

HOSPITAL ACTIVITY ANALYSIS

Nine Pilot Sites

Summary Report – August 2005

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Section 1: Background and Summary

1.1 BACKGROUND

Aim of the Hospital Activity Analysis

This report sets out a summary of an analysis of activity or tasks undertaken by non-consultant hospital doctors (NCHDs) in nine hospital sites over a period of two weeks in March-April 2005.

Separate reports have been prepared describing activity in each of the nine sites during the monitoring period. Each hospital has also been provided with an electronic database containing the background information gathered during the Activity Analysis. This database is designed to facilitate further analysis of the information at local level.

The structures and methodology used during the data-gathering process - or 'Hospital Activity Analysis' - were agreed at national level by the Irish Medical Organisation (IMO) and health employers under the auspices of the Labour Relations Commission (LRC).

The Hospital Activity Analysis was undertaken to ensure that detailed information on current clinical activity and NCHD involvement in the management of that clinical activity was available to Local European Working Time Directive (EWTD) Implementation Groups (LIGs) when developing EWTD Implementation Plans.

Similar projects in the UK

In the United Kingdom, a similar project - the Hospital at Night project - allowed health employers, the British Medical Association and the training bodies to redefine how medical cover is provided in hospitals during the out-of-hours period, including evenings, weekends and holidays. The project identified the core competencies required to staff the hospital during the out-of-hours period and used these to develop EWTD compliant staffing models which were clinically sound and acceptable to patients, the public and staff.

EWTD compliance in Ireland

The Hospital Activity Analysis is the latest in a series of steps towards EWTD compliance in Ireland. In January 2001, the IMO and health service employers

agreed a joint report on the working hours of NCHDs¹. In 2002, the Minister for Health and Children established a National Task Force on Medical Staffing to, amongst other functions; devise an implementation plan to reduce NCHD hours to meet EWTD requirements. The Task Force included representation from medical unions, training bodies and health employers. Its report, which set out a series of detailed measures to reduce NCHD hours, was published in October 2003². In December 2003, the IMO and health employers began discussions on EWTD implementation under the auspices of the LRC. In July 2004, the EWTD as it applied to doctors in training was transcribed into Irish law and guidance issued by the Department of Health and Children.

Establishment of EWTD Implementation Groups

In October 2004, the IMO and health employers agreed to establish Local EWTD Implementation Groups in nine hospitals. EWTD LIGs are tasked with assessing how changes to work practices, patterns, roles and resource allocation will help achieve EWTD compliance in each hospital.

Following a seminar in January 2005 on the implementation of the Hospital At Night project in the UK, agreement was reached on the structure and format of the Hospital Activity Analysis in February 2005 and on the establishment of a National EWTD Implementation Group in April 2005. The National Implementation Group will help LIGs to identify the measures needed to achieve EWTD compliance while maintaining safe patient care and high quality NCHD training.

Nine sites chosen for analysis

The Hospital Activity Analysis was undertaken in nine hospital sites – Letterkenny General Hospital; Midland Regional Hospital, Mullingar; St Loman's Psychiatric Hospital, Mullingar; Mid-Western Regional Hospital, Limerick; Galway Regional Hospitals; Cork University Hospital; St James' Hospital; Our Lady's Hospital for Sick Children, Crumlin; and the National Maternity Hospital, Holles Street - in March-April 2005. The first step in this process was to collect data on why NCHDs were called and how they responded to these calls. The data-gathering process used a 'diary form' agreed at national level by the Irish Medical Organisation and health employers under the auspices of the LRC. Information was collected – by agreement between the IMO and health employers - by Medical Students. In a limited number of instances in some hospitals, information was recorded by NCHDs themselves. All information was coded using a Coding Form agreed by all parties and analysed by

¹ Report of the National Joint Steering Group on the working hours of non-consultant hospital doctors.

² Report of the National Task Force on Medical Staffing (Hanly Report).

an agreed third party – York Health Economics Consortium (YHEC). Diary and Coding Forms are attached at Appendix A.

1.2 LOCAL IMPLEMENTATION

Local EWTD Implementation Group

In each case, the Hospital Activity Analysis took place under the auspices of the Local EWTD Implementation Group. The Groups include representation from a range of health service staff, including consultants, NCHDs, Nurses, health and social care professionals, hospital management and health service unions.

Methodology

The Hospital Activity Analysis took place over a number of weeks in each of the hospitals during March-April 2005. Prior to the analysis, hospitals were issued with guidance regarding data collection and the specialty and sub-specialties chosen for analysis.

Hospitals were encouraged to monitor, if possible, General Medicine; General Surgery; Anaesthetics; Emergency Medicine; Trauma and Orthopaedic surgery; ENT surgery; Cardiothoracic surgery; Plastic surgery; Ophthalmology; Obstetrics & Gynaecology; Paediatrics and Psychiatry. Individual hospitals then identified further specialities / sub-specialities for monitoring at local level. It was intended that data collection should, if possible, involve each grade of NCHD within the specialty or sub-specialty chosen.

It was suggested that during the week, hospitals could track the on-call team in any one of the specialties listed above over a 24-period and depending on on-call practice, the following 48 hours. Hospitals may then have chosen to track a team in one of the specialties or sub-specialties listed above which had not been on-call for some time for the same 24 hour and if possible, a 72 hour period. At the weekend, it was suggested that hospitals track the on-call team in general medicine, general surgery and other specialties as required - from 5pm on a Friday until 9am on the following Monday - a total of 64 hours. It was, however, left to individual hospitals to prioritise time periods for analysis.

Data on NCHD activity was gathered – depending on the hospital involved - by Medical Students from the Royal College of Surgeons in Ireland, University College Dublin, Trinity College Dublin, University College Cork or University College Galway. Medical Students accompanied individual NCHDs during time on duty and

completed the Diary Form (attached at Appendix A) in line with the activity undertaken by NCHDs. In some instances, forms were completed by the NCHDs themselves. During the analysis, Medical Manpower Managers met with students on each site on a daily basis to ensure consistent data recording and timely collection of completed diary sheets.

Coding

Once collated centrally, individual tasks (one task per row on each Diary Sheet) were coded using the Coding Form attached at Appendix A. Coding was performed by the Medical Manpower Manager and other administrative staff.

The codes are designed to reduce the information detailing the task to a series of three digit numbers. This in turn allows analysis of the type of activity undertaken.

Once coded, checked and rechecked for consistency and clarity, copies of the Diary Forms from each hospital were forwarded via Mr John Bulfin, National EWTD Coordinator to York Health Economics Consortium for data entry, analysis and reporting.

Analysis of data

York Health Economics Consortium (YHEC) undertook the data entry and data analysis. The data were entered into a database set up in Microsoft Access 2000. To minimise errors during data entry, the database was designed using drop down menus to select the items recorded on the forms. Data verification was undertaken on a 10% sample of forms. The data were analysed in a statistical analysis package, SPSS, and the tables included in this report were produced for each hospital within the monitoring exercise.

Table 1.1 summarises the number of recorded tasks by specialty monitored at each of the hospitals and Table 1.2 lists the total number of recorded tasks at each hospital. There were a total of 49,069 tasks monitored over the 9 sites, this ranged from 86 tasks at St Loman's to 10,599 at Mid-Western Regional Hospital.

Table 1.1: Monitored tasks by specialty and hospital

	Cork University Hospital	Galway Regional Hospitals	Letterkenny	Limerick	Midland Regional	National Maternity	Our Lady's Hospital	St James'	St Loman's	Total
A&E	180	830	314	373			34			1731
Anaesthetics	226	307	52	613	168	352	915	858		3491
Cardiology	154	173	14	160			131	379		1011
Cardiothoracic	99						209	968		1276
Colo-rectal Surgery				116						116
Dermatology							101			101
Endocrinology	129	229					73	28		459
ENT		114		316			93	271		794
Gastroenterology	23	238		89			46	283		679
General & Vascular Surgery	184									184
General Medicine	1977	232	890	2512	3059		2981	1027		12678
General Surgery	832	475	484	2138	1603		2118	1186		8836
Geriatrics	157	88		619				554		1418
GUIDE*								58		58
Gynaecology				137				111		248
Haematology	25	193	10	336			146	197		907
HaemOnc								235		235
Infectious Diseases	75									75
Maxillofacial Surgery								391		391
Medical Oncology	18			108						126
Neonatology				295						295
Nephrology	46	76		59						181
Neurology	64						90	36		190
Neurosurgery	237									237
Obstetrics				398						398
Obstetrics and Gynaecology	44	184	155		448	1508				2339
Oncology							20	50		70
Ophthalmology	25	88		330						443

	Cork University Hospital	Galway Regional Hospitals	Letterkenny	Limerick	Midland Regional	National Maternity	Our Lady's Hospital	St James'	St Loman's	Total
Oral Surgery				224						224
Paediatrics	136	211	205	645	596	1386	163			3342
Pharmacology & Therapeutics								15		15
Plastic Surgery	237	267					182	126		812
Psychiatry			61	30					86	177
Radiology	33									33
Radiotherapy	60									60
Renal	83	64					103			250
Respiratory	122	177	59				323	147		828
Respiratory Medicine				148						148
Rheumatology	148	127					100	203		578
Surgery				50						50
Trauma and Orthopaedics	549	253	90	852			299	322		2365
Urology	101	137		51				251		540
Vascular		137						242		379
Total	5964	4326	2334	10599	5874	3246	8127	7938	86	48768

Notes: Missing data 301 cases. *The term 'GUIDE' refers to Genito-Urinary Medicine and Infectious Diseases.

Table 1.2: Monitored tasks by hospital

Hospital	Monitored tasks
Cork University Hospital	5964
Galway Regional Hospitals	4625
Letterkenny General Hospital	2396
Mid-Western Regional Hospital, Limerick	10599
Midland Regional Hospital, Mullingar	5874
National Maternity Hospital, Holles Street	3246
Our Lady's Hospital for Sick Children, Crumlin	8254
St James' Hospital	8025
St Loman's Psychiatric Hospital, Mullingar	86
Total	49069

1.3 DATA QUALITY

In total 49,069 tasks were recorded over the monitoring period. Table 1.3 shows the percentage of data completed for the key fields in the dataset.

Table 1.3: Data quality

Should be 100% complete	% Recorded
Grade	99.7%
Date	98.9%
Specialty	99.4%
Time of Call	99.0%
Task Code Entered	93.7%
Desirable to be complete	
Who called	45.2%
Urgency	70.4%
Where Needed	75.9%
Level of skill needed	76.4%
Patient's condition	40.8%
Stable/worsening	35.1%

The Diary Forms used during the Hospital Activity Analysis contain 11 fields, allowing those completing the sheet to record up to 11 different types of information. This information is broken down into two broad categories - 'Should be 100% complete' and 'Desirable to be complete'.

In the first category - 'should be 100% complete', 'task code entered' had the most missing data, however, this was still 94% complete. In the second category - 'Desirable to be complete', there was a large variation. Only 35% of forms indicated whether the patient was 'stable/worsening'. In contrast, 76% recorded both location and the level of skill required. A lower number of records for 'Who called' may reflect the fact that not every task is requested by another person.

Table 1.4 summarises the time and tasks monitored during the audit period by hospital. Overall staff spent 55% of their shift undertaking recorded tasks. This varied from 23% at St Loman's to 93% at the National Maternity Hospital.

Table 1.4: Summary data

	Total tasks	Total Minutes – duty period	Total Minutes - Tasks	Percentage of tasks*
Cork University Hospital	5964	114,908	60,953	53.0%
Galway Regional Hospitals	4548	118,131	59,233	50.1%
Letterkenny	2314	61,775	26,859	43.5%
Limerick	10599	276,369	139,826	50.6%
Midland Regional	5874	74,775	45,330	60.6%
National Maternity	3178	56,160	52,063	92.7%
Our Lady's Hospital	8127	133,997	66,917	49.9%
St James'	7938	158,041	98,022	62.0%
St Loman's	86	14,640	3,408	23.3%
Total	48628	1,008,796	552611	54.8%

Notes: The tasks are the number of recorded tasks during the monitoring period. The periods on duty and shifts monitored varied in duration between and within specialties and grades.

* The % is the percentage of monitored time spent on recorded tasks.

1.4 SUMMARY

This section summarises the main points arising from the descriptive analysis. It should be read in conjunction with Section 1.2, 'Local Implementation' above. During the analysis, activity in individual specialties was monitored over periods of different time and duration. Monitoring also varied between grade and specialty. The extent to which information was recorded varied between location, specialty and grade. In this context, reference should be made to the detailed reports for each hospital when interpreting the points below:

- 49,069 tasks were recorded over the total monitoring period;
- 55% of monitored time was spent on recorded tasks;
- In total, 50% of recorded tasks were required during time on duty; 26% were needed within the hour; 24% were required at once and less than 1% were left over from the previous shift;
- The majority of recorded tasks (80%) were considered appropriate for the grade of staff undertaking the task. 10% of recorded tasks were regarded as requiring less skill than the person undertaking the task and 6% were classed as requiring more skills. 5% of all recorded tasks were non-medical;
- During the audit period, 48% of recorded tasks were classified as patient care, 35% as interactions with others and 17% as 'finding stuff and paperwork'.

Section 2: Data Analysis

The following section provides a brief summary of the more detailed descriptive analysis of the data collected during the monitoring period. The tables present either a summary for each hospital or a summary of the data in total.

2.1 PATTERN OF RECORDED ACTIVITY

Table 2.1 shows the percentage of recorded activity by timeframe and specialty across all hospitals.

Table 2.1: Specialty by time

	Midnight - 8am	8am - 4pm	4pm to midnight	Total
A&E	21%	32%	48%	100%
Anaesthetics	16%	36%	47%	100%
Cardiology	10%	49%	41%	100%
Cardiothoracic	11%	47%	42%	100%
Colo-rectal Surgery	0%	69%	31%	100%
Dermatology	0%	76%	24%	100%
Endocrinology	6%	54%	40%	100%
ENT	2%	64%	34%	100%
Gastroenterology	5%	60%	35%	100%
General & Vascular Surgery	3%	61%	35%	100%
General Medicine	20%	34%	46%	100%
General Surgery	13%	43%	44%	100%
Geriatrics	15%	43%	42%	100%
GUIDE	0%	72%	28%	100%
Gynaecology	2%	73%	25%	100%
Haematology	8%	66%	26%	100%
HaemOnc	14%	32%	53%	100%
Infectious Diseases	1%	91%	8%	100%
Maxillofacial Surgery	1%	57%	42%	100%
Medical Oncology	0%	87%	13%	100%
Neonatology	9%	48%	43%	100%
Nephrology	6%	52%	42%	100%
Neurology	0%	68%	32%	100%
Neurosurgery	7%	38%	55%	100%
Obstetrics	20%	38%	42%	100%
Obstetrics and Gynaecology	15%	39%	45%	100%
Oncology	0%	73%	27%	100%
Ophthalmology	6%	44%	50%	100%
Oral Surgery	3%	67%	30%	100%
Paediatrics	15%	42%	42%	100%

	Midnight - 8am	8am - 4pm	4pm to midnight	Total
Pharmacology & Therapeutics	0%	67%	33%	100%
Plastic Surgery	11%	52%	37%	100%
Psychiatry	7%	41%	51%	100%
Radiology	0%	76%	24%	100%
Radiotherapy	0%	93%	7%	100%
Renal	7%	77%	16%	100%
Respiratory	2%	72%	26%	100%
Respiratory Medicine	0%	86%	14%	100%
Rheumatology	6%	69%	25%	100%
Surgery	4%	15%	80%	100%
Trauma and Orthopaedics	6%	53%	41%	100%
Urology	7%	53%	40%	100%
Vascular	11%	58%	31%	100%
Total	14%	44%	42%	100%

Most of the recorded work was undertaken between 8am and 4pm, 44% of tasks were during this time period. This was followed by 42% in the period 4pm to midnight and 14% in the period midnight to 8am. Variations by specialty are evident, for example 93% of tasks in Radiotherapy were between 8am and 4pm. Such variations reflect differences in both the organisation and presentation of workload by specialty and variations in the monitoring periods.

The following charts, Figures 2.1 to 2.6, show the pattern of recorded activity throughout the 24 hour period for A&E, Anaesthetics, General Surgery, General Medicine, Obstetrics & Gynaecology and Paediatrics. Again, the patterns reflect both differences in the organisation workload by specialty and variations in the monitoring period.

Figure 2.1: Pattern of recorded activity, A&E

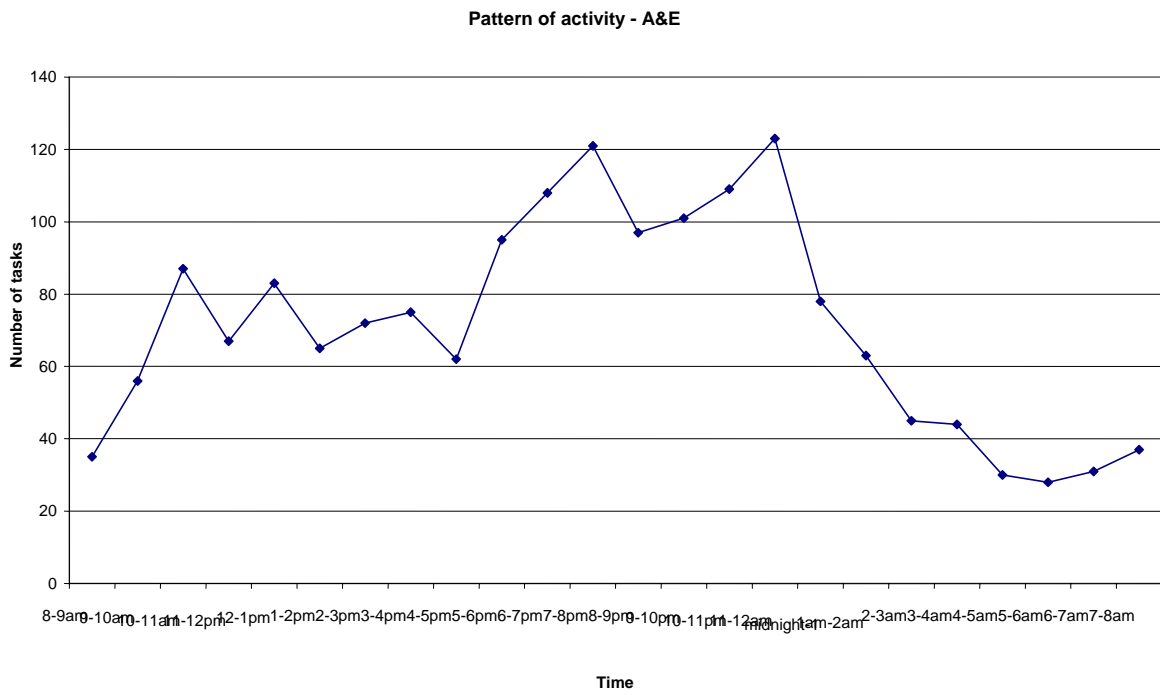


Figure 2.2: Pattern of recorded activity, Anaesthetics

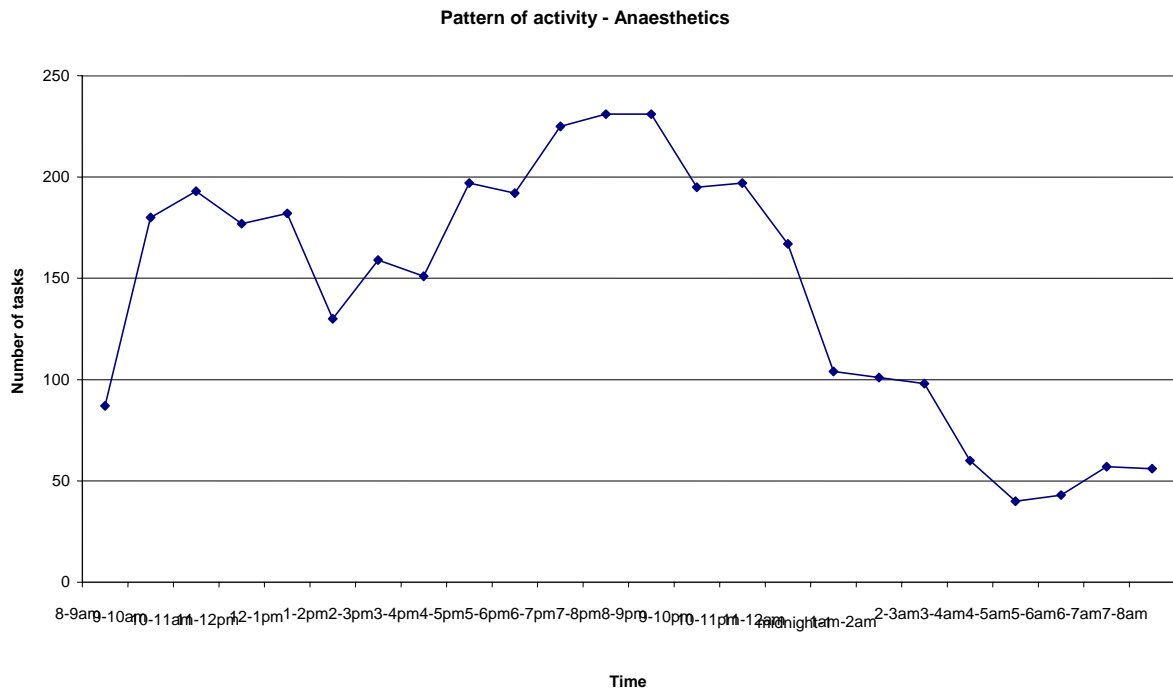


Figure 2.3: Pattern of recorded activity, General Surgery

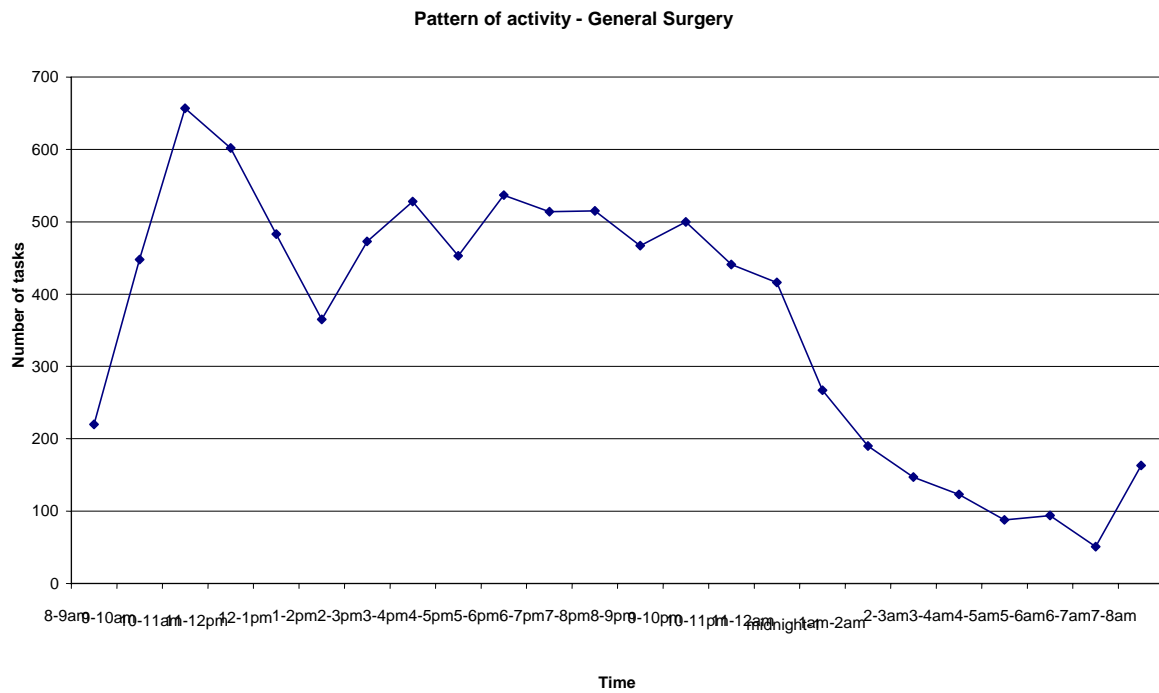


Figure 2.4: Pattern of recorded activity, General Medicine

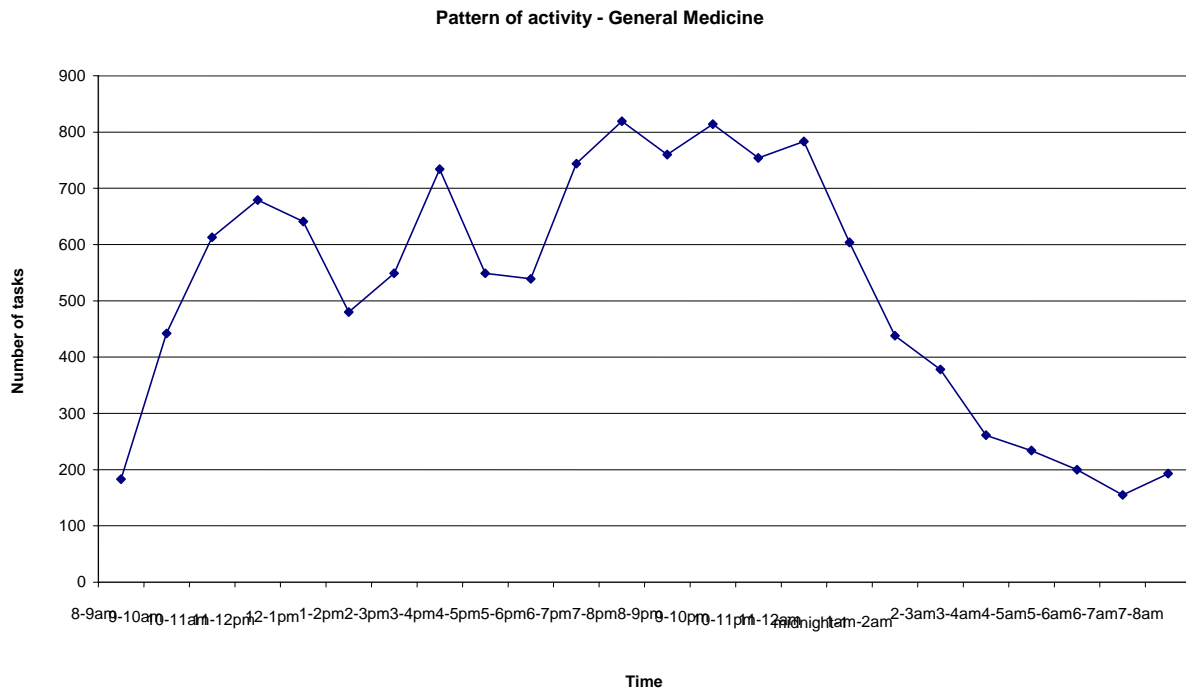


Figure 2.5: Pattern of recorded activity, Obstetrics and Gynaecology

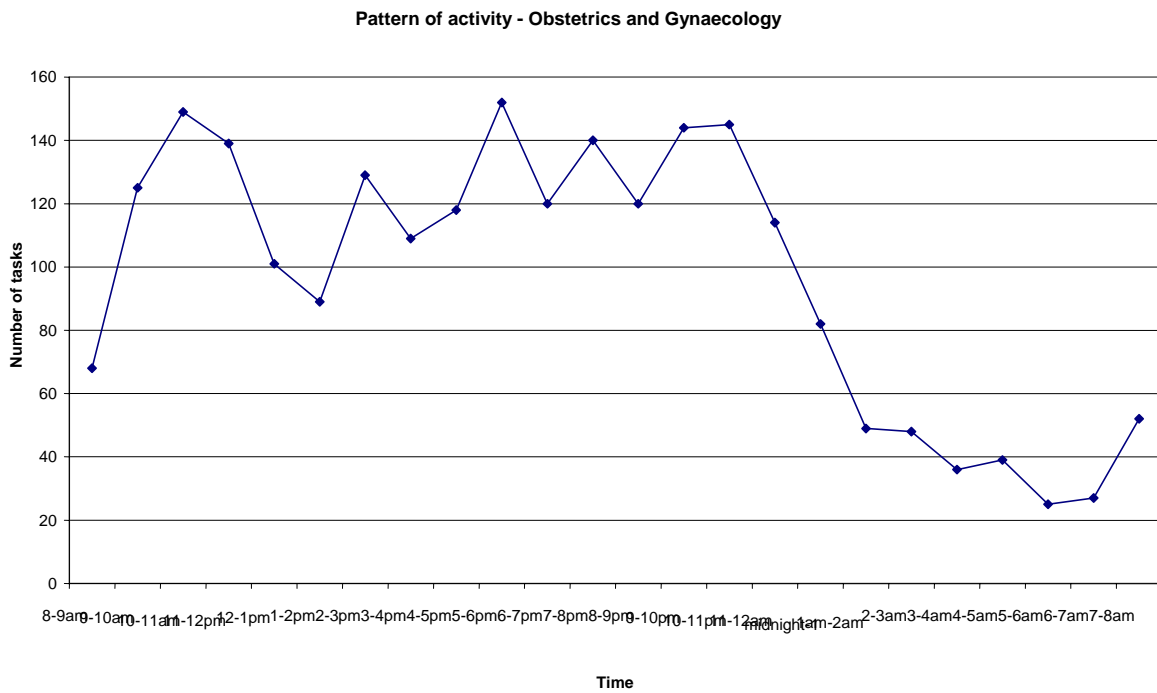
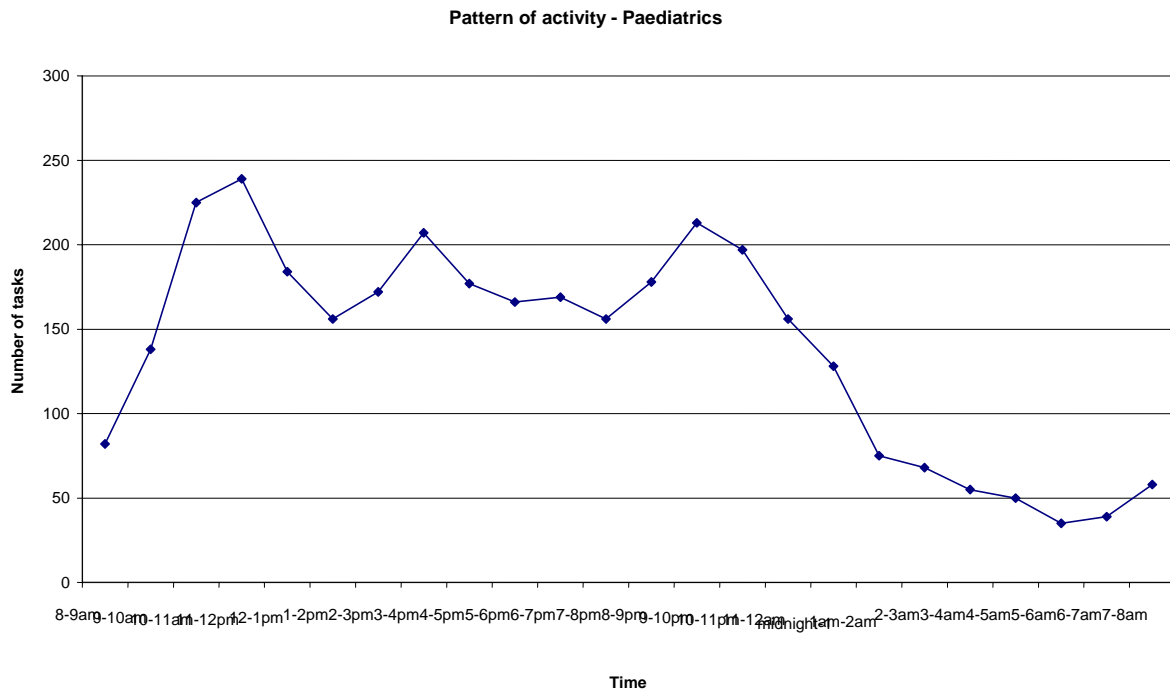


Figure 2.6: Pattern of recorded activity, Paediatrics



2.2 TOTAL TASKS BY URGENCY

Figure 2.7 shows the urgency of recorded task by time of day for all activity over the total monitoring period. The graph shows the percentage of tasks within the time band that were either required during time on duty; within the hour; needed at once or were left from previous shift. The overall pattern of urgency is shown in Table 2.2. The majority of tasks were required during time on duty (49.5%). Tasks needed at once or within the hour had similar proportions, 24% and 25% respectively. Only 1% of tasks were left from the previous shift. Variations in this pattern by timeframe are evident. For example between 8am – 4pm, 22% of tasks were needed at once, this percentage increased to 30% between midnight – 8am. Between midnight – 8am 43% of tasks were required during time on duty, however, this figure increased to 56% between 8am – 4pm.

Figure 2.7: Urgency by time of day: all specialties

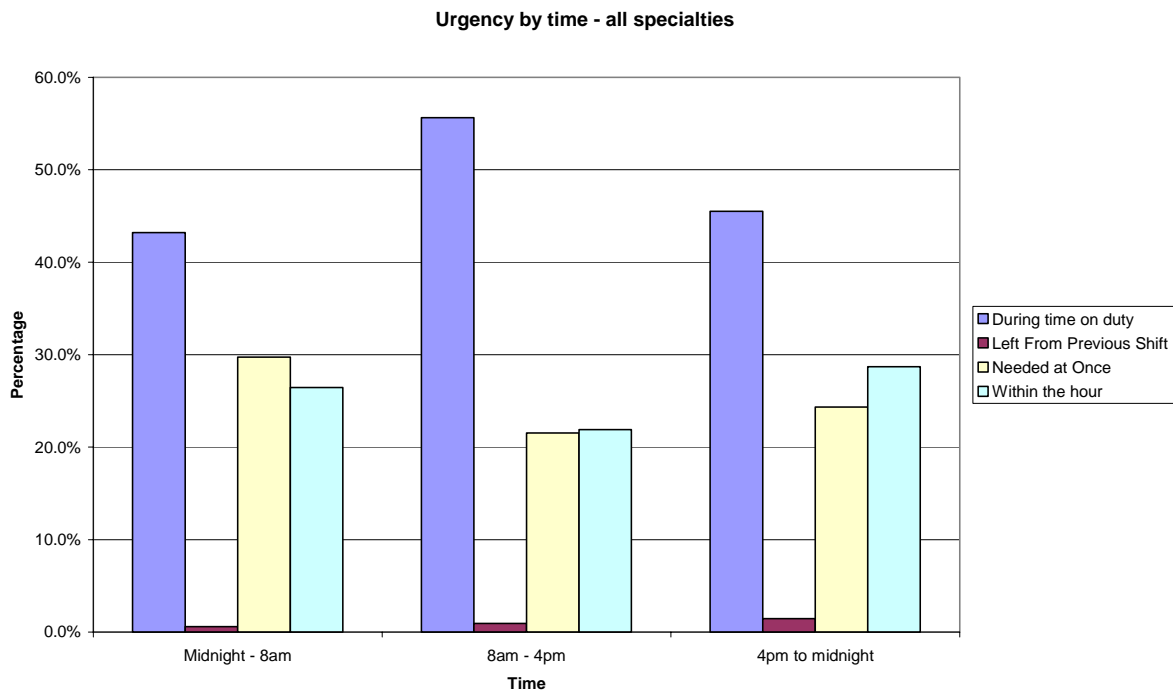


Table 2.2: Urgency by time

	During time on duty	Left From Previous Shift	Needed at Once	Within the hour	Total
Midnight - 8am	43.2%	0.6%	29.7%	26.4%	100.0%
8am - 4pm	55.6%	0.9%	21.6%	21.9%	100.0%
4pm to midnight	45.5%	1.5%	24.3%	28.7%	100.0%
Total	49.5%	1.1%	23.9%	25.5%	100.0%

2.3 LOCATION OF TASK

Table 2.3 provides a summary of where recorded tasks occurred by speciality. The pattern is spread across a number of locations. However, the majority of recorded tasks were located in the ward/day ward (44%) or A&E/Admissions (22%).

Table 2.3: Location by specialty

	A&E/Admissions	NICU/SCBU/Labour ward	Other	Outpatients	Phone only	Theatre/ITU/CCU/HDU	Ward/Day Ward	Total
A&E	94%	0%	0%	0%	2%	1%	3%	100%
Anaesthetics	2%	13%	6%	0%	6%	60%	13%	100%
Cardiology	12%	0%	8%	3%	7%	18%	51%	100%
Cardiothoracic	2%	1%	7%	2%	12%	31%	46%	100%
Colo-rectal Surgery	6%	0%	8%	6%	0%	12%	68%	100%
Dermatology	17%	0%	15%	2%	30%	0%	37%	100%
Endocrinology	3%	1%	3%	0%	13%	0%	81%	100%
ENT	7%	0%	3%	1%	10%	14%	64%	100%
Gastroenterology	3%	0%	10%	2%	10%	5%	70%	100%
General & Vascular Surgery	9%	0%	6%	0%	6%	1%	77%	100%
General Medicine	34%	1%	4%	2%	11%	3%	46%	100%
General Surgery	26%	2%	5%	2%	11%	7%	48%	100%
Geriatrics	16%	0%	5%	3%	8%	4%	64%	100%
GUIDE	0%	0%	30%	0%	6%	2%	62%	100%
Gynaecology	8%	0%	2%	9%	10%	2%	70%	100%
Haematology	5%	0%	5%	9%	8%	1%	72%	100%
HaemOnc	7%	0%	0%	0%	15%	0%	77%	100%
Infectious Diseases	0%	0%	13%	2%	34%	0%	51%	100%
Maxillofacial Surgery	3%	0%	2%	22%	10%	4%	60%	100%
Medical Oncology	5%	0%	4%	22%	2%	0%	66%	100%
Neonatology	0%	57%	11%	0%	7%	5%	20%	100%
Nephrology	3%	0%	17%	0%	10%	3%	67%	100%
Neurology	5%	0%	13%	5%	29%	0%	48%	100%
Neurosurgery	9%	0%	13%	7%	14%	4%	53%	100%
Obstetrics	26%	16%	4%	0%	7%	7%	40%	100%
Obstetrics and Gynaecology	10%	19%	9%	2%	15%	5%	40%	100%
Oncology	0%	0%	6%	0%	10%	0%	84%	100%
Ophthalmology	16%	2%	0%	14%	8%	11%	48%	100%
Oral Surgery	14%	0%	2%	33%	3%	7%	41%	100%

	A&E/Admissions	NICU/SCBU/Labour ward	Other	Outpatients	Phone only	Theatre/ITU/CCU/HDU	Ward/Day Ward	Total
Paediatrics	21%	30%	5%	1%	10%	2%	31%	100%
Pharmacology & Therapeutics	47%	0%	20%	0%	0%	0%	33%	100%
Plastic Surgery	18%	0%	4%	5%	17%	15%	41%	100%
Psychiatry	13%	0%	13%	4%	23%	0%	47%	100%
Radiology	0%	0%	91%	9%	0%	0%	0%	100%
Radiotherapy	0%	0%	29%	49%	10%	0%	12%	100%
Renal	2%	0%	10%	13%	26%	0%	49%	100%
Respiratory	6%	0%	11%	11%	11%	3%	58%	100%
Respiratory Medicine	0%	0%	7%	0%	6%	4%	83%	100%
Rheumatology	13%	0%	5%	7%	16%	0%	58%	100%
Surgery	3%	0%	9%	0%	9%	18%	61%	100%
Trauma and Orthopaedics	14%	0%	5%	28%	8%	7%	38%	100%
Urology	8%	0%	4%	12%	19%	4%	53%	100%
Vascular	2%	0%	1%	10%	6%	6%	75%	100%
Total	22%	5%	5%	4%	10%	9%	44%	100%

2.4 PATIENT CONDITION

Table 2.4 shows patient condition by hospital and Table 2.5 shows whether the patient was stable or worsening. These tables should be interpreted with caution as this information was only recorded for 41% and 35% of tasks respectively. This under recording is likely to be a combination of the data not being recorded when the doctor was not the first doctor to see a patient, and actual missing information.

Table 2.4 shows that the majority of patients were considered to be physiologically unwell (61%). This varied across hospitals, ranging from 29% at National Maternity to 72% at Letterkenny. Table 2.5 indicates that overall, the majority of the patients were classed as being in the same condition (77%).

Table 2.4: Patient condition by specialty

	Life or limb threatening	Physiologically normal	Physiologically unwell	Total
Cork University Hospital	2.9%	40.4%	56.7%	100.0%
Galway Regional Hospitals	5.9%	33.4%	60.6%	100.0%
Letterkenny General Hospital	3.0 %	25.3%	71.7%	100.0%
Mid-Western Regional Hospital, Limerick	4.0%	28.3%	67.7%	100.0%
Midland Regional Hospital, Mullingar	3.6%	29.2%	67.2%	100.0%
National Maternity Hospital, Holles Street	2.9%	68.3%	28.7%	100.0%
Our Lady's Hospital for Sick Children, Crumlin	6.3%	22.5%	71.2%	100.0%
St James' Hospital	4.7%	40.5%	54.8%	100.0%
St Loman's Psychiatric Hospital, Mullingar	0.0%	33.3%	66.7%	100.0%
Total	4.6%	34.8%	60.6%	100.0%

Table 2.5: Patient stable/worsening by specialty

	Better	Same	Worse	Total
Cork University Hospital	11.9%	76.0%	12.1%	100.0%
Galway Regional Hospitals	6.7%	77.4%	15.9%	100.0%
Letterkenny General Hospital	10.3%	61.4%	28.3%	100.0%
Mid-Western Regional Hospital, Limerick	9.6%	76.2%	14.2%	100.0%
Midland Regional Hospital, Mullingar	10.3%	79.2%	10.5%	100.0%
National Maternity Hospital, Holles Street	2.4%	89.8%	7.8%	100.0%
Our Lady's Hospital for Sick Children, Crumlin	18.0%	66.9%	15.1%	100.0%
St James' Hospital	7.8%	80.5%	11.7%	100.0%
St Loman's Psychiatric Hospital, Mullingar	19.0%	59.5%	21.4%	100.0%
Total	9.4%	77.1%	13.5%	100.0%

2.5 LEVEL OF SKILL

Figure 2.8 shows the level of skill required by grade of staff. This graph clearly shows that the majority of recorded tasks in this category were classified as 'appropriate for me'. Around 5% were considered to be non-medical tasks, only 6% were considered to require more skill than the person undertaking the task and 10% were considered to require less skill than the person undertaking the task. Table 2.6 summarises this information.

Figure 2.8: Level of skill by grade

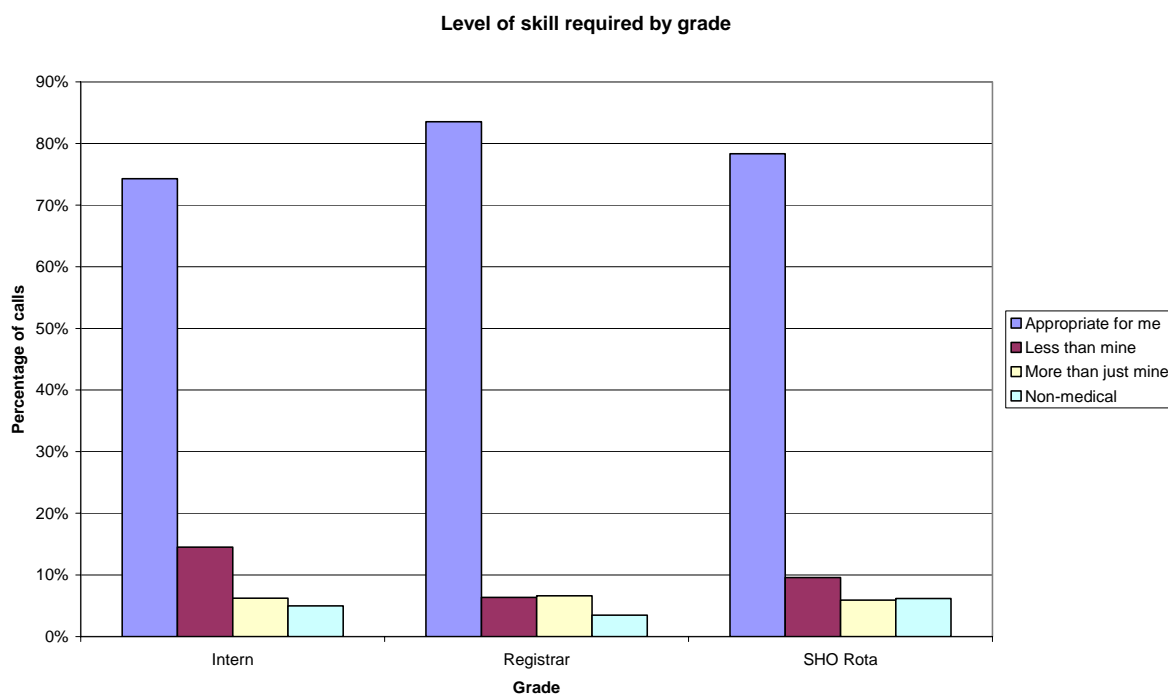


Table 2.6: Level of skill by time and speciality

	Appropriate for me	Less than mine	More than just mine	Non-medical	Total
Midnight - 8am	82.7%	8.8%	4.9%	3.6%	100.0%
8am - 4pm	77.3%	9.2%	7.3%	6.3%	100.0%
4pm - midnight	80.2%	10.1%	5.3%	4.4%	100.0%
Total	79.3%	9.5%	6.1%	5.1%	100.0%

2.6 TYPE OF ACTIVITY

Table 2.7 shows the overall type of activity by speciality. This is displayed graphically in Figure 2.9. The type of recorded task for all specialties is shown in Figure 2.10.

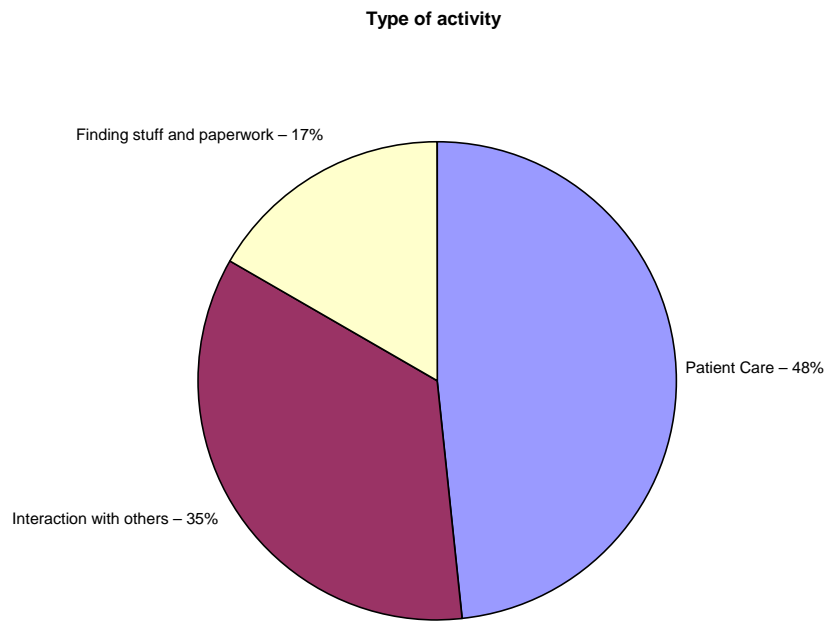
Table 2.7: Type of activity by speciality

	Patient Care	Interaction with others	Finding stuff and paperwork	Total
A&E	62%	22%	16%	100%
Anaesthetics	59%	31%	9%	100%
Cardiology	49%	32%	19%	100%
Cardiothoracic	41%	38%	20%	100%
Colo-rectal Surgery	40%	44%	16%	100%
Dermatology	39%	42%	19%	100%
Endocrinology	45%	29%	26%	100%
ENT	51%	33%	15%	100%
Gastroenterology	46%	32%	22%	100%
General & Vascular Surgery	31%	34%	34%	100%
General Medicine	45%	36%	18%	100%
General Surgery	45%	39%	17%	100%
Geriatrics	52%	30%	18%	100%
GUIDE	31%	40%	29%	100%
Gynaecology	54%	30%	16%	100%
Haematology	47%	32%	21%	100%
HaemOnc	44%	33%	23%	100%
Infectious Diseases	35%	40%	25%	100%
Maxillofacial Surgery	46%	39%	15%	100%
Medical Oncology	49%	29%	22%	100%
Neonatology	57%	29%	14%	100%
Nephrology	45%	31%	25%	100%
Neurology	27%	51%	22%	100%
Neurosurgery	46%	31%	23%	100%
Obstetrics	60%	28%	11%	100%
Obstetrics and Gynaecology	46%	41%	13%	100%
Oncology	22%	39%	39%	100%
Ophthalmology	65%	26%	9%	100%
Oral Surgery	61%	27%	11%	100%
Paediatrics	50%	36%	15%	100%
Pharmacology & Therapeutics	40%	40%	20%	100%

	Patient Care	Interaction with others	Finding stuff and paperwork	Total
Plastic Surgery	50%	36%	14%	100%
Psychiatry	39%	47%	14%	100%
Radiology	55%	30%	15%	100%
Radiotherapy	62%	24%	14%	100%
Renal	36%	47%	17%	100%
Respiratory	42%	40%	18%	100%
Respiratory Medicine	40%	43%	16%	100%
Rheumatology	47%	31%	22%	100%
Surgery	34%	28%	38%	100%
Trauma and Orthopaedics	57%	28%	15%	100%
Urology	43%	41%	16%	100%
Vascular	69%	21%	11%	100%
Total	48%	35%	17%	100%

During the audit period, 48% of recorded tasks were classified as patient care, 35% as interactions with others and 17% as finding stuff and paperwork. This pattern varied by specialty, 69% of recorded activity in Vascular was concerned with patient care, the comparable figure for General Medicine was 45%. Similarly, the percentages of recorded tasks involving interaction with others varied from 21% in Vascular to 51% in Neurology. A larger range in the percentage of recorded tasks involving finding stuff and paperwork was evident from 9% in Anaesthetics and Ophthalmology to 39% in Oncology.

Figure 2.9: Type of activity



Note: Percentages by specialty detailed in Table 2.7.

Figure 2.10: Type of recorded task

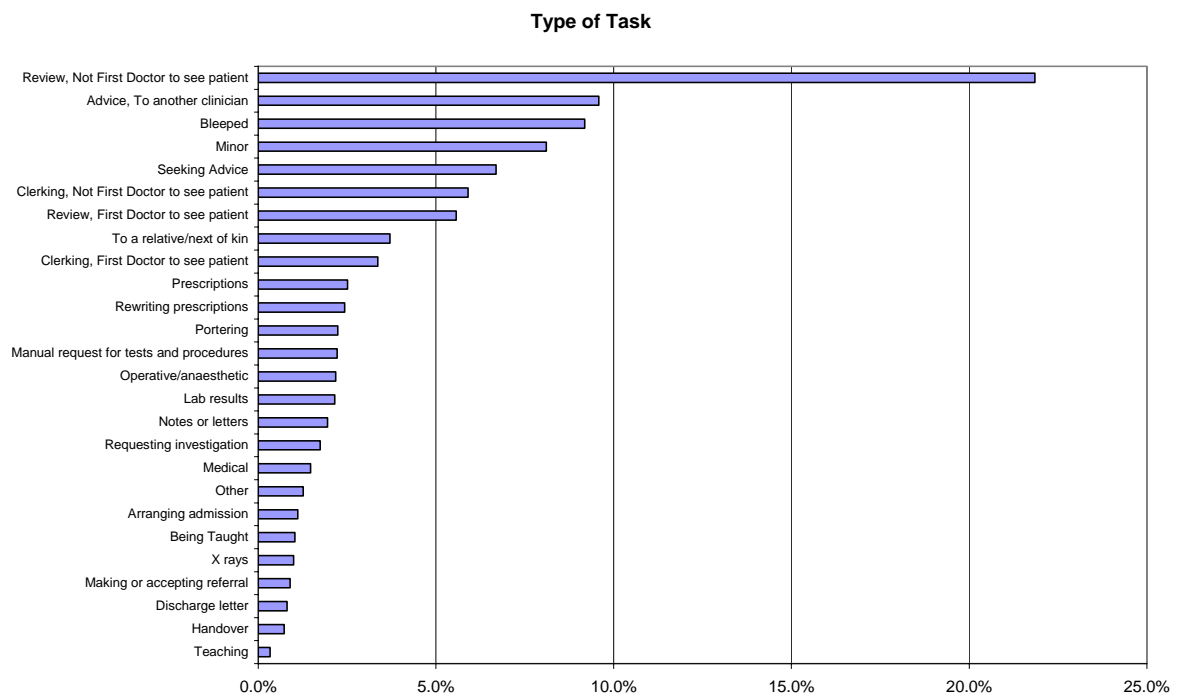


Figure 2.10 shows the largest number of tasks was for review, not first doctor, this accounted for 22% of activity (10,045 tasks). The second highest was 'advice to another clinician' which accounted for 9.6%. Overall tasks classified as review were the most frequent tasks for all grades of staff. The lowest activity was in teaching and handover, the percentages being 0.3% and 0.7% respectively. The overall type of recorded activity by grade and speciality is shown in Table 2.8.

Table 2.8: Task by grade of staff – all specialties

			Intern	Registrar	SHO Rota	Total	
Patient Care	Clerking	First Doctor to see patient	1.1%	2.5%	4.7%	3.4%	
		Not First Doctor to see patient	4.8%	5.9%	6.4%	5.9%	
		Total	5.8%	8.4%	11.1%	9.3%	
	Review	First Doctor to see patient	1.1%	5.9%	7.0%	5.6%	
		Not First Doctor to see patient	21.7%	25.5%	19.6%	21.9%	
		Total	22.8%	31.5%	26.6%	27.4%	
	Practical Procedure	Operative/anaesthetic	0.1%	3.5%	2.1%	2.2%	
		Medical	0.6%	2.3%	1.3%	1.5%	
		Minor	15.1%	4.4%	7.8%	8.1%	
		Total	15.8%	10.2%	11.2%	11.7%	
Interactions with others	Making or accepting referral		0.6%	0.8%	1.1%	0.9%	
	Arranging admission		0.9%	0.9%	1.3%	1.1%	
	Requesting investigation		2.6%	1.3%	1.7%	1.7%	
	Teaching	Being Taught		0.6%	1.1%	1.1%	1.0%
		Teaching		0.2%	0.5%	0.3%	0.3%
		Total		0.8%	1.6%	1.5%	1.4%
	Advice	Seeking Advice		7.7%	6.1%	6.7%	6.7%
		To another clinician		5.2%	14.4%	8.2%	9.6%
To a relative/next of kin			1.9%	4.4%	4.0%	3.7%	
Total			14.8%	24.8%	18.8%	20.0%	
Handover		0.2%	0.9%	0.8%	0.7%		
Bleped		9.5%	9.7%	8.8%	9.2%		
Finding stuff and paperwork	Searching or chasing up	X rays	1.5%	0.7%	1.0%	1.0%	
		Lab results	3.1%	1.3%	2.3%	2.1%	
		Notes or letters	2.3%	1.2%	2.3%	1.9%	
		Portering	2.9%	1.4%	2.5%	2.2%	
		Total		9.8%	4.7%	8.1%	7.3%

			Intern	Registrar	SHO Rota	Total
	Writing stuff	Prescriptions	5.0%	1.2%	2.4%	2.5%
		Rewriting prescriptions	5.9%	1.1%	2.0%	2.4%
		Discharge letter	1.4%	0.4%	0.9%	0.8%
		Manual request for tests and procedures	2.8%	1.4%	2.5%	2.2%
		Other	1.3%	1.0%	1.4%	1.3%
		Total	16.4%	5.1%	9.2%	9.2%

APPENDIX A

**Hospital Activity Data Collection – Q&A Guidelines
February 2005**

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1. WHAT IS THE PURPOSE OF THE EXERCISE?

The data gathered during this project will help determine how we begin to reorganise services over the 24-hour day to maintain high quality patient care while achieving compliance with the European Working Time Directive (EWTD). This means that all parties must be able to trust in the integrity of the data and ensure that any changes agreed are based on a solid foundation.

In the UK, a similar project - the Hospital at Night project - allowed health employers, the British Medical Association and the training bodies to redefine how medical cover is provided in hospitals during the out-of-hours period, including evenings, weekends and holidays. The project identified the core competencies required to staff the hospital during the out-of-hours period and used these to develop EWTD compliant staffing models which were clinically sound and acceptable to patients, the public and staff.

2. HOW IS DATA COLLECTED?

The first step in this process is to collect data on the activity that drives NCHD workloads on the basis of both on-call and scheduled duty periods. It will identify tasks undertaken, calls to NCHDs and how they respond to these calls.

The data-gathering process will use a 'diary form' agreed at national level by the Irish Medical Organisation and health employers under the auspices of the Labour Relations Commission. Data collection will be undertaken over two weeks (14 days) in nine sites - Cork University Hospital, University College Hospital Galway, Letterkenny General Hospital, Midland Regional Hospital at Mullingar, St. Loman's Psychiatric Hospital, Mullingar, the National Maternity Hospital, Holles Street, St. James' Hospital, the Mid-Western Regional Hospital Limerick, and Our Lady's Hospital for Sick Children, Crumlin.

Data gathering involves four steps:

- 1.** Completion of diary forms by NCHDs themselves³.
- 2.** Completion of supplementary diary forms by medical students or others accompanying NCHDs, for agreed periods.
- 3.** Coding the completed forms.
- 4.** Analysing the coded forms and inputting data into a database.

Completed diary forms will be collated and coded centrally on-site once the process is complete. They will then be sent to the UK for independent analysis and reporting by at the University of York - who have done similar work for hospitals in the UK.

³ Each site will need to make arrangements locally that ensure comprehensive distribution and completion of forms.

At regular intervals, it will also be necessary to access charts, theatre and OPD records, data on admission patterns and other information sources to support and add more detail to the information gathered through diary forms.

3. WHICH GRADES OF DOCTORS ARE INVOLVED?

Data collection should involve each grade of NCHD within the specialty or sub-specialty chosen.

4. WHAT SPECIALTIES AND SUB-SPECIALTIES ARE INVOLVED?

- General Medicine;
- General Surgery;
- Anaesthetics;
- Emergency Medicine;
- Trauma and orthopaedic surgery;
- ENT surgery;
- Cardiothoracic surgery;
- Plastic surgery;
- Ophthalmology;
- Obstetrics and Gynaecology;
- Paediatric;
- Psychiatric;
- Any other speciality / sub-speciality agreed locally.

5. WHEN SHOULD DATA BE COLLECTED?

Data should be collected, for example:

During the week:

- Track the on-call team in one of the specialties listed above a 24-period and, depending on on-call practice, the following 48 hours.
- Track a team in one of specialties or sub-specialties listed above which has not been on-call recently for the same 24 hour and, if possible, a 72 hour period.

At the weekend:

Track the on-call team in general medicine, general surgery and other specialties as required - from 5pm on a Friday until 9am on the following Monday – total 64 hours.

6. WHEN SHOULD DATA BE CODED?

- Diary forms should be sampled and coded at regular intervals to ensure that the data is robust and is being gathered in a consistent way.
- ALL forms (including those sampled previously) should be collated and coded together (same time, same location) when the data collection process is completed.
- Once coded, forms will be collated nationally and be sent to the University of York for independent data entry and analysis.

7. DRAFT GUIDELINES FOR MEDICAL STUDENTS

You have been asked to assist with a hospital activity analysis as part of a joint health employer / Irish Medical Organisation project. The purpose of the work is to record information on the type of work being done, with additional details such as the urgency of the work.

General guidelines when working

1. Please wear your badge at all times.
2. Please do not undertake any clinical work during the period for which you are employed – this includes seeing patients or carrying out any practical procedures.
3. Please be aware that you are working in clinical areas, and you should act in a professional and courteous manner at all times.
4. If you have any problems or queries during the working period, please call _____ at the following number _____.
5. If you become unwell during the working period, please call _____ at the following number _____.

Guidelines to completing the diary form

Please review the list of examples of descriptions of tasks attached. This is obviously not exhaustive but is a guide to the level of detail and type of things that you may write in the boxes. Also attached is an example of a completed diary form. Please look at this example.

1. Any duty carried out should be completed on the diary form. Please also complete rest periods.
2. Please use the 24 hour clock.
3. You can write several task descriptions in one box, e.g. reviewed patient, took blood, requested blood tests.
4. You can leave boxes empty for tasks where the fields are not relevant.
5. If you are unsure of what the doctor is doing, then ask them.

Examples of descriptions of tasks

- Clerking a patient (first doctor to see patient);
- Clerking a patient (not the first doctor to see the patient);
- Reviewing a patient (first doctor to review patient);
- Reviewing a patient (not the first doctor to review patient);
- In theatre, operating, intubation, resus, trauma call;
- Carrying out medical procedure – central line, pacing, chest drain, lumbar puncture, cardiac arrest, suturing...;
- Minor procedures - venepuncture (taking blood), cannulation, injections, ECG recording, blood gases, urinary catheter insertion, nasogastric tube...;
- Making or accepting a referral;
- Arranging admission – ordering a bed, speaking to nursing staff;
- Requesting investigations;
- Requesting or giving advice/ help;
- Handover;
- Bleeping someone / answering bleep;
- Searching or chasing X-rays;
- Searching or chasing lab results;
- Searching or chasing patient notes or letters;
- Collecting drugs or equipment;
- Writing a prescription;
- Rewriting a prescription chart;
- Writing a discharge letter.

8. HOW TO CODE DATA

The Hospital Activity Analysis Coding form is used to determine the meaning of the data recorded in the 'Please detail the task undertaken' column on the diary form.

The codes are designed to reduce the information recorded there to a series of three digit numbers. This in turn allows an analysis of the type of activity undertaken and whether there may be alternative ways of performing it. There are 22 possible codes. A task may generate more than one code.

There are three steps to the activity codes. One code must be selected from each of the three columns:

Step One – (Digit 1 column)

The first column is divided into three parts - (1) 'Patient Care', (2) 'Interactions with other staff' and (3) 'Finding stuff and paperwork' - and deals with the type of task, i.e. is it about patients, staff or administration?

Step Two – (Digit 2 Column)

The second column deals with the detail of what was done, i.e. if patient care was selected at Stage 1, then there are only three boxes to choose from and you should select either (1) 'clerking', (2) 'review of patient' or (3) 'practical procedure'.

Step Three – (Digit 3)

The third column narrows the options down further, so if 'Practical Procedure' was ticked in Stage 2 then you have three options to choose from, i.e. (1) 'Operative/Anaesthetic', (2) 'Medical' or (3) 'Minor'. Some scenario examples are included to guide coders.

Once a category is selected for each of the three columns, an activity code is generated, e.g. 133 (Patient care, Practical Procedure and Minor).

Note: It is important to understand the difference between what should be coded as a 'minor' procedure, and what should be coded as a 'medical' procedure. This may vary between specialties – a simple procedure on an adult patient may need more specialised skills on a younger child.

8.1 Guidance Issued to Hospital Activity Analysis Sites on Coding - 27th April 2005

General principles

Please note that as a general principle, the code assigned to the activity should relate to the main element of the activity - the main element of items with codes beginning with 1, should be patient care; the main element of items with codes beginning with 2, should be interactions with others; and the main element of items with codes beginning with 3, should be the process of finding stuff or paperwork.

Multiple codes?

While multiple codes can be assigned to a single episode of care or activity, please use no more than 3.

First or second doctor?

1. First / second doctor to see patient - Code based on whether patient is in a new location (ward as opposed to A&E) or whether the patient has transferred to the care of a different specialty (i.e. patient transferred to orthopaedics from general surgery).

Interactions with others

2. Doctor talking to a GP about a patient - either 251 or 252.
3. Doctor rings ward and instructs nurse re patient treatment - Code 252.

4. Doctor talking to a patient - no specific code but 253 can be used.
5. Doctor obtaining written consent from a patient - two codes can describe this activity and they can be used together: 253 and 313.
6. Doctor arranges with colleague for administration of epidural to a patient - Code 210, 230 or 324 depending on circumstance.
7. A doctor from another specialty is asked to examine or review a patient / perform a consult - Code 251. This is not a referral, although a referral may follow a consult. Codes 230 and 324 could be used depending on what kind of investigation is needed or if paperwork is required. The doctor who carries out the review or consult can then be coded as 122.

Birth

8. Births / deliveries - It has been suggested that while birth is not a medical event, it often - in the hospital setting - requires NCHD attendance and involvement. In this context, code 132 can be used.

Clerking and writing

9. Doctors writing, typing or dictating patient notes, files or records - Code 111 or Code 112, as appropriate. Only in those circumstances where the activity does NOT involve an element of patient care should the Code 325 be used. In certain circumstances, where different types of information are being recorded, BOTH 111 or 112 AND 325 could be used.
10. Doctor writes a referral letter - Code 210.
11. Preparation of Theatre / Operating Lists - Code 324. This is a broader category than 230 which refers directly to Pathology and Radiology.
12. Doctor preparing for conference presentation / clinical meeting / journal club - then partakes - Code as 241 or 242 depending on the context the doctor delivers the presentation in.
13. Doctor is writing work related material - see (9) above.

Review

14. Doctor reviews patient's chart but DOES NOT record information or write anything - Code 121 or 122 as appropriate

Bleeps

15. Doctor receives telephone call or bleep requiring action - 270. While the Coding Form only provides space for a bleep requiring no action, it has been agreed that bleeps requiring action may also be assigned Code 270. In this context, it is particularly important to record the time of the bleep. Please note that this area will be addressed as part of the development of bleep policy guidelines in the coming months.

Activities not covered by this coding process

16. Doctor is waiting to see or treat patient - not coded.
17. Meals / Breaks - not coded.
18. Sleep / rest time - not coded.

NCHD Activity Analysis Diary Form

Please return this form to:

At:

By:

Name or Bleep No:

Hospital:

Grade:

Speciality:

Date:

Duty start time:

Duty End Time:

Time of Call, Bleep, phone call or task completed (24 hr)	Patient Chart No.	Who called you? <i>Please tick</i>					Who else attended?	Urgency <i>Please tick</i>				Level of skill needed <i>Please tick</i>			Patient's condition <i>Please tick</i>			Stable / Worsening <i>Please circle</i>	Where needed? <i>Please circle</i>	Please detail the task undertaken <i>Do not code without completing this column</i>	Code <i>Based on details in previous column</i>	Duration of task (mins)	
		Own team	Other team	Student Nurse	Nurse	External telephone call		Others	Left from previous shift	Needed at once	Within the hour	During time on duty	More than just mine	Appropriate for me	Less than mine	Non-medical	Life or limb threatening						Physiologically unwell

Signature of Medical Student / person accompanying NCHD:

Hospital Activity Analysis - Coding Form

How to code activity - for use during research of NCHD activity

Digit 1	Digit 2	Digit 3							
1	Patient Care	1	Clerking	1	First doctor to see patient				
				2	Not the first doctor to see patient				
	2	Review	1	First doctor to see patient					
					2	Not the first doctor to see patient			
	3	Practical Procedure	1	Operative / Anaesthetic		i.e in theatre, ITU, Resus, intubation / RSI			
					2	Medical		e.g. Central line and arterial line insertion, Pacing, Joint aspiration, Chest drain, pleural tap, lumbar puncture, Cardiac Arrest (not Anaes), Sigmoidoscopy (not theatre) Suturing (outside theatres)	
							3	Minor procedure	
	2	Interactions with others	1	Making or accepting a referral	0				
					2	Arranging admission	0		e.g. ordering a bed, speaking to nursing staff
0								e.g. talking to lab, radiology etc	
4					Teaching	1	Being taught		
						2	Teaching		
5					Advice	1	Seeking advice		e.g. from another clinician
								2	Giving advice to another clinician
	3	Giving advice to a relative / next of kin							
6	Handover	0							
7	Bleped	0			i.e bleep requiring no action at that time				
3	Finding Stuff and paperwork	1	Searching or chasing up	1	X-rays - finding or delivering				
				2	Lab results				
				3	Notes or letters				
				4	Portering		e.g. collecting drugs or pumps		
	2	Writing stuff	1	Prescription					
					2	Renewing prescription chart			
							3	Discharge letter	
					4	Manual request for tests & procedures			
					5	Other			