NICE National Institute for Health and Care Excellence

Safe staffing for nursing in adult inpatient wards in acute hospitals

Report on field testing the draft guideline

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Background

The National Institute for Health and Care Excellence (NICE) has been asked by the Department of Health and NHS England to develop an evidence-based guideline on safe nurse staffing in acute adult inpatient wards. The Market and Audience Intelligence (M&AI) team was asked to support this programme of work by conducting field testing during the guideline consultation. Field testing required experienced nurses from a number of NHS trusts and adult acute wards to judge the nursing staff requirements to ensure safe care is delivered to patients by applying first their professional judgement and second the recommendations in the draft guideline. General feedback on the draft NICE guideline was also obtained.

Summary

- Nurses are very positive about the guideline and deem it to be one of the most important pieces of guidance produced by NICE for nurses

- No real difference was found between the nursing staff requirement estimates based on professional judgement compared to applying the draft NICE guideline.

- When this finding was explored further the majority of nurses that took part in the field testing were very experienced in determining staffing requirements and thus felt the guideline reiterated what they already know and what they would ideally consider.

- The nurses were pleased, and felt it was important, that the guideline took a holistic view of determining staffing requirements; focusing on staff and environmental factors as well as patient needs and acuity.

- The nurses also felt the guideline provides structure to professional judgement and makes nurses more mindful of all the taken for granted activities they do that require their time.

- The guideline was felt to be helpful for those less experienced in setting staffing requirements.

- Tables 1 and 2 and the red flags are perceived to be very useful.

- Challenges using the guideline as described by the nurses were: the length and format of the document, confusion over the patient to nurse ratio, lack of experience with nursing hours per patient day, and the equivocal nature of some of the

recommendations e.g. not prescriptive enough about skill mix and the language is not always directive enough.

- Nurses understand the importance of setting nursing staff requirements in real time but are concerned about the resource implications of this and want support with implementation.

Aims and Objectives

The main aims of the field testing were:

1. Compare nursing staff requirement estimates when using:
    a) Their professional judgement and
    b) The draft NICE guideline.

2. Obtain general feedback from nurses on the draft guideline.

Method

A mixed method approach was adopted for the field testing. In order to compare professional judgement and the draft NICE guideline, each participating ward was asked to record staffing requirement estimates for registered nurses and healthcare assistants (HCAs) on a shift by shift basis. Nurses were asked contextual questions relating to these estimates.

The data collection period commenced on the 12th May 2014 and ran for a period of a week. Data from each ward was collected via Excel based data collection forms. The week following data collection in-depth telephone interviews and focus groups were conducted with participants to gain their feedback on the draft NICE guideline.

A pragmatic sampling approach was utilised. Trusts were identified by the Safe Staffing Advisory Committee members. Each selected trust nominated a lead that worked closely with the market and audience intelligence team (M&AI). The M&AI team liaised with each trust lead to help them understand the aims of the field testing and what was expected of them. The trust lead was responsible for selecting the wards which would take part in the field testing, supporting the nurses on the ward to conduct the data collection and validating the data before submission. Only adult acute wards were used within the sample. Exclusion

criteria listed in the guideline scope document was followed during the recruitment stage[1]. Nurses who had experience assessing nursing staff requirements were requested to complete the data collection. A sample of nurses also took part in follow-up interviews and virtual focus groups to get feedback on the draft guideline.

Descriptive analysis of the quantitative data was conducted using Excel and SPSS. The qualitative data was analysed using principles of thematic analysis.

Sample

14 trusts took part in the field testing (representing a geographical spread from across England). For the first stage of the field testing 94 wards returned data collection forms[2]. A breakdown of the sample is shown in Table 1 and 2 below.

Table 1 - Ward characteristics

Sample	n43	
Type of trust	**(N)**	**% of sample**
Teaching Hospital	22	51%
District General Hospital	16	37%
General Acute trusts	4	9%
Private Hospital	1	2%
Type of wards	**(N)**	**% of sample**
Elderly	2	5%
Medical	15	35%
Surgical	19	44%
Mixed	6	14%
Missing data	1	2%
Number of beds	**(N)**	**% of sample**
<23 beds	10	23%
23-25 beds	13	30%
26-28 beds	10	23%
>28 beds	9	21%
Missing data	1	2%

Table 2 - Participants characteristics

Sample	n590 shifts	
Band of participant estimating staffing requirements	**(N)**	**% of sample**
Band 4	1	0%
Band 5	184	31%
Band 6	133	23%
Band 7	254	43%
Band 8	14	2%
Missing data	4	1%
No. of years qualified	**(N)**	**% of sample**
5 and less	51	9%
6-10 years	110	19%
11-15 years	107	18%
16-20 years	64	11%
21-25 years	83	14%
26 years and above	152	26%
Missing data	23	4%
Experience setting staffing levels	**(N)**	**% of sample**
No	194	33%
Yes	353	60%
Missing data	43	7%

In the second stage of the field testing, 40 nurses and trust leads were interviewed via one-to-one telephone interviews and virtual focus groups to obtain their feedback on using the draft NICE guideline during the data collection period.

[1] The guideline only covers adult wards in acute hospitals. Other adult hospital wards, such as intensive care, maternity and mental health wards, and assessment or admission hospital-based units will not be covered by the guideline and therefore was excluded from the field testing.

[2] 51 wards had data quality issues, therefore only 43 wards were included in the quantitative analysis. 590 shifts were completed across these 43 wards. However the qualitative data from all 94 data collection forms were used as part of the overall analysis.

Findings

Overall there was no real difference between the staffing requirement estimates determined using the draft NICE guideline and professional judgement. Please see Table 3.

Table 3 - Staffing estimate based on average whole time equivalent (WTE) per shift

Overall - Registered Nurses and HCAs combined			
Professional Judgement - (WTE per shift)		**NICE Guideline (WTE per shift)**	
Mean	6.989	Mean	6.976
Standard Error	0.095	Standard Error	0.097
Median	7	Median	7
Mode	8	Mode	7
Differences between each individual measurement			
Mean Difference between 2 measurements : 0.2			
Correlation Co-efficient: 0.974			
Registered Nurses			
Professional Judgement (WTE per shift)		**NICE Guideline (WTE per shift)**	
Mean	3.980	Mean	3.990
Standard Error	0.05	Standard Error	0.05
Median	4	Median	4
Mode	3	Mode	3
Differences between each individual measurement			
Mean Difference between 2 measurements : 0.1			
Correlation Co-efficient: 0.971			
Healthcare Assistant (HCAs)			
Professional Judgement (WTE per shift)		**NICE Guideline (WTE per shift)**	
Mean	3.009	Mean	2.986
Standard Error	0.06	Standard Error	0.06
Median	3	Median	3
Mode	3	Mode	3
Differences between each individual measurement			
Mean Difference between 2 measurements : 0.2			
Correlation Co-efficient: 0.955			

↑ A slight increase was identified for registered nurses when using the draft NICE guideline

↓ A slight decrease was identified for HCAs when using the draft NICE guideline

When we look at the absolute difference between each individual observation, the mean difference is just 0.2 of a whole time equivalent (WTE)[3]. The similarity between professional judgement and the draft NICE guideline is evident by the strong positive correlation shown in the table above (0.974) and also highlighted in the scatter graph shown in figure 1 below.

[3] Please note that the purpose of the field testing was to determine if there was a difference in staffing requirement estimations when using the draft NICE guideline compared to professional judgement, it was not to determine an average staffing level per shift. Whole time equivalent (WTE) is based on those working a full and part shift, for the purpose of the field testing part shift was consider 0.5 of a full shift.

Figure 1 – Correlation between draft NICE Guideline and professional judgement (WTE for nurses and HCAs combined)

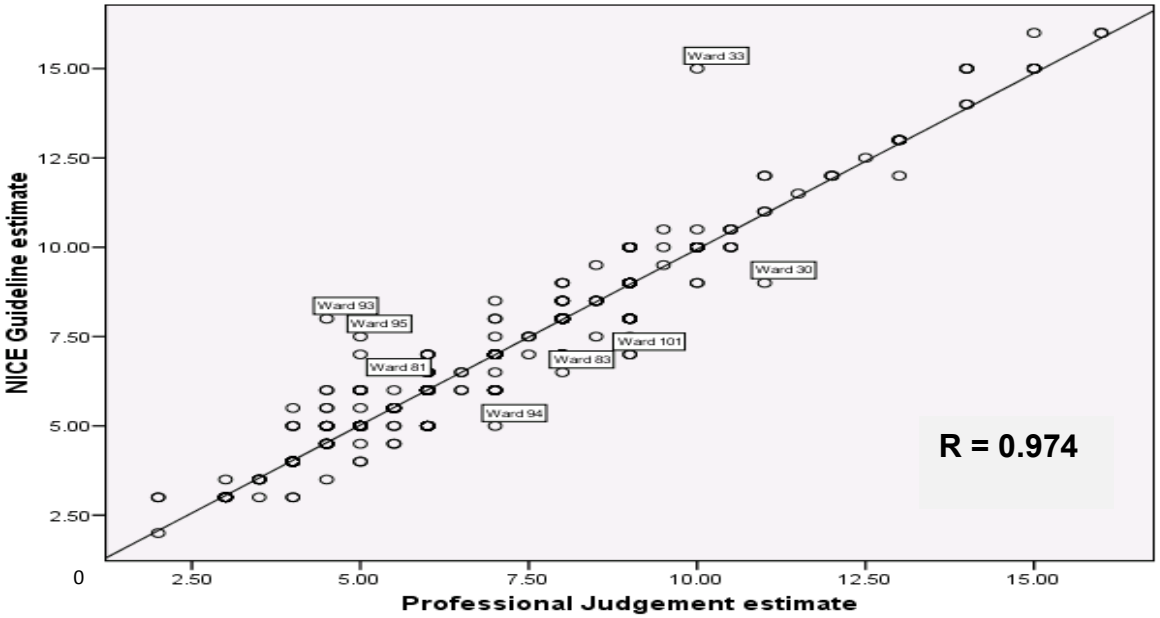


Figure 1 shows that when comparing professional judgement with the draft NICE guideline, 97.6% of the data is within +/- 1 WTE. 75% of the data found no difference between the two. Outliers with a difference greater than +/-1 WTE are shown on the graph. These represent individual shifts. The data was interrogated to look for an explanation for the outliers. Where nursing staff requirement estimates were higher based on the draft NICE guideline, nurses indicated this was largely because the draft guideline highlighted day-to-day tasks that they may not normally consider in their staffing estimates. In particular those detailed in Tables 1(types of ongoing nursing care activities that change nursing staff requirements) and 2 (types of one-off nursing care activities that change nursing staff requirements) of the draft guideline. Considering these activities and quantifying them raised the staffing requirement estimation. Where staffing requirement estimates were higher based on professional judgement, nurses indicated this was largely due to local context. For example, a surgical ward needs to consider patient turnover, post-operative needs, transfers to and from surgery, as well as overall high activity on the ward and although the draft guideline may make reference to this it may not explicitly include all factors considered in a local context. Due to the inconsistencies with the data collection (see 'for consideration' section), variances that appear for some individual shifts could be due to the method adopted.

Analysis was conducted to determine if there were any differences between estimates based on professional judgement compared to the draft NICE guideline by ward characteristics (e.g. number of beds, type of hospital, or type of ward) and participant characteristics (e.g. band, experience of setting levels, number of years qualified). The analysis found that there

was no difference when the data was broken down by each characteristic. However, when ward type was analysed it showed that there was a small difference between estimates based on professional judgement compared to the draft NICE guideline for the elderly wards[4]. The staffing requirement estimates based on professional judgement were higher than that based on the draft NICE guideline; a mean difference of 0.6 WTE and the correlation co-efficient of 0.84. Exploration of the data found that this was largely driven by HCAs. Nurses indicated that for some shifts they simply need 'another pair of hands' to help with general needs of the elderly patients; such as washing, dressing, and incontinence problems. Therefore the extra member of staff does not have to be qualified.

General Feedback

The majority of nurses interviewed were very positive and supportive of the guideline:

> *"…it's a very important document NICE has given out from a nursing point of view"*
>
> *"I think it's user-friendly, I think it encompasses what nursing care is about because it breaks down activities of daily living and includes the extra things we do on the ward"*

The majority of nurses interviewed felt that the draft NICE guideline consolidated what they already knew and included many elements they already consider when assessing nursing staff requirements. This is supported by the quantitative data which generally found no difference between professional judgement and the draft NICE guideline. However, there were some nurses that had high expectations and felt disappointed by this:

> *"None of it told us anything new which was the disappointing part"*

Figure 2 summarises the nurse's views and experiences of the draft NICE guideline; specifically focusing on:

- The perceived benefits of the guideline
- The important elements of the guideline
- The challenges the nurses experienced using the guideline
- Ways nurses believe the guideline could be improved
- Considerations for implementation of the guideline

Feedback from the nurses generated a key theme around implementation and the support nurses and NHS trusts will need to ensure the guideline is interpreted and used accurately. This could involve training and the production of support materials and more accessible

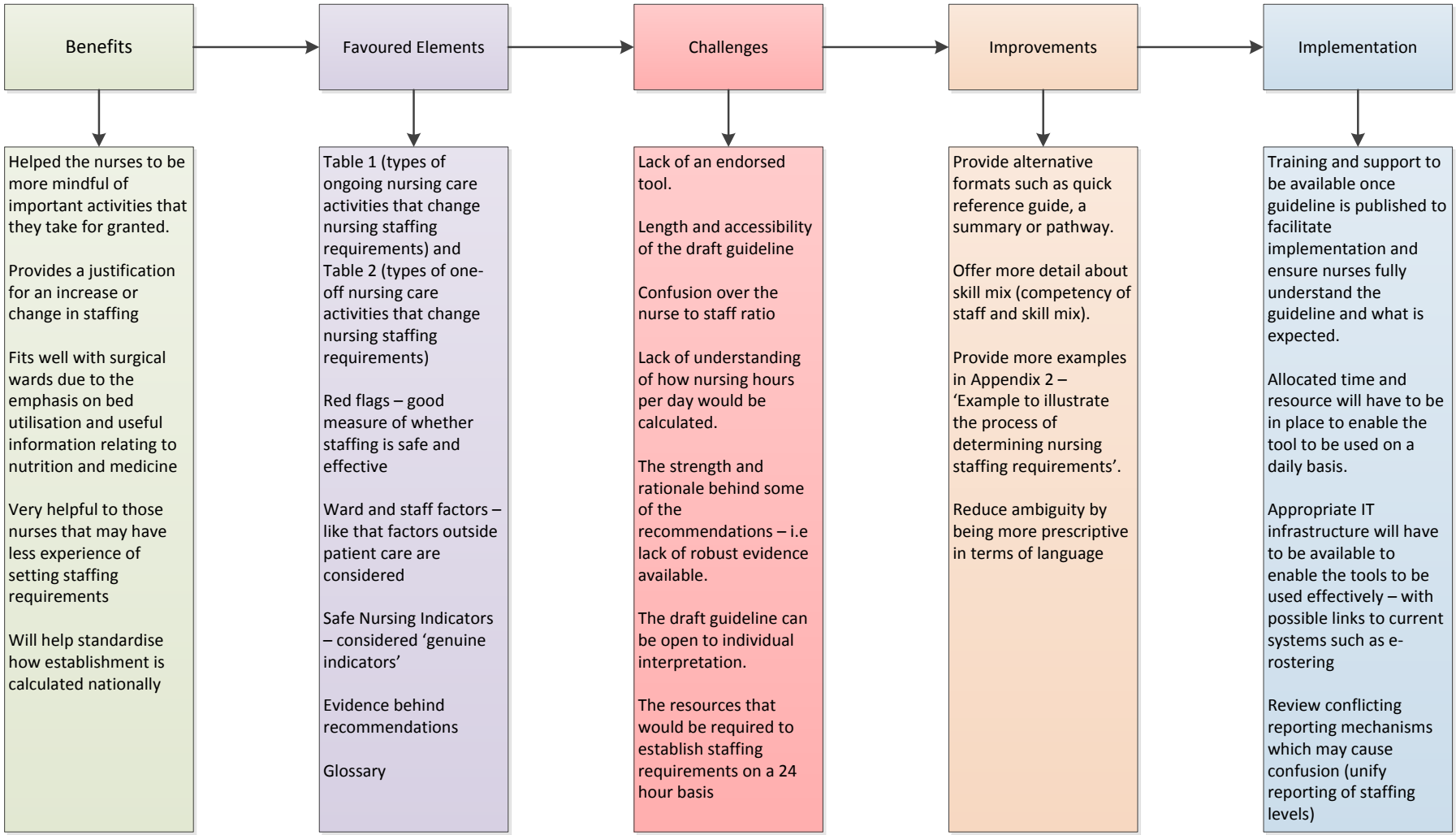
[4] Please note only there was only 2 elderly wards in our sample of 43, see table 1 above

formats of the guideline. Nurses realised the importance of moving towards real time determination of nursing staff requirements but were concerned about the resource implications.

> *"If routine…you could get into the swing of it through your handover and then retrospectively reflect on your next hand over … but it is labour intensive because even when you do it on the handover you've still got to have someone to input that information into a system three times a day…and that input is being done at a senior level due to the importance of validating the acuity aspect…its time consuming"*

Some nurses were concerned that the guideline may not lead to positive change and simply act as a tick box. The consequence of this could be feelings of disillusionment and lack of engagement with the new processes the NICE guideline hopes to facilitate.

Figure 2 – Summary of feedback on the draft NICE guideline from nurses



For consideration

The following section provides more information about the methodology of the field testing for consideration when interpreting the findings.

The field testing was conducted within a 12 week period including design, recruitment, data collection, analysis and reporting. Due to the timescales the trusts involved had varying levels of resources and capacity. Therefore, the trusts were given flexibility to complete the data collection as best they could i.e. number of shifts / days they completed, who completed the data collection, and how many wards took part etc. This means it was difficult to control for confounding variables which may have affected the results. These include different staff completing the data collection, the order in which each observation was conducted (i.e. reading the draft NICE guideline may have influenced future estimations based on professional judgement), lack of training and time to digest and understand the guideline and the data collection process and ambivalence towards data entry due to timescales. It should also be noted that the sample consisted of trusts connected to the Safe Staffing Advisory Committee and the majority of these were already using a staffing toolkit to set establishments. The findings may have been different if the sample included trusts that have not progressed as far with setting up processes around registered nurse and healthcare assistant workforce planning. The sample size was small and the pragmatic nature of the methodology meant the findings are not statistical significant or generalizable.

However, the task-based approach used for the field testing was advantageous because it encouraged the nurses to actively use the draft guideline to assess nursing staff requirements as opposed to simply reading it and feeding back. This meant the qualitative data collected was more meaningful and it allowed the nurses to carefully consider issues around implementation and how the guideline will be used in practice. It must be noted that the qualitative data is not representative of the views of all nurses. However, it offers deeper insight into attitudes and experiences underlying the quantitative data. Taking into account these considerations, the field testing can only provide a steer and must be considered alongside other data and knowledge.

It is recommended that the qualitative method plays an essential part to any future field testing. The collection of actual numbers of available nursing staff may also be useful to compare to staffing requirement estimations based on professional judgement.