

# Work load and staffing on night duty

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**SUMMARY:** There is relatively little information available on staffing formulae and work load covering the hours of night duty in hospital. Most published work appears to concentrate on the work of a ward on day duty and assume a lighter work load at night, perhaps on the basis that most patients sleep at night anyway.

This paper is not intended to add significantly to existing knowledge but rather provoke those of my colleagues who have the necessary skills, knowledge and time to devote themselves to this area of study.

FOLLOWING the concern expressed by the chairman of the Junior Medical Committee about the staffing situation on night duty in the major teaching hospital in Newcastle, I was asked as Area Nursing Officer to comment. My first reaction was to request the Divisional Nursing Officer to give me a report. However, I decided instead to visit our two major hospitals on successive nights to try and assess for myself what staffing situation existed and how the hospitals related to each other. It must be emphasised that my findings relate only to the nights in question and the evidence may present quite differently on other nights.

It was decided that the Divisional Nursing Officers would accompany me, together with my personal assistant, Mr. I. John who, as a qualified clinical teacher and former pupil nurse teacher and theatre superintendent, was the obvious choice to come along and ask what were felt to be the relevant questions.

Essentially, we wished to know the number and grade of staff on duty and the work load the staff undertook. Although the visits were known to senior staff a few days before, arrangements for staffing on these nights were not altered to give either a better or less favourable effect in the wards.

## Hospitals visited

### Royal Victoria Infirmary (RVI)

Has nominally 605 available beds. Ex-board of governors hospital until 1970 when an amalgamation took place with a large general HMC and a psychiatric HMC. This hospital is the major medical teaching hospital in the North East. It is assumed by nearly all nurses in the northern region that this hospital is more favourably staffed than any other by any comparison.

### Newcastle General Hospital (NGH)

A much older and larger hospital which contains, in newer buildings, many of the regional specialities. Also makes a major contribution to the medical teaching aspects of the area. Unlike the RVI which has only one

Divisional Nursing Officer this hospital has three. One Divisional Nursing Officer controls the general specialised and paediatric wards and departments (she also has five other hospitals). A second has an interest in midwifery and a third in the psychiatric aspects of a unit housed there.

Our interest was only in the general specialised, paediatric wards. Out of a total of approximately 1 085 beds, 804 are reviewed here.

## Evidence collected

As each visit was planned it was agreed that the following information, if available, would be noted:

Number of beds available; beds occupied; staff on duty; patients receiving specialised attention demanding constant attention of a nurse; intravenous infusions in operation; nasogastric aspirations; blood pressures to be taken; TPRs, theatre patients that day.

## Results of visits

### 1. Bed Occupancy (Table 1)

Recording staff ratios and work load for one night at each hospital does not

Table 1. Bed occupancy

	Hospitals	
	NGH (Thursday/Friday)	RVI (Friday/Saturday)
Available beds	804	605
Occupied beds	673	539
Empty beds	131	66
% occupied beds	83.7%	89%
% occupied beds (official over last year, 1975)	73.3%	88.6%



allow for correct conclusions to be reached. However, some matching of the staffing of wards and comparison of work loads between the two hospitals can be made.

The bed occupancy of a hospital on a Friday/Saturday of 89% is very high. The other hospital had a bed occupancy of 10% higher on the night in question than officially recorded for the immediate past year.

## 2. Staffing of Hospitals and Ratios (Table 2)

The overall staff ratios for nurses on duty were remarkably similar for the two hospitals both at 1:6.1. In addition, the ratio of trained staff was exactly the same at 35% while the major teaching hospital reflected the larger number of students it has in training.

The number of trained staff actually in charge of a ward seemed satisfactory, particularly at the NGH, at 66%. This allowed the remaining wards to be supervised more closely by the night sisters on each block of wards.

Looking at the nurse/patient ratios at ward level (Table 2g), the lowest nurse/patient ratio was in plastics and radiotherapy at 1:11 while ENT, dermatology, ophthalmics ratios were 1:10.5 and gynaecology 1:9.2. At the other end of the scale the highest nurse/patient ratios were to be found, as expected, in the intensive therapy units 1:0.3/0.8; coronary care units 1:2.5/2.6. The higher ratios were in burns, isolation 1:4, geriatrics (male) 1:4.7, urology 1:5.0, gynaecology 1:5.7, paediatrics 1:5.8, medicine (male) 1:5.9, male surgery 1:6.1 and neuro-surgery 1:6.2.

## 3. Work undertaken by the night staff

(a) Temperature, pulse, respiration recording:

	NGH	RVI
Once only	406	529
4 hourly (7) =	21	—
6 hourly (1) =	1	—
	428	529

This result was surprising. At the RVI it appeared that 98.1% of patients have TPRs taken by the night staff while the NGH takes 61.5% of patients' temperatures, etc. There seems to be scope to transfer some of this work load to day duty.

(b) Blood pressures

The number of patients have blood pressure taken at night were: 257 (NGH), 181 (RVI). (Table 3a)

About two-thirds of blood pressure readings in both hospitals were taken

Table 2. Staffing of hospitals and ratios

(a) Staff on duty				NGH	RVI
Senior Nursing Officer				1	—
Nursing Officer				1	1
Charge Nurse				10	10
Staff Nurse				16	12
State Enrolled Nurse				11	8
Student Nurse				43	46
Pupil Nurse				3	—
Nursing Auxiliary/Orderly				25	12
				110	89

(b) Grades of staff in charge of wards and departments					
	No. of Wards			NGH	RVI
	NGH	RVI			
Charge Nurse	2	2	} trained staff	26 (66.6%)	14 (51.8%)
Staff Nurse	16	9			
State Enrolled Nurse	8	3			
4th year Student Nurse	1	1	} in training	13 (33.3%)	12 (48.1%)
3rd year Student Nurse	10	11			
2nd year Student Nurse	2	1			

(c) Ratios of staff in grades				NGH	RVI
Trained staff				39 (35%)	31 (35%)
In training				46 (42%)	46 (52%)
Untrained				25 (23%)	12 (13%)

(d) Overall nurse/patient ratios				NGH	RVI
				110 : 673 = 1 : 6.1	
				89 : 539 = 1 : 6.1	

(e) Nurse/patient ratio (but excluding night sisters and above who do not take charge of a ward or department).				NGH	RVI
				100 : 673 = 1 : 6.73	
				82 : 539 = 1 : 6.57	

(f) Administrative night sisters and above not included in (e) above.				NGH	RVI
				10 : 673 = 1 : 67.3	
				7 : 539 = 1 : 77.0	

(g) Average nurse:patient ratios to specialty in each hospital (ward staff only excluding administrative night sisters and above). (Actual nurse/patient ratios in Figs 1 and 2.)					
	NGH	RVI		NGH	RVI
Intensive care	0.3	0.8	Dermatology	—	10.5
Coronary care	2.6	2.5	Ophthalmics	—	10.5
Paediatrics	5.8	6.2	Cardiovascular		
Medicine	6.9	6.7	Male	9.5	—
Male	6.4	5.9	Female	7.5	—
Female	7.2	8.1	Geriatrics		
Mixed	7.0	—	Male	4.7	—
Surgery	7.3	9.2	Female	7.4	—
Male	6.1	8.8	Urology		
Female	8.8	9.6	Male	7.7	—
Gynaecology	5.7	9.2	Female	5.0	—
Orthopaedics	7.5	7.8	Isolation	4.0	—
Neurology	8.0	6.6	Burns	4.0	—
Plastics	11.0	8.5	Neurosurgery	6.2	—
ENT and others	10.5	8.0	Radiotherapy	11.0	—

on eight wards, ie NGH 67.8%; RVI 63.4%, which covered 116 (45%) and 111 (61%) patients respectively.

The wards demanding this attention were different in each hospital as shown in Table 3b.

Three wards (12%) at the RVI and five wards (13.5%) at the NGH, had no blood pressure readings taken during the night. Eighty per cent of all readings taken are contained within 11 wards at NGH and 13 wards at the RVI.

(c) Intravenous infusions:

	NGH	RVI
In situ at time of visit	50	60

There was a difference between the hospitals in distribution between wards of intravenous infusions. At NGH 18 (48.6%) wards did not have infusions in operation while at the RVI only four (16.0%) wards were without this procedure. The highest recorded

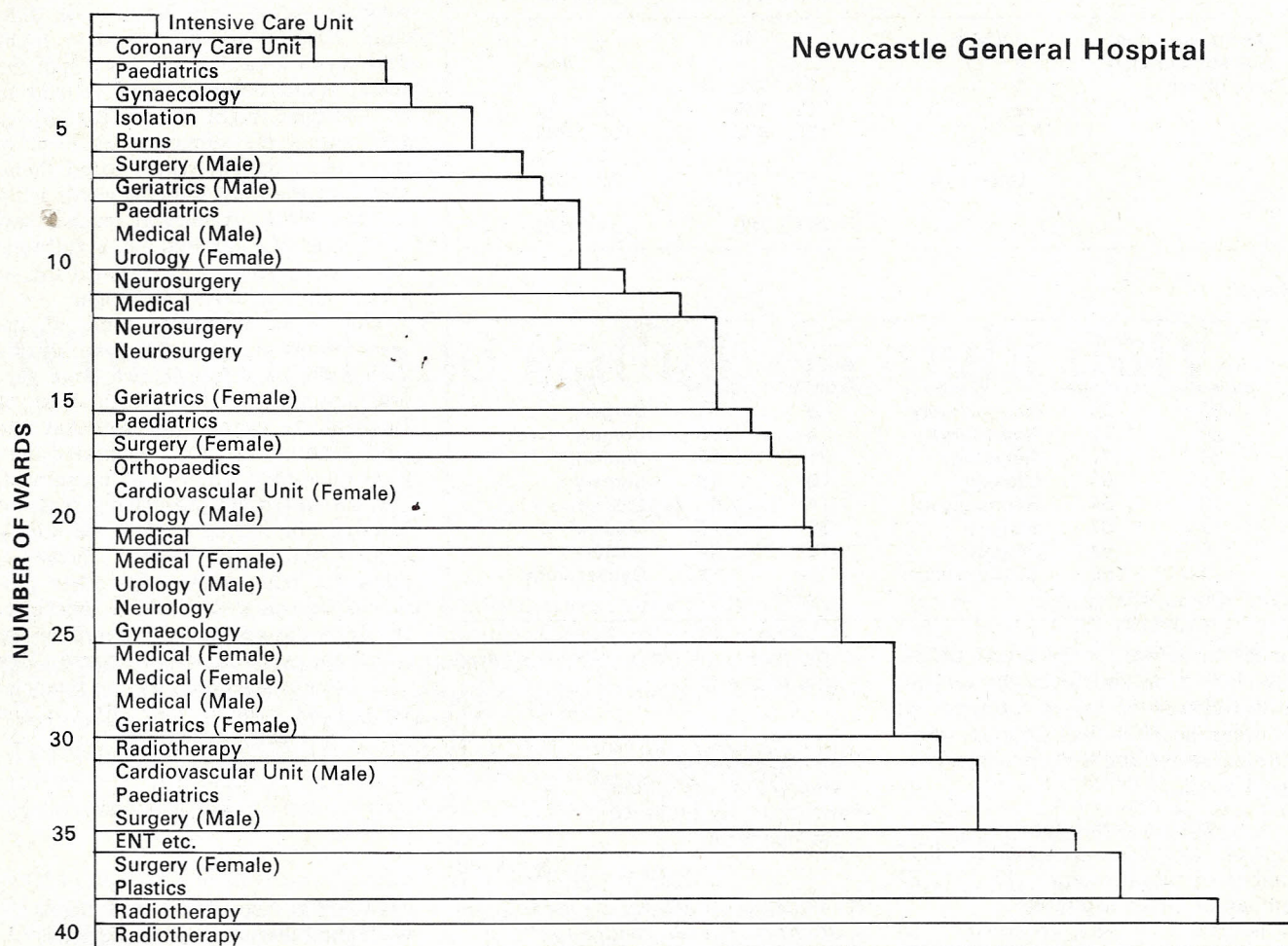
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# NUMBER OF PATIENTS PER NURSE

2 4 6 8 10 12

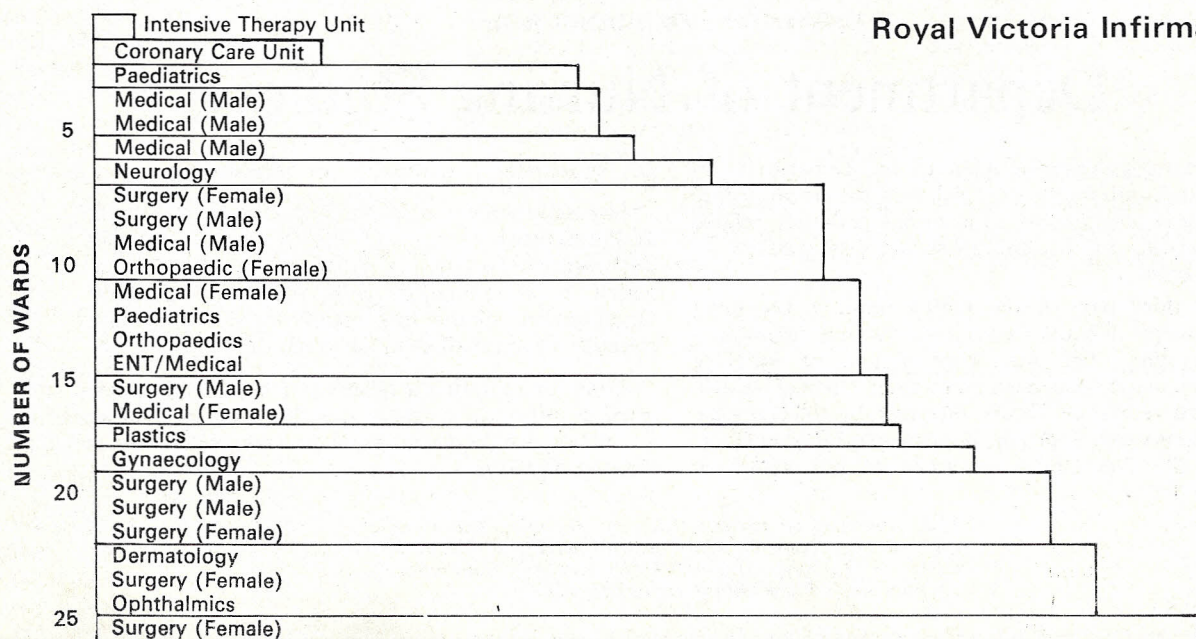
## Newcastle General Hospital



# NUMBER OF PATIENTS PER NURSE

2 4 6 8 10 12

## Royal Victoria Infirmary





**Table 3a.** Blood pressures (at night)

<i>No. of times procedure carried out</i>	<i>time interval</i>	<i>NGH No. pts. x procedure</i>		<i>RVI No. pts. x procedure</i>	
(excluding inten- sive and coronary care units)	$\frac{1}{4}$ hourly	1	44	—	—
	$\frac{1}{2}$ "	—	—	7	154
	1 "	12	132	7	77
	2 "	22	132	14	84
	4 "	125	375	103	309
	6 "	—	—	1	2
	Once only	97	97	49	49
		257	780	181	675

**Table 3b.**

<i>No. of patients</i>	<i>NGH No. readings</i>	<i>Ward</i>	<i>No. of patients</i>	<i>RVI No. readings</i>	<i>Ward</i>
20	90	Neurosurgery	9	84	Surgery
20	76	Neurosurgery	6	73	Surgery
24	72	Neurology	21	63	Medical
6	66	Urology	10	49	Surgery
18	64	Neurosurgery	14	42	Medical
19	57	Surgery	30	40	Medical
9	54	Surgery	12	40	Surgery
3	50	Cardiovascular	9	39	Gynaecology

number on a ward were found at the NGH with nine and seven on surgical wards followed by six on urology. At the other hospital two surgical wards recorded seven and six on a gynaecological ward.

**(d) Naso-gastric aspirations:**

	<i>NGH</i>	<i>RVI</i>
Number of tubes <i>in situ</i>	12	27
Number of times aspirated		
1 hourly	not recorded	55
2 hourly	not recorded	100

**(e) Number of immediate-postoperative patients:**

	<i>NGH</i>	<i>RVI</i>
Patients awaiting emergency operations	36	55
Patients to be prepared for operation	4	1
	23	Nil
	(Weekend)	

**(f) Patients requiring a nurse's full attention outside special unit:**

18 (NGH), 4 (RVI)

## Conclusion

All nurses present on the wards were spoken to by the writer and nearly all seemed to enjoy night duty. Only two students stated that because of difficulty sleeping during the day, night duty was a great burden. Most like the added responsibility. There seemed to be sufficient night sisters present to give nurses the support they need in times of crisis. All sisters based themselves on the most difficult wards within their block. A clinical teacher was present in one hospital on a full-time basis. Many students mentioned this as a real support during the night.

This paper illustrates some of the work night nurses undertake during their night duty rota in two large general hospitals in the North East of England. It cannot be said that the work load on any ward illustrated here is heavier than others not mentioned. The actual patient dependency was not assessed nor indeed could it be during such a short visit. It may, however, allow for comparison with other provincial teaching hospitals in the country or stimulate a new approach to assess the work of a night nurse. This may become necessary as the financial restrictions begin to take effect in the National Health Service.

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