Growing evidence on the link between nurse staffing levels and the quality of care has led to the development of a tool and guidance to calculate safe staffing levels

A tool to calculate safe nurse staffing levels

In this article...
› The importance of appropriate nurse numbers and skill mix
› Developing a tool to aid local calculation of safe staffing levels
› Examples of the tool in use

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Abstract Fenton K, Casey A (2015) A tool to calculate safe nurse staffing levels. *Nursing Times;* 111: 3, 12-14.
A guideline from the National Institute for Health and Care Excellence and a NICE-endorsed tool on safer nursing care allow decisions on safe staffing levels to be made at a local level. Decisions must be based on sound evidence and factoring in patients' individual needs as well as numbers of patients.

The Safer Nursing Care Tool helps nurses decide on safe nurse staffing for acute wards based on patients' level of sickness and dependency. It also includes quality indicators linked to nursing care to help ensure staffing levels achieve best patient care. The tool is easy to use by frontline nursing staff, but must be applied correctly and consistently for data to be valid, and to allow benchmarking against agreed standards. It should be combined with nurses' professional judgement and account for local factors.

Having the right number of nurses, with the right mix of skills and experience, is essential if organisations are to provide safe, high-quality care for patients. However, the needs of hospital patients have changed as demographic changes and advances in healthcare mean those admitted to hospital tend to have more complex care needs than in the past.

One of the government's responses to the Francis report into care failings at Mid Staffordshire Foundation Trust has led to the publication of *Safe Staffing in Adult Inpatient Wards in Acute Hospitals* (National Institute for Health and Care Excellence, 2014) and the first toolkit endorsed by NICE for determining safe nurse staffing establishments for adult in-patient wards. (Shelford Group, 2014). The Safer Nursing Care Toolkit (SNCT) for adult care in acute hospitals was developed by the Shelford Group of 10 leading NHS teaching hospitals, and has been endorsed by NICE. Used alongside the NICE (2014) guideline, it enables local decision making to be based on sound evidence, and gives trusts a platform to work together to the same standards.

The NICE guideline requires trusts to ensure the number of nurses and healthcare assistants funded to work on the wards – nurse staffing establishments – is "sufficient to provide safe care to each patient at all times". Trusts must involve nursing staff in drawing up staffing policies, and when agreeing the mix of registered nurses and HCAs take into account evidence showing care delivered by registered nurses gives better outcomes than that delivered by unregistered staff (NICE, 2014).

Trusts are also required by NHS England and the Care Quality Commission to display the actual number of nursing staff against those planned for each shift outside all inpatient wards. They must publish monthly staffing data showing planned number of nursing hours against the number they manage to fill, and carry out a six-monthly review of their staffing establishments (Department of Health, 2014).

The SNCT is an evidence-based tool that helps trusts make staffing decisions that deliver safe, high-quality care; nurses can use it to help work out staffing

5 key points
1 Nurse staffing levels, skills and experience are key to providing safe, high-quality patient care

2 An evidence-based tool kit endorsed by NICE helps nurses decide on staffing needs based on patients' levels of sickness and dependency, and links staffing levels to quality indicators

3 The tool can be used to support requests for more nurses on wards

4 The tool is easy to use, but must be applied consistently

5 The tool gives a baseline for staffing decisions, but the final assessment requires consideration of local factors

The Safer Nursing Care Toolkit allows local decision-making based on sound evidence

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BOX 1. **SUMMARY OF SNCT CLASSIFICATIONS**

Level	Descriptor
0	Patients requiring hospitalisation whose needs are met by normal ward care
1(a)	Acutely ill patients needing intervention or who are unstable with a greater potential to deteriorate
1(b)	Patients who are stable, but depend on nursing care to meet most or all of the activities of daily living
2	Patients who can be managed within clearly identified and designated beds and resources with the required expertise and staffing level or may require transfer to a dedicated Level 2 facility/unit
3	Patients needing advanced respiratory support and/or therapeutic support of multiple organs

Multipliers	Example

For acute inpatient wards (there are separate multipliers for acute assessment units included in the tool)

Level 0: 0.99	12 patients; 0.99x12=11.88
Level 1a: 1.39	7 patients; 1.39x7=9.73
Level 1b: 1.72	8 patients; 1.72x8=13.76
Level 2: 1.97	1 patient; 1.97x1=1.97
Level 3: 5.96	0 patients
Total	37.34 whole-time equivalents

(Multipliers include 22% uplift for annual leave etc)

BOX 2. **NURSE-SENSITIVE INDICATORS**

● **Official complaints**
Received about nursing/midwifery/care staff (per 1,000 occupied bed days) in the areas of: communication, clinical care, attitude

● **Drug errors**
Where nursing was the primary cause, not including near misses per 1,000 occupied bed days

● **Infection**
Incidence rates of MRSA bacteraemia per 1,000 occupied bed days and Clostridium difficile per 1,000 occupied bed days

● **Slips, trips and falls**
Number of slips, trips or falls per 1,000 occupied bed days caused primarily by nursing error

● **Pressure ulcers**
Incidence of hospital-acquired pressure ulcers per 1,000 occupied bed days

● **Nutrition**
Number of patients having had nutritional screening per 1,000 occupied bed days
Percentage of wards that have implemented protected mealtimes policy

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establishments and daily monitoring of ward staffing needs. The tool can be used to support requests for more nurses on wards and to ensure trusts on finite budgets make the best use of qualified staff.

Why we need a safer staffing tool
A growing body of research shows links between patient sickness and dependency, workload, staffing and quality of care. Low staffing levels and a low proportion of registered nurses on wards have been linked to poor patient outcomes, and there is evidence of increased harm when a registered nurse cares for eight or more patients during day shifts (NICE, 2014).

However, NICE says there is no universal nursing staff-to-patient ratio that can be applied across all wards to ensure safe, high-quality patient care. Each ward must determine its own nursing staff needs, taking into account patients' needs, plus ward and staffing factors. Furthermore, individual patients' nursing care needs should be the main factor for calculating staffing, so staffing is geared to sickness and dependency as well as numbers of patients (NICE, 2014).

The SNCT is easy to use by frontline nursing staff and includes quality indicators linked to nursing care to ensure staffing levels achieve best patient care. It includes:
» An evidence-based tool to measure the level of patients' sickness and dependency, together with a staffing multiplier to calculate ward staffing;

» Nurse-sensitive indicators (NSIs), such as infection rates, complaints, pressure ulcers and falls, so nurses can check staffing levels against quality outcomes.

The tool allows comparison across wards and trusts to help ensure best staffing levels and benchmark against agreed national standards.

Developing and validating the tool
The SNCT was originally created more than 10 years ago by Katherine Fenton, chief nurse at University College London Hospitals Foundation Trust, and Hilary Chapman, chief nurse at Sheffield Teaching Hospitals Foundation Trust. It is based on the classification of levels of critical care patients, adapted to support measurement across a range of wards/specialties (DH, 2000).

The tool was validated by Keith Hurst, then a lecturer at the University of Leeds, using evidence from more than 1,000 top-performing wards, and data from 119,000 episodes of patient care, in 14 care groups over two years. Tests in teaching and district hospitals in England and Scotland, confirmed it was easy to use and provided safe staffing recommendations.

The SNCT went on to be adopted by the Shelford Group and, in 2012, the Shelford chief nurses' group commissioned an expert working group, including Dr Hurst, to review and update the tool. A total of 40,000 dual assessments were made using

the UK Nursing Database and SNCT to update the staffing multipliers. As well as leading teaching hospitals, many acute trusts are also using it.

How to use the tool
All participating trusts must collect data using the tool at the same time to ensure consistency and allow benchmarking across organisations. This is done at least twice a year, in January and June. Nurses collect data for each patient on the ward from Monday to Friday for a minimum of 20 days. This includes:
» Scoring the patient who has occupied a bed for the longest time in 24 hours to a sickness and dependency care level, done each day as part of the 3pm ward round review (Box 1);
» Monitoring NSIs, either retrospectively or using the electronic incident reporting system (Box 2).

Staffing multipliers for each sickness and dependency care level help nurses set baseline staffing levels (Box 1). These multipliers factor in nursing time spent on:
» Direct and indirect care;
» Ward management;
» Education/training;

BOX 3. **CASE STUDIES**

UCLH

Since 2012, University College London Hospitals Foundation Trust has set ward nursing establishments using the SNCT. The executive board is given regular updates on nursing and midwifery staffing and patient outcomes and experiences of care.

Data on patients' levels of sickness and dependency is collected and analysed three times a year. The ward sister, matron and head of nursing review staffing and the data alongside nurse-sensitive indicators (NSIs), using their professional judgement to put staffing proposals to the annual staffing review.

Agreed changes to the establishment are reflected in the following year's ward budget and updated on the e-rostering system. This allows recruiting to new posts and adjusting of "planned hours" of nursing care by day/shift for each ward. Any discrepancies between establishments, patient outcomes or experiences of care and nurses' professional judgement triggers an external service review.

Staffing is displayed at the ward entrance at the start of each shift. If there is one registered nurse fewer than rostered, nurses are each caring for more than seven patients, or there are "red flag" events (NICE, 2014), the nurse in charge follows a standard escalation procedure, ultimately reporting to the chief or deputy chief nurses.

NSIs are reviewed at monthly meetings of the matrons and nursing and midwifery board, allowing process and outcomes measures sensitive to nurse staffing to be monitored. This offers assurance methods to set nursing establishments are effective.

A mobile app allowing direct data input on the ward (now being developed nationally) has reduced time spent on data collection for each ward by 45 minutes a day.

Frimley Health

Frimley Health Foundation Trust has used the SNCT throughout the trust to decide on nurse staffing levels for the past four years. Data on patients' levels of sickness and dependency is collected three times a year but the trust is now considering daily use of the tool, to ensure staffing needs based on patients' level of care become part of the daily "currency" of care. The intensive care unit already collects such data daily. As the tool does not take into consideration the turnaround of patients in the emergency department, so the trust no longer uses the tool in these areas. However, a recently adapted version of the tool is now used for the trust's acute assessment units.

The trust gained the cooperation of staff by involving nursing staff from the outset, and encouraging open discussion of the advantages and disadvantages of using the tool. The senior sisters lead use of the tool, and data for each ward is collected by three people, either the senior sisters or a nominated deputy.

One of the biggest challenges has been validating the data and ensuring consistency. Once a week when data is being collected, the trust allocates two senior nurses, one external and one from the ward, to validate and peer review the collection. Senior nurses also receive training three times a year prior to data collection, using case studies to agree the level of care. The tool lets the trust decide nurse staffing on the levels of care needed. The director of nursing is now proposing to use the data for budget review.

» Staff performance review;
» Official and unofficial staff breaks;
» Associated work such as administration and clerical;
» Bed occupancy.

A minimum of 22% uplift for factors such as annual leave, sickness cover and maternity leave is added to the multiplier, although many organisations add a larger percentage following analysis of local demographics.

Nurses can then use NSIs to link the data with patient outcomes to ensure staffing is sufficient to give the best care. NSI data is converted into a rate per 1,000 occupied bed days, allowing comparison between wards and trusts. If NSIs are poor, senior nurses should review staffing, checking for other local factors that might compromise care.

Local factors not covered by the tool that that can affect nurse workload and the ability to provide high-quality care include:
» The clinical model in use;
» The labour market;
» Staff capacity, capability, seniority and confidence;
» Organisational factors, such as support roles, support outside the ward and ward layout;
» Senior nurse supervisory time and leadership capacity/capability.

Managing data collection

Trusts should nominate an individual to carry out data collection quality control. This could be a practice facilitator, member of the clinical outreach team or senior member of the corporate nursing team.

A local policy on managing data collection should be agreed, including how it is collected, collated and analysed. Some organisations have developed databases, while one has developed a local mobile app for this purpose (Box 3). The key to success is a maximum data set based on a robust systematic approach.

Tips from the pilot and test sites

Trusts involved in the development and testing of the SCNT have offered a number of tips based on their experience:
» Ensure the support of the executive board, general managers and clinical directors beforehand;
» Meet with ward sisters/charge nurses and matrons to gain their cooperation;
» Enlist IT support to put in place data collection and analysis systems that are easy to use;
» Assign quality control to a member of the corporate team to ensure the tool is applied consistently across all wards and units;
» Train and prepare staff to use the tool;
» Ensure timely feedback of patients' levels of sickness and dependency to ward staff.

Further developments

The SNCT is being developed and validated for other care settings. The tool now includes staff multipliers for acute assessment units as well as acute inpatient wards. Versions for children's and young people's wards, and acute wards for older people, are expected early in 2015 and a version is being developed for accident and emergency departments. **NT**

References
Department of Health (2014) *Hard Truths: the Journey to Putting Patients First*. tinyurl.com/DHHardTruths
Department of Health (2000) *Comprehensive Critical Care: a Review of Adult Critical Care Services*. tinyurl.com/DHCompCriticalCare
National Institute for Health and Care Excellence (2014) *Safer Staffing for Nursing in Adult Inpatient Wards in Acute Hospitals*. www.nice.org.uk/sg1
Shelford Group (2014) *Safer Nursing Care Tool: Implementation Resource Pack*. tinyurl.com/ShelfordSNCT

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