with emotional problems very calmly.	0☐	1☐	2☐	3☐	4☐	5☐	6☐
22. I feel patients blame me for some of their problems.	0☐	1☐	2☐	3☐	4☐	5☐	6☐

B. QUALITY AND SAFETY

1. **In general, how would you describe the quality of nursing care delivered to patients on your unit/ward?**
   1☐ Poor   2☐ Fair   3☐ Good   4☐ Excellent

2. **How confident are you that your patients are able to manage their care when discharged?**
   1☐ Not at all confident   2☐ Somewhat confident   3☐ Confident   4☐ Very confident

3. **How confident are you that hospital management will act to resolve problems in patient care that you report?**
   1☐ Not at all confident   2☐ Somewhat confident   3☐ Confident   4☐ Very confident

4. **Please give your unit/ward an overall grade on patient safety.**
   1☐ Failing   2☐ Poor   3☐ Aceptable   4☐ Very good   5☐ Excellent

5. **In the past year would you say the quality of patient care in your hospital has …**
   1☐ Deteriorated   2☐ Remained the same   3☐ Improved

6. **The following questions ask for your opinion about patient safety issues in your employment setting.**

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1. Staff feel like their mistakes are held against them.	1☐	2☐	3☐	4☐	5☐
2. Important patient care information is often lost during shift changes.	1☐	2☐	3☐	4☐	5☐
3. Things "fall between the cracks" when transferring patients from one unit to another.	1☐	2☐	3☐	4☐	5☐
4. Staff feel free to question the decisions or actions of those in authority.	1☐	2☐	3☐	4☐	5☐
5. In this unit, we discuss ways to prevent errors from happening again.	1☐	2☐	3☐	4☐	5☐
6. We are given feedback about changes put into place based on event reports.	1☐	2☐	3☐	4☐	5☐
7. The actions of hospital management show that patient safety is a top priority.	1☐	2☐	3☐	4☐	5☐

4

7. How often would you say each of the following incidents occurs involving you or your patients?

	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day
1. Patient received wrong medication, time, or dose	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
2. Pressure ulcers after admission	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
3. Patient falls with injury	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
4. Healthcare-associated infection:							
1. Urinary tract infections	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
2. Bloodstream infections	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
3. Pneumonia	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
5. Complaints from patients or their families	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
6. Verbal abuse toward nurses							
1. By patients and/or families	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
2. By staff	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
7. Physical abuse toward nurses							
1. By patients and/or families	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
2. By staff	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
8. Work related physical injuries to nurses	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐

C. ABOUT YOUR MOST RECENT SHIFT AT WORK IN THIS HOSPITAL

1. Which best describes the most recent shift you worked in this hospital?
   1 ☐ Day   2 ☐ Afternoon/evening   3 ☐ Night

2. Write in the box the number of hours you worked on your most recent shift in this hospital? Hours: ☐☐

3. On your most recent shift at this hospital did you work beyond your contracted hours?
   1 ☐ Yes   2 ☐ No

4. How many patients were you directly responsible for on the most recent shift you worked? ☐☐

5. Is the number of patients in preceding question (C4) typical of your workload?
   1 ☐ Less   2 ☐ Same   3 ☐ More

6. Of all the patients were you directly responsible for on your most recent shift,
   a. how many required assistance with all activities of daily living? ☐☐

   b. how many required hourly or more frequent monitoring or treatments? ☐☐

7. How would you describe your role in caring for most of the patients on your most recent shift?
Mark the one option that fits best.
   1 ☐ I provided most care myself
   2 ☐ I supervised the care by others and provided some myself.
   3 ☐ I provided only limited care such as dressing changes or drug administration and most of direct care was done by others

8. On your most recent shift how many patients <u>in total</u> were on your unit/ward?

9. <u>Counting yourself</u>, how many registered nurses <u>in total</u> provided direct patient care on your unit/ward during the most recent shift you worked?
Number of registered nurses:

10. How many other nursing care staff <u>in total</u> provided direct patient care on your unit/ward during the most recent shift you worked?
Other nursing care staff:

11. On your most recent shift, how often did you perform the following tasks?

	Never	Sometimes	Often
1. Delivering and retrieving food trays	0	1	2
2. Performing non-nursing care	0	1	2
3. Arranging discharge referrals and transportation (including to long term care)	0	1	2
4. Routine phlebotomy/blood draw for tests	0	1	2
5. Transporting of patients within hospital	0	1	2
6. Cleaning patient rooms and equipment	0	1	2
7. Filling in for non-nursing services not available on off-hours	0	1	2
8. Obtaining supplies or equipment	0	1	2
9. Answering phones, clerical duties	0	1	2

12. On your most recent shift, which of the following activities were necessary but left undone because you lacked the time to complete them? <u>Mark all that apply.</u>

1. Adequate patient surveillance ☐
2. Skin care ☐
3. Oral hygiene ☐
4. Pain management ☐
5. Comfort/talk with patients ☐
6. Educating patients and family ☐
7. Treatments and procedures ☐
8. Administer medications on time ☐
9. Prepare patients and families for discharge ☐
10. Adequately document nursing care ☐
11. Develop or update nursing care plans/care pathways ☐
12. Planning care ☐
13. Frequent changing of patient position ☐

D. ABOUT YOU

1. What is your gender?
   1 ☐ Female   2 ☐ Male

2. What is your age? Years:

3a. Did you receive your basic nursing education in the country where you currently work as a professional nurse?
   1 ☐ Yes   2 ☐ No

b. If no, in what country did you receive your basic nursing education? Country:

6

4. Not including the country where you currently work, list the last three countries, if any, (and years) where you have worked as a professional nurse.

Country|Years: [＿＿＿＿＿]   Country|Years: [＿＿＿＿＿]   Country|Years: [＿＿＿＿＿]

5. What was your age when you first became a professional nurse? Years: [＿｜＿]

6. Do you have a baccalaureate degree in nursing?
      [1] ☐ Yes   [2] ☐ No

7. How satisfied are you with your choice of nursing as a career?
    [1] ☐ Very dissatisfied   [2] ☐ A little dissatisfied   [3] ☐ Moderately satisfied   [4] ☐ Very satisfied

8. Are you working in this hospital full time?
    [1] ☐ Yes   [2] ☐ No

9. How many years have you worked as a registered nurse …

a. in your career   **Years:** [＿｜＿]   b. in this hospital   **Years:** [＿｜＿]

E: ADDITIONAL QUESTIONS FOR THE IRISH STUDY

1. For how many years have you worked as a registered nurse….

   a)   in this field (medical/surgical) **Years:** [＿｜＿]   b) in this ward/unit? **Years:** [＿｜＿]

2. Please tick the box which best describes your response to the following:

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
a. Overall, my current work environment empowers me to accomplish my work in an effective manner					
b. Overall, I consider my workplace to be an empowering environment					

7

3. Have you received in-service updates in the last year on any of the following?
MARK ALL THAT APPLY

	YES	NO
a. Clinical risk management/patient safety	0 ☐	1 ☐
b. Infection control	0 ☐	1 ☐
c. Blood transfusion practice	0 ☐	1 ☐
d. CPR	0 ☐	1 ☐
e. Manual handling	0 ☐	1 ☐
f. Adverse event reporting	0 ☐	1 ☐
g. Informed Consent	0 ☐	1 ☐
h. Open disclosure for adverse clinical events	0 ☐	1 ☐

4. Frequency of adverse events reported:

	Never	Rarely	Sometimes	Most of the time	Always
a. When a mistake is made but is caught and corrected before affecting the patient, how often is this FORMALLY reported?	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
b. When a mistake is made but it has no potential to harm the patient how often is this FORMALLY reported?	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
c. When a mistake is made that could harm the patient but does not, how often is this FORMALLY reported?	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

5. In the past 12 months, how many FORMAL adverse events reports have you filled out and submitted in the following categories?

a. Risk Management report forms	Number:	☐☐
b. Blood transfusion report forms	Number:	☐☐
c. Irish Medicines Board forms OR online reports	Number:	☐☐

Thank you for taking the time to complete and return this questionnaire.

8

APPENDIX C: ORGANISATIONAL PROFILE QUESTIONNAIRE

Section 1: ORGANISATION PROFILE [required for all hospitals]

---

1. **Does this return cover a hospital group? Yes / No**

2. **Name of the organization (hospital or hospital group)**

    _____

3. **Address**

    _____

    _____

    _____ **Postcode** _____

4. **If this return is for a single *hospital* that is part of a hospital group please name the hospital group**

    _____

5. **Is it a university hospital?**   **Yes / No**
6. **Is ownership public?**   **Yes / No**
7. **Is the hospital run for profit?**   **Yes / No**
8. **Is it a *regional* referral centre?**   **Yes / No**
9. **Is it a *national* referral centre?**   **Yes / No**

10. **Which of the following services are provided?**

    a. Emergency   **Yes / No**
    b. ITU/ICU   **Yes / No**
    c. Open Heart Surgery   **Yes / No**
    d. Organ Transplant surgery   **Yes / No**

11. Annual Activity [last year for which complete data is available]

Total Inpatient Admissions (n)	
i) Inpatient Elective Admissions (n)*	
ii) Inpatient Emergency Admissions (n)*	
Day Case Admissions (n)*	
Total ambulatory/outpatient attendances (n)*	
i) Emergency department visits (n)	
ii) Planned ambulatory/outpatient attendances (n)*	
Total Annual Expenditure	
(year end date dd/mm/yy)	

12. Bed Numbers (mean for year)

	Total number of open beds (N)	Mean Occupancy (%)
Total		
Total Acute Beds		
Of which		
ICU*		
Are figures above an annual average?	Yes / No	Yes / No
Please give year end date (dd/mm/yyyy) or census date if different from 11e above		

13. Adult (or mixed adult / children) Medical and Surgical ICU wards*

	Medical ICU	Surgical ICU	Mixed (med / surg) ICU
a) Number of wards			
b) Total number of beds			

Please indicate below any inpatient specialty wards that you have excluded from this definition

Number of *General* (or mixed adult / children) Medical and Surgical wards and beds

	Medical Wards	Surgical Wards
a) Number of wards		
b) Total number of beds		

Please indicate below any inpatient specialty wards that are excluded from this definition

_____

_____

14. Are there any other factors which you feel might be relevant, in terms of understanding the results of the nurse survey or patient outcomes data? Please give details under the following headings.

a)	Mergers with other hospitals	Yes / No
b)	Moving wards within the hospital	Yes / No
c)	New buildings	Yes / No
d)	Substantial increase in beds numbers	Yes / No
e)	Substantial decrease in bed numbers	Yes / No
f)	Other major new facilities opened	Yes / No
g)	Other major facilities closed	Yes / No
h)	Other	

Details:

15. Is there a chief nurse with overall professional responsibility for inpatient nursing services in the organization?   **Yes / No**

Section 2: STAFFING

1. **What is the usual contracted full time working week for the following grades of staff (in hours)**

Medical staff	
Registered/ licensed nursing staff	
Un-registered nursing staff	

2. **Staff numbers**
    Please write a number in each box, to show the whole time equivalent of the establishments and of staff in post, and provide the total headcount of staff in each category.

	Staff in Post (WTE)	**Staff in Post (Head count)***	**Vacancies (WTE)***
All Employees			
Medical staff (total)			
Consultants / attending / chef de clinique			
Other qualified medical staff			
Registered/licensed nursing staff (total)			
Other registered nurse * (e.g. senior nurse managers or senior specialist nurses not counted below)			
Ward manager or equivalent*			
Staff nurse (RN)*			
Staff nurse (Licensed nurse)*			
Non-registered nursing staff			

3. **Number and grades of the permanent staff on general adult (or mixed adult / children) wards***

	Medical		Surgical	
	Staff in Post (WTE)	Vacancies*	Staff in Post (WTE)	Vacancies*
Ward manager or equivalent				
Staff nurse				
Non-registered nursing staff				

4. **Nursing staff numbers: outpatient and day case staff***

	Staff in Post (WTE)	Staff in Post (Head count)	Vacancies (WTE)*
Registered / licensed nursing staff			
Non-registered nursing staff			

5. **Nursing staff other detail*:**

	Staff in Post (headcount)	Not recorded
Nurses with a masters degree or higher		
Nurses with a bachelors degree		
Nurses with initial nursing qualification from any other country		
Nurses with initial nursing qualification from non EU country		
Nurses who are not EU citizens		

6. **Are figures above an annual average?   YES/NO**

7. **Please give the year end date OR the relevant census date (dd/mm/yy)**

8. Staff turnover*

Please show the annual number of staff joining, leaving and staying (headcount not WTE).

	Number appointed (JOINERS)	Number left (LEAVERS)	Number in post For full year (STAYERS)	% turnover*
All Employees				
Medical staff (total)				
Registered/ licensed nursing staff				
Non-registered nursing staff				

9. Use of bank or agency registered nurses*

Please give details of bank (float – employed by the hospital) and agency (employed via outside agency) usage.

	Whole time equivalents	% of total nursing pay bill
Bank registered/ licensed nurses		
Agency registered/ licensed nurses		

10. Sickness/absence*

Please enter the percentage of nursing time lost through sickness absence annually, using the space below to describe how the figure is calculated.

	Percentage (% of all working hours/shifts missed due to sickness absence)
Registered/ licensed **nursing staff**	
Non-registered nursing staff	

Method of calculation:

11. Please give the year end date for the data given in 8-10 (dd/mm/yy)

Section 3: Organising and Managing Nursing Work in the Hospital

1. **Planning of staffing on general medical / surgical wards.**

   Which of the following best describes how staffing levels for the general medical / surgical wards in your hospital are determined (select all that apply)

   a) *The current staffing levels are largely historical, based on what has been used in the past?*   *Yes / No*

   b) *The hospital as a whole uses a formal system to determine staffing adequacy on its inpatient units*   *Yes / No*

   c) *Different wards use different approaches to determine staffing adequacy*   *Yes / No*

   d) *Staffing levels for most wards in the hospital are reviewed regularly (yearly or more often)*   *Yes / No*

   e) *Staffing levels for most wards are determined by reference to established (local or national) benchmarks or norms for the type of ward*   *Yes / No*

   f) *Staffing levels are set to **match** established benchmarks or norms for the type of ward*   *Yes / No*

   g) *Staffing levels are set to **exceed** established benchmarks or norms for the type of ward*   *Yes / No*

   h) *Ward staffing levels are based on the result of matching staffing to patient acuity/dependency using a formal system*   *Yes / No*

   i) *Ward staffing levels are based on informal review of patient acuity/dependency*   *Yes / No*

   j) *Staffing is planned to match patient acuity/dependency on a shift by shift basis using a formal system*   Yes / No

   k) *Please give additional details (including name and references for any systems used)*   Yes / No

   _____

   _____

   _____

2. **Performance review and professional development**

   Which of the following best describes how the hospital reviews and supports nursing staff performance, educational needs and professional development (select any that apply)

   a) *The hospital has an appraisal system where all nursing staff undergo an annual review with their manager*   *Yes / No*

   b) *The performance of all nursing staff is formally reviewed at least once a year*   *Yes / No*

   c) *The training needs of all nursing staff are formally reviewed at least once a year*   *Yes / No*

   d) *The career goals and professional development of all nursing staff are formally reviewed at least once a year*   *Yes / No*

   e) *The hospital supports nurses in their professional development and training by giving financial support for courses*   *Yes / No*

   f) *The hospital supports nurses in their professional development and training by giving study leave*   *Yes / No*

3. **Budget for in service training and professional development***

   What is the budget for in service training and professional development for nurses on the medical and surgical wards. Please give figures in local currency

   a) *Total budget for providing courses and releasing staff*   _____

   b) *Budget for providing courses and training*   _____

   c) *Budget for releasing staff to attend courses and training*   _____

   Please give further details. If you are unable to provide the figures requested above please explain why.

   _____

   _____

   _____

Section 4: Quality and safety personnel, training and reporting

1. Does your organisation have a named person in the following posts?

	Yes	No	If yes, what grade?
Quality Manager			
Clinical Risk Manager			
Haemovigilance Officer			
Pharmacovigilance or medication safety officer			

2. Does your organisation provide regular in-service education for clinical staff on any of the following?

	Yes	No	If yes is the training mandatory?
Clinical risk management /Patient safety			
Infection control			
Blood transfusion practice			
CPR			
Manual handling			
Adverse clinical event reporting			
Informed Consent			
Open disclosure for adverse clinical events			
Medication safety			

3. Does your organisation audit the following?

	Yes	No
Blood transfusion practice		
Compliance with local patient safety standards		
Hospital acquired infection		

4. Please indicate the organisation's approach to the following areas?

	Quantify incidences	Analyse trends
Patient safety incidents		
Adverse event reporting		
Medication errors		
Pressure sores following admission		
Blood transfusion adverse events		

5. In your organisation are the following areas evaluated on an on-going basis?

	Yes	No
Impact of adverse events on patients and their families		
Impact of adverse events on staff		

APPENDIX D: PATIENT SATISFACTION QUESTIONNAIRE

PATIENT SURVEY INSTRUCTIONS

This survey is part of a European Union study to improve the quality of care in hospitals. Your participation is voluntary. Your care will not be affected in any way by your decision to participate or not. Your answers are anonymous.

<u>Do not write your name or any personal details on the form.</u>

Place your completed questionnaire in the envelope provided. The sealed envelopes will be collected directly by RN4CAST researchers. By filling out the questionnaire you are giving your permission to participate.

- Please tell us about your experience in this hospital. You may ask for help in filling out the questionnaire but the answers should be your own. Do not fill out this questionnaire if you are not the patient unless you are assisting the patient, and then record the patient's responses not your own.

- After completing the questionnaire, please insert it in the attached envelope, seal the envelope, and the sealed envelope will be collected by the researchers.

- Answer <u>all</u> the questions by checking the box to the left of your answer.

- You are sometimes told to skip over some questions in this questionnaire. When this happens you will see an arrow with a note that tells you what question to answer next, like this:

  Yes

  No $\longrightarrow$ If No, Go to Question 1

If you have any questions, the DCU researcher is available on your ward on the day of the study.

Please answer the questions in this survey about your stay at <u>this</u> hospital. Do not include any other hospital stay in your answers.

YOUR CARE FROM NURSES

1. During this hospital stay, how often did nurses treat you with <u>courtesy and respect</u>?

$^1\square$ **Never** $^2\square$ **Sometimes** $^3\square$ **Usually** $^4\square$ **Always**

2. During this hospital stay, how often did nurses <u>listen carefully to you</u>?

$^1\square$ **Never** $^2\square$ **Sometimes** $^3\square$ **Usually** $^4\square$ **Always**

3. During this hospital stay, how often did nurses <u>explain things</u> in a way you could understand?

$^1\square$ **Never** $^2\square$ **Sometimes** $^3\square$ **Usually** $^4\square$ **Always**

4. During this hospital stay, after you <u>called for assistance</u>, how often did you get help as soon as you wanted it?

$^1\square$ **Never** $^2\square$ **Sometimes** $^3\square$ **Usually** $^4\square$ **Always** $^4\square$ **Never**

YOUR CARE FROM DOCTORS

5. During this hospital stay, how often did doctors treat you with <u>courtesy and respect</u>?

$^1\square$ **Never** $^2\square$ **Sometimes** $^3\square$ **Usually** $^4\square$ **Always**

6. During this hospital stay, how often did doctors <u>listen carefully</u> to you?

$^1\square$ **Never** $^2\square$ **Sometimes** $^3\square$ **Usually** $^4\square$ **Always**

7. During this hospital stay, how often did doctors <u>explain</u> things in a way you could understand?

$^1\square$ **Never** $^2\square$ **Sometimes** $^3\square$ **Usually** $^4\square$ **Always**

THE HOSPITAL ENVIRONMENT

8. During this hospital stay, how often were your room and bathroom kept <u>clean</u>?

    ¹☐ Never   ²☐ Sometimes   ³☐ Usually   ⁴☐ Always

9. During this hospital stay, how often was the area around your room <u>quiet</u> at night?

    ¹☐ Never   ²☐ Sometimes   ³☐ Usually   ⁴☐ Always

YOUR EXPERIENCES IN THIS HOSPITAL

10. During this hospital stay, did you need help from nurses or other hospital staff in <u>getting to the bathroom</u> or in using a bedpan?

    ¹☐ Yes   ²☐ No   → **If No, Go to Question 12**

11. How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?

    ¹☐ Never   ²☐ Sometimes   ³☐ Usually   ⁴☐ Always

12. During this hospital stay, did you need medicine for <u>pain</u>?

    ¹☐ Yes   ²☐ No   → **If No, Go to Question 15**

13. During this hospital stay, how often was your pain well controlled?

    ¹☐ Never   ²☐ Sometimes   ³☐ Usually   ⁴☐ Always

14. During this hospital stay, how often did the hospital staff do everything they could to help you with your pain?

    ¹☐ Never   ²☐ Sometimes   ³☐ Usually   ⁴☐ Always

15. During this hospital stay, were you given any <u>medicine</u> that you had not taken before?

    ¹☐ Yes   ²☐ No   → **If No, Go to Question 18**

16. Before giving you any new medicine, how often did hospital staff tell you what the medicine was for?

    [1]☐ **Never**   [2]☐ **Sometimes**   [3]☐ **Usually**   [4]☐ **Always**

17. Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?

    [1]☐ **Never**   [2]☐ **Sometimes**   [3]☐ **Usually**   [4]☐ **Always**

WHEN YOU LEAVE THE HOSPITAL

18. **How many more days do you expect to be in this hospital? Your best guess is fine. Write your answer in the blank. _____ days**

19. During this hospital stay, have doctors, nurses or other hospital staff talked with you about your care after you leave the hospital?

    [1]☐ **Yes**   [2]☐ **No**

20. During this hospital stay, have you gotten information in writing about what symptoms or health problems to look out for after you leave the hospital?

    [1]☐ **Yes**   [2]☐ **No**

OVERALL RATING OF HOSPITAL

Please answer the following questions about your stay at this hospital. Do not include any other hospital stays in your answer.

21. Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?

Worst hospital possible   **Best hospital possible**

[00]☐   [01]☐   [02]☐   [03]☐   [04]☐   [05]☐   [06]☐   [07]☐   [08]☐   [09]☐   [10]☐

0   **1**   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**   **10**

22. Would you recommend this hospital to your friends and family?

[1]□ **Definitely no**   [2]□ **Probably no**   [3]□ **Probably yes**   [4]□ **Definitely yes**

ABOUT YOU

23. In general, how would you rate your <u>overall health</u>?

[1]□ **Excellent**   [2]□ **Very good**   [3]□ **Good**   [4]□ **Fair**   [5]□ **Poor**

24. What is the highest grade or level of school that you have <u>completed</u>?

[1]□	[2]□	[3]□	[4]□	[5]□	[6]□
Primary school	**Some secondary school, but did not complete Leaving certificate**	**Completed Leaving certificate**	**Some college**	**College graduate (degree level)**	**More than primary college degree**

THANK YOU

Please return the completed questionnaire to the researcher in the envelope provided.