

EAST KENT HOSPITALS UNIVERSITY NHS FOUNDATION TRUST

REPORT TO:	BOARD OF DIRECTORS – 24 FEBRUARY 2012
SUBJECT:	WARD ESTABLISHMENT REVIEW 2011/12
REPORT FROM:	CHIEF NURSE AND DIRECTOR OF QUALITY & OPERATIONS AND ASSOCIATE CHIEF NURSE
PURPOSE:	TO INFORM THE TRUST BOARD OF THE OUTCOME OF THE 2011/12 WARD ESTABLISHMENT REVIEW
CONTEXT / REVIEW HISTORY Following the review of ward staffing which was reported to CMB in April 2009 it was agreed that regular ward staffing reviews be undertaken to ensure they are fit for purpose. The Care Quality Commission recommends that staffing levels are reviewed every 2 to 3 years.	
SUMMARY: This report outlines the 2011/12 review which has included all 41 adult wards across the Trust.	
IMPACT ON TRUST'S STRATEGIC OBJECTIVES: <ol style="list-style-type: none">1. To deliver safe care to patients.2. To deliver effective care with excellent patient outcomes.3. To provide an excellent patient experience.4. To guarantee staff are able, empowered and responsible for the delivery of effective care.5. To deliver efficient services that generates funding to both enable and sustain future investment in local services.	
FINANCIAL IMPLICATIONS: Adequate staffing levels will impact on the achievement of the 2012/13 CQUINs and other performance standards valued at 2.5% of actual outturn, or around £10.8m.	
LEGAL IMPLICATIONS: The Trust is required to meet CQC and NHSLA standards and is held to account for delivering harm free care, which has a direct effect on patient safety and experience. Inadequate staffing would present risks to the provision of safe and effective care and would increase the likelihood of legal claims.	
PROFESSIONAL ADVICE TAKEN ON ANY NOVEL OR CONTENTIOUS ISSUES None although Royal College of Nursing (RCN) guidance is incorporated within the review.	
BOARD ACTION REQUIRED: To consider the recommendations and either support, reject or modify	
CONSEQUENCES OF NOT TAKING ACTION: Insufficient numbers of staff, inappropriate skill mix and ineffective use of the existing workforce will impact upon the ability of the organisation to achieve the CQC and NHSLA standards and the quality outcomes within the operating framework and CQUINs from 2012/13.	

EAST KENT HOSPITALS UNIVERSITY NHS FOUNDATION TRUST**BOARD OF DIRECTORS - 24 FEBRUARY 2012****WARD ESTABLISHMENT REVIEW 2011/12**

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EAST KENT HOSPITALS UNIVERSITY NHS FOUNDATION TRUST**BOARD OF DIRECTORS - 24 FEBRUARY 2012****WARD ESTABLISHMENT REVIEW 2011/12****EXECUTIVE SUMMARY****1. INTRODUCTION**

This report outlines the 2011/12 review which has included all 41 adult wards across the Trust including Medicine, Stroke, Rehabilitation, Coronary Care, CDUs, Surgery, Head & Neck, Trauma & Orthopaedics (T+O), Renal, Vascular, Urology, Oncology and Gynaecology.

The purpose of this paper is to:

- Present comparisons with national and local benchmarks
- Present the findings from the review
- Provide a current picture of turnover, sickness and vacancies
- Present recommendations

2. FINDINGS

All 41 wards in the specialties involved were reviewed for staffing levels and skill-mix (ratio of Registered Nurses to Healthcare Assistants/support staff). The review found that staffing levels are average with no major variance from the mean for whole time equivalent (WTE) per available bed; cost per available bed day; or cost per WTE but grade mix is in the lower quartile when compared with 17 other acute trusts in England and Wales (Audit Commission Ward Staffing benchmarking review 2011/12).

Previous staffing reviews undertaken in 2007/08 and 2008/09 resulted in some investment which is reflected in the Audit Commission review findings. The investment of £2.1m into ward establishments was used to fund 67 additional band 5 nurses (2008) and £323k for 38 associate practitioner trainees (2011). The trust also invested £1.2m into an E-Rostering system in 2010 which will be implemented across all wards by September 2012.

2.1 Nurse per patient ratios and skill-mix

Previous investment is reflected in higher nurse per bed ratios and higher skill-mix since 2008/09 in most wards but there has been a small reduction of skill-mix in surgery and T+O. This has been influenced by the difficulty in attracting experienced registered nurses into these specialties and the conversion of some vacant registered nurse posts to support worker posts to ensure availability of workforce to meet service demands. However, most T+O wards have a rota of dedicated therapy support which contributes to the work of the team and these wards were early implementers of the associate practitioner role which contributes to the skill-mix reduction.

2.2 Turnover, vacancy, sickness absence and maternity leave

NHS I-view data shows that turnover in 2011 for registered nurses and midwives (7.52%) and healthcare assistants (12.6%) is lower than the average large trust in the UK indicating relative stability in the nursing workforce.

Percentage vacancies in December 2011, across the 41 wards, is similar to vacancy levels seen across all nursing and midwifery at around 7%.

Although the average sickness absence rates across nursing and midwifery are in the upper quartile and above the Kent comparator at 4.6% (Audit Commission 2011), ESR data suggest this percentage rises to 4.78% for registered nurses and 8.20% for healthcare assistants across the 41 wards reviewed. This indicates that there is significantly higher sickness rate amongst ward healthcare assistants that for those working in other areas which may be partly associated with the often higher physical and emotional workload associated with ward work. NHS I-view data suggests that sickness rates for our registered staff is lower than average but higher for our healthcare assistants.

The absence associated with maternity leave across the whole of the nursing and midwifery workforce in December 2011 is significant, at 62.69 WTE (2.04%), and there is no allowance for this in the funded establishments.

2.3 Temporary staff use

The use of temporary staff through NHS-Professionals and agency has fallen since March 2010 with the most dramatic reduction seen since April 2011 resulting from rigorous management controls. The expenditure on bank staff costs through NHS-P is around £100,000 less per month across quarter 3 2011/12 when compared to 2010/11. The Audit Commission (2011) review found our percentage costs for bank staff at 7.4% is below the median of 7.7%, and below the Kent comparator.

2.4 Structure of ward budgets

Most ward budgets (35 out of the 41 reviewed) also include a separate bank line which provides a resource in addition to the funded WTE to manage peaks and troughs in activity and replacement for sickness more flexibly. If this resource is converted into WTE it accounts for an additional 33.9 wte across 35 of the 41 wards, and it is this 'uplifted' total funded establishment which has been used as the baseline when making comparisons with the modelling methods within this review.

2.5 Modelling methods to evaluate ward establishments

Two methods of modelling ward establishments were used:

- Nurse per Occupied Bed Method (Hurst 2009), a reliable validated tool
- Association of United Kingdom University Hospitals (AUKUH) tool for measurement of patient dependency and nursing workload.

There is good correlation between the two approaches for CDU, stroke, rehabilitation, most medical wards and oncology but less consistency when applied to ward areas with a combination on in-patients, day case and outpatient activity (coronary care, urology, gynaecology, surgery, head and neck and T+O). Only 2 wards were more than 15% below the suggested Hurst calculated establishment demonstrating a significant improvement from the 2008/09 review.

2.6 E-Rostering

26 of the 41 wards reviewed are using the E-Rostering system. A variety of KPIs are available including the '% time worked' indicator, which reflects the % time nurses in post spend on clinical duties. The average achievement of % time clinically effective for December 2011 across the 26 wards was only 71.69% against the ideal 79%. Only 6 of the 26 wards achieved more than 75% demonstrating opportunity for improvement in the percentage time nurses in post spend on clinical duties by effective annual leave planning to ensure it is evenly spread, effective sickness management, and fair allocation of training days and management time to maximise its effect.

3. FUTURE STAFFING MODELS

The future challenges facing the organisation will be keeping pace with demand for services and commitment to provide high quality, safe and effective services that meet the expectations of patients and the public. Improvements in patient safety will largely be reliant on having the optimum numbers of skilled nursing staff matched to the needs of patients.

The Productive ward is having a profound effect on the way that wards teams organise their systems and processes of care; and have improved direct care time by around 10% by reducing non value-adding waste in processes. The continued challenges facing ward teams include the need to:

- Optimise care pathways and reduce length of stay in hospital
- Optimise patient safety and reduce any avoidable harm events
- Optimise patient experience including maintaining single sex accommodation; ensure patients feel part of their care decisions which includes information-giving; and improving patient reported outcomes of care.
- Maximising the effectiveness of the existing resource by achieving the optimum % clinically effective time in each roster.

Work needs to focus on the skills and competencies required to deliver clinical pathways in order to run services efficiently and make the best use of the staffing resource. Reduction in supply of newly qualified nurses will mean greater use of higher level support workers to support a skill-rich workforce. Historical skill mix assumptions will need to be challenged and work has already begun on determining the range of skills and competencies appropriate across the range of agenda for change bands from 1 to 8. NHS Employers (2010) highlights the options available to help meet the workforce challenges which include apprentices, healthcare support workers and associate practitioners to enhance patient care and reduce costs.

4. RECOMMENDATIONS

The recommendations are based on the detailed analysis from the review as outlined in the main body of the report.

Maximising the use of existing resources

1. Maximise the efficiency and effectiveness of rostering practices the % time worked (clinically effective) indicator will be incorporated into the balanced scorecard in addition to 'unused contracted hours' with an expectation of achievement of 75% to ensure maximum availability of staff to deliver patient care.

2. A dashboard on workforce indicators will be introduced for divisions, with clear aim statements to make rosters as efficient as possible including:
 - a. Target improvements for % time worked (clinically effective) within existing rosters (as above);
 - b. Target reduction for sickness;
 - c. Target reductions in bank and agency use
 - d. Target reduction in vacancies
 - e. Monitoring of turnover and time to recruit to vacancies
 - f. Target reductions in overall cost of rosters
3. Implement recruitment ahead of vacancies based on predicted turnover in order to minimise disruption to the availability of staff on wards. This should include over-recruitment during April and September when newly qualified nurses are applying for posts.
4. Manage high levels of sickness absence of ward based healthcare assistants.
5. Review the structure of ward budgets to determine the risks and benefits of the separate bank budget. Consideration should be given to recruiting to this component of the ward establishment to mitigate risks such as maternity leave which may impact across a number of wards.

Enabling clinical leaders

6. Implement the framework for person-centred, safe and effective care and associated competences and inclusion in job descriptions and appraisal process. This will be linked to a clinical leadership programme with particular relevance for ward managers.
7. Triangulate workforce indicators with quality outcomes as part of the implementation of the Safety Thermometer programme aligned to CQUINS for 2012/13.
8. Undertake twice yearly study of nursing workload, ensuring robust consistency checking, using the AUKUH acuity dependency tool on all wards to monitor against changes in activity and LOS.

Innovations in workforce modelling

9. Encourage the testing of innovative nurse staffing models to re-define the job family within ward staffing structures to optimise the delivery of safe, efficient and effective clinical pathways.
10. Develop the healthcare support worker career pathway. Explore expanding the development of generic support- worker roles in some ward areas to create a support role that combines nursing, physiotherapy and occupational therapy helpers' knowledge and skills.
11. Review and re-evaluate any changes in ward establishment configuration and agree a sign off process for making changes in budgeted establishments and skill-mix.

The board are asked to note that:

- g. The Specialist division is undertaking a review of the workforce requirements for the delivery of the emergency pathway for children.
- h. The Surgical division is participating in a benchmarking comparison review of theatre staffing across Kent and Medway.
- i. Ward staffing establishments will be reviewed every two years to ensure they are fit for purpose.

The Board of Directors are asked to discuss and approve the recommendations.

Julie Pearce, Chief Nurse and Director of Quality & Operations

Helen O'Keefe, Associate Chief Nurse

15th February 2011

EAST KENT HOSPITALS UNIVERSITY NHS FOUNDATION TRUST**BOARD OF DIRECTORS – 24 FEBRUARY 2012****WARD ESTABLISHMENT REVIEW 2011/12****1. INTRODUCTION**

Following the review of ward staffing which was reported to CMB in April 2009 it was agreed that regular ward staffing reviews be undertaken to ensure they are fit for purpose.

This report outlines the 2011/12 review which has included all 41 adult wards across the Trust including:

UC<C	Medicine Stroke Rehabilitation Coronary Care Clinical Decision Units
Surgical Services	Surgery Head & Neck Trauma & Orthopaedics
Specialist Services	Renal, Vascular & Urology Oncology Gynaecology

This paper provides information on the findings of the review and presents Recommendations to the Board of Directors.

Paediatric wards were not included as part of this review but this paper does include the audit commission findings for paediatric wards. Following the Trust re-organisation a review of Paediatric staffing is being undertaken, led by the specialist divisional director, to determine appropriate workforce requirements to deliver the emergency pathway for children.

A review of theatre staffing across Kent and Medway planned for 2012 will be led by Medway NHS Trust and will explore current profiles of theatre teams including theatre practitioners (theatre nurses and operating department practitioners) to enable local benchmarking.

2. BACKGROUND AND PREVIOUS INVESTMENT INTO WARD STAFFING

In every setting in every specialty nursing staff are the primary deliverers of healthcare. There are no national targets or guidelines for the numbers of nurses required to deliver care safely, to meet basic needs, prevent complications and avoid unnecessary deaths or to deliver care to a recognised level of quality (except in a few specialist areas such as intensive care). In December 2010 the Royal College of Nursing (RCN) produced two key publications; a paper titled 'Guidance on safe nurse staffing levels in the UK' and an RCN policy position titled 'Evidence-based nurse staffing levels'. These publications do not set targets for staffing per bed but they do set out the essential elements to planning and reviewing nurse staffing. The Care Quality Commission recommends that staffing levels are reviewed every 2 to 3 years.

2.1 2008/09 review

In 2008/09 a structured review of ward staffing levels and skill mix was undertaken across 49 wards including A&E, ECC,CDU, Medicine, HCOOP, Speciality medicine, Oncology, Child Health, Surgery, Head & Neck, T&O, Renal, Vascular, Urology and Gynaecology. The review was reported to CMB on 24 April 2009 and included recommendations to maximise the use of the existing resource and create a more flexible and competent workforce.

Two of the most significant recommendations implemented include:

- Improved use of the current resource by implementing electronic rostering. Implementation commenced in July 2010 and is due to complete in September 2012.
- Investment into the ward based Associate Practitioner (band 4) role to create a more flexible and competent workforce. 38 ward based trainees are currently undertaking a 2 year Foundation degree work-base learning programme with the first cohort completing in April 2013.

Following the 2008/09 review for paediatric staffing the Trust has supported secondment for an A+E adult nurse to train as a children's nurse to enhance the emergency care of children. Other recommendations included development of support worker roles to change skill-mix and the use of annualised hours.

2.2 2007/08 review

The earlier 2007/08 review was undertaken across 37 wards, reported to CMB in March 2008, and resulted in the investment of £2.1m into ward establishments which was used to fund 67 whole time equivalent (wte) additional band 5 posts across these wards. The £2.1m investment was drawn down into establishments as recruitment took place during summer 2008.

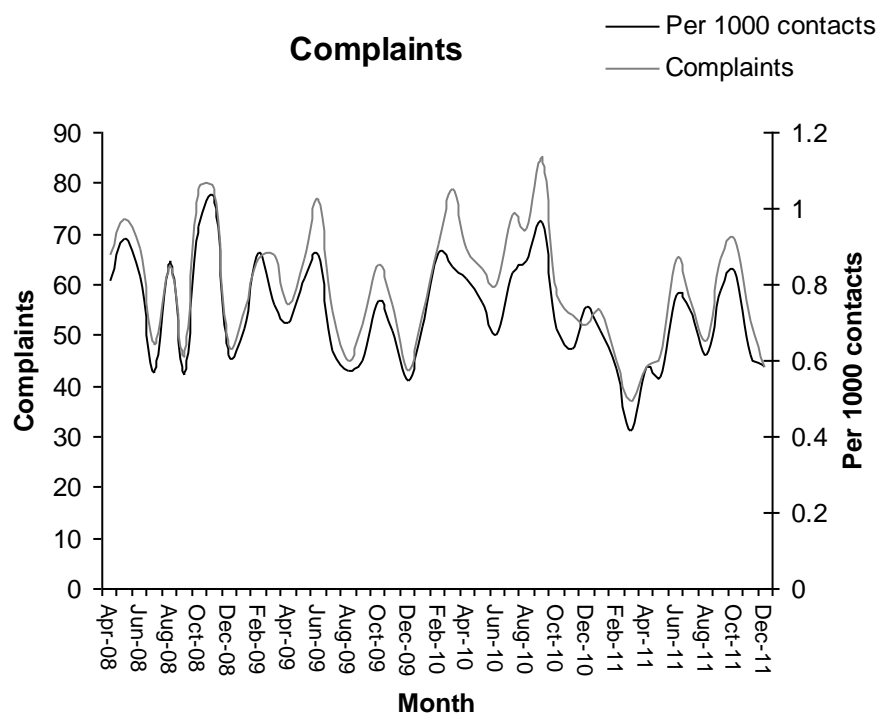
Table 1: Summary of previous investment into ward staffing

Year	Investment	Value	Expected outcome of investment
2008/09	67 wte additional band 5 posts	£2.1m	Improved quality, safety and patient experience
2010/11	E-Rostering	£1.2m over a 5 year period	Recurrent savings of £500k due to reduction in temporary staffing costs
2011/12	38 trainee associate practitioners	£323k over a 2 year period	Conversion of band 5 vacancies to band 4 will generate £692k savings in 2012/13 and recurrent savings of £184k from 2013/14

As part of any staffing review it is important to examine the impact of any previous investment into ward staffing. The investment to date is one of the elements contributing to the improvements seen in falling infection rates and complaints over the past four years. Appendix 1 shows the monthly incidence of formal complaints about care, all acquired pressure ulcers, falls with associated harm, MRSA bacteraemias, Clostridium Difficile and mortality from April 2008 to December 2011. There is less correlation between the investment and incidence of acquired pressure ulcers and falls with harm which have remained fairly static. This may be associated with the increased acuity and dependency but also the heightened focus on quality

and safety and improved reporting. However, the number of formal complaints have fallen since August 2010 in relation to activity.

Figure 1 : Monthly incidence of formal complaints about care from 2008 – 2011



Ward staffing levels and skill-mix has been regularly reviewed as part of the annual business planning cycle. The methodology used to support this work involved a combination of the 'staffing costers' and professional judgements on the number of staff required on each shift. The financial modelling tool 'staffing costers' (developed by EKHUFT) has enabled ward managers and matrons to define the numbers of nurses by band required to manage the workload on an average shift, taking into account shift times, and periods of shift overlap.

The financial model allows for assumptions to be used for calculating the nurse establishment as a wte which generates the number of wte nurses by pay band. The calculation assumes percentage allowances to take into account annual leave and study leave (18%), sickness (3%), with no allowance for maternity/paternity leave.

The model provides a systematic way of calculating staffing establishments but does not take account of patient acuity, dependency and associated nursing workload. The case mix and dependency will have changed as a result of the efficiency and productivity gains produced by managing increased activity through reduction in length of stay, improvements in managing the system, and increase in day case and ambulatory care.

The RCN (2010) has identified the following as key indicators that need to be routinely monitored by providers, commissioners and regulators:

Table 2: RCN recommendations of Key Performance Indicators to be routinely monitored as part of ward staffing reviews

Indicator	Rationale
Actual nursing staff in post as a proportion of total establishment	To identify current staffing relative to the planned number of nurses required – per ward, specialty, trust
Proportion of registered nurses as percentage of total nursing staff. This denotes skill-mix	The benchmark average on general hospital wards is 65%
Nurse staffing relative to population served	Nurse per occupied bed (NPOB)
Staff turnover	To provide a stability index
Sickness absence	To monitor changes over time
Comparison with external benchmarks and modelling tools	To identify areas where staffing is likely to be inadequate and in need of further review

The RCN recommends that using these indicators to benchmark wards can provide an early warning system. For example, if the NPOB is lower than external benchmarking suggests is appropriate, the number of staff in post is well below that planned, there is high sickness absence and the skill-mix is considerably lower than average for that specialty there is a risk that nurse staffing is inadequate and in need of review.

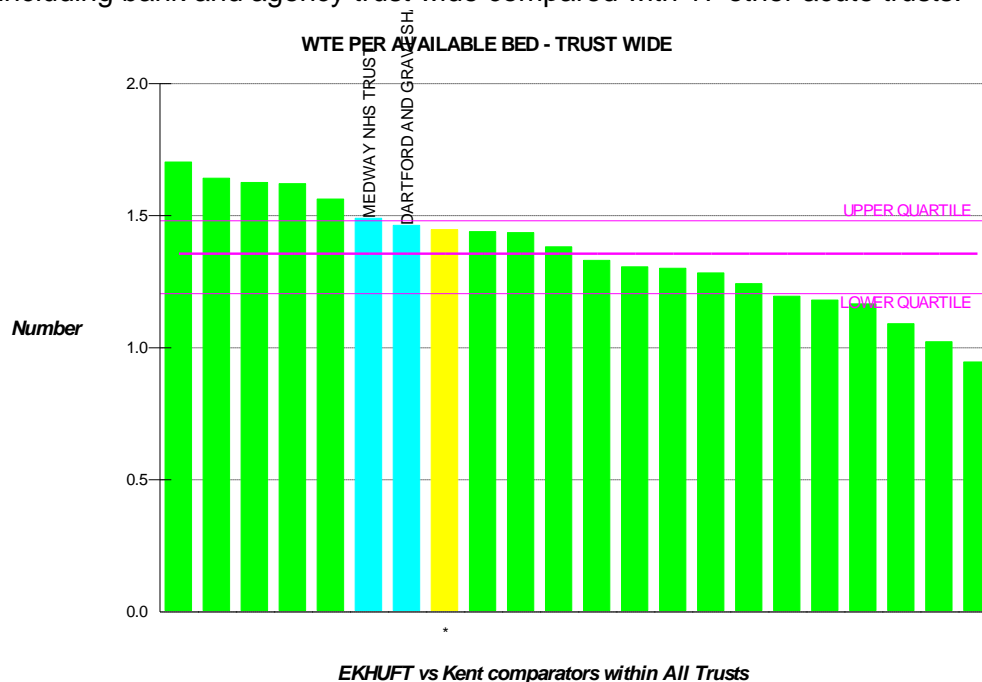
3. NATIONAL AND LOCAL COMPARATORS

The Audit Commission advisory services has developed a methodology to enable Trusts to compare ward staffing level, grade mix and cost. The Trust participated in the Audit Commission 2011/12 review, which compared nurse staffing levels, with those across a total of 512 wards across EKHUFT and 17 other trusts, based on a two month period May and June 2011.

The previous Audit Commission benchmarking review in 2008/09 compared nurse staffing levels, based on data for May and June 2008, and found expenditure on ward staffing near the lowest quartile at over £1m below average. The investment of £2.1m in 2008/09 is reflected in the findings of the December 2011/12 Audit Commission Ward Staffing Benchmarking report which found that:

- a. The Trust's nurse staffing levels are average with no major variance from the mean for:
 - i. Whole time equivalent (wte) per available bed;
 - ii. Cost per available bed day;
 - iii. Cost per wte; or
 - iv. Occupancy.
- b. Grade mix is in the lower quartile.
- c. 92.7% of the nursing establishment in post is average and similar to other Kent trusts.
- d. Sickness at 4.6% is in the upper quartile and above the Kent comparator.
- e. Percentage costs for bank staff at 7.4% is below the median of 7.7%, and below the Kent comparator.
- f. Although Paediatric staffing is shown as lower than many of the comparator Trusts it may not be a useful comparator due to the variable of ambulatory and day attenders not being included.

Figure 2: Audit Commission 2011/12 review. Average WTE equivalent per available bed including bank and agency trust wide compared with 17 other acute trusts.



The overall average WTE per bed for the participating wards across specialties shows an improvement to 1.45 per bed against 1.37 from the 2008/09 Audit Commission benchmarking review findings. The report makes two recommendations:

1. The Trust should undertake further analysis of staffing levels and grade mix using available acuity and dependency tools
2. The Trust should review its sickness levels as this may help identify areas to further reduce the costs for bank staff

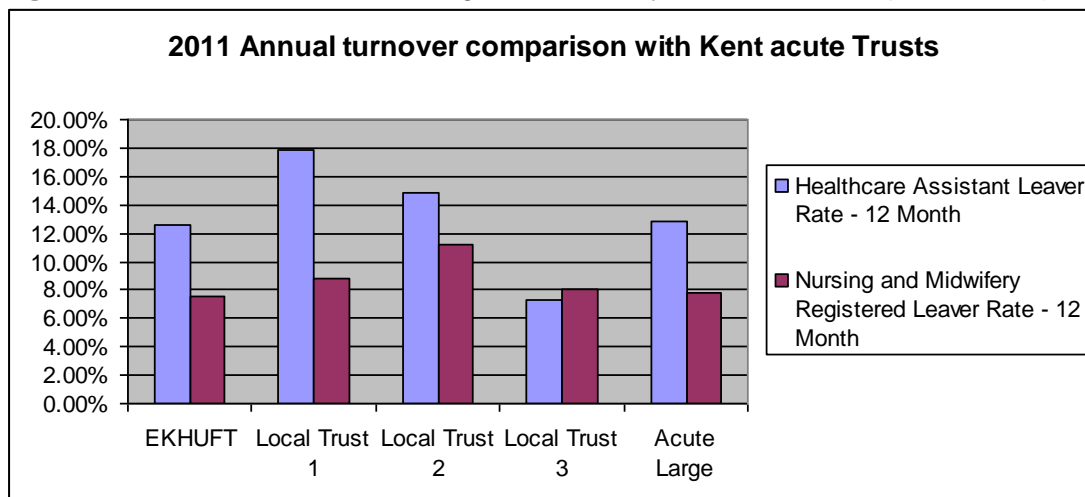
There are limitations within the review in that whilst the wards have been compared on a specialty basis, this does not necessarily mean that all wards of the same specialty should have the same staffing levels. There will be differences in the mix of wards data has been submitted for and also in the acuity and dependency of patients between wards and between Trusts. This is most obviously demonstrated in the findings for critical care and paediatrics.

4. CURRENT WARD ESTABLISHMENTS

4.1 Turnover

Data from the Health and Social Care Centre (NHS I -View) demonstrates that our turnover of registered nurses and midwives at 7.52% during 2011 is lower than each of our three nearest acute hospital Trusts and lower than the average large acute Trust. The turnover of healthcare assistants at 12.6% is lower than two of our three nearest acute hospital Trusts and lower than the average large acute Trust.

Figure 3: Annual turnover of nursing and midwifery workforce 2011 (NHS i-View)



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This indicates relative stability in the nursing workforce compared to other Kent acute Trusts and the large acute Trust average in the UK.

4.2 Vacancies and maternity leave

The total EKHUFT nursing and midwifery workforce funded establishment is 3062.64 whole time equivalent (WTE) as at December 2011. At the end of December 2011 there were a total of 192 WTE (6.3%) vacancies, 146.93 WTE (4.79%) sickness, and 62.69 WTE (2.04%) maternity / adoption leave. Of the 192 WTE vacancies 91 are band 5 which is a reduction from over 100 at the time of the last review.

Across the 41 wards reviewed, where the total funded establishment of 1253.61 WTE represents 34% of the total registered nursing & midwifery numbers and 52.1% of healthcare assistants there are 53 WTE registered nursing and 35 WTE healthcare assistant vacancies.

Figure 4: WTE Vacancies, sickness and maternity leave across total Nursing & Midwifery workforce EKHUFT Dec 2011 (ESR data)

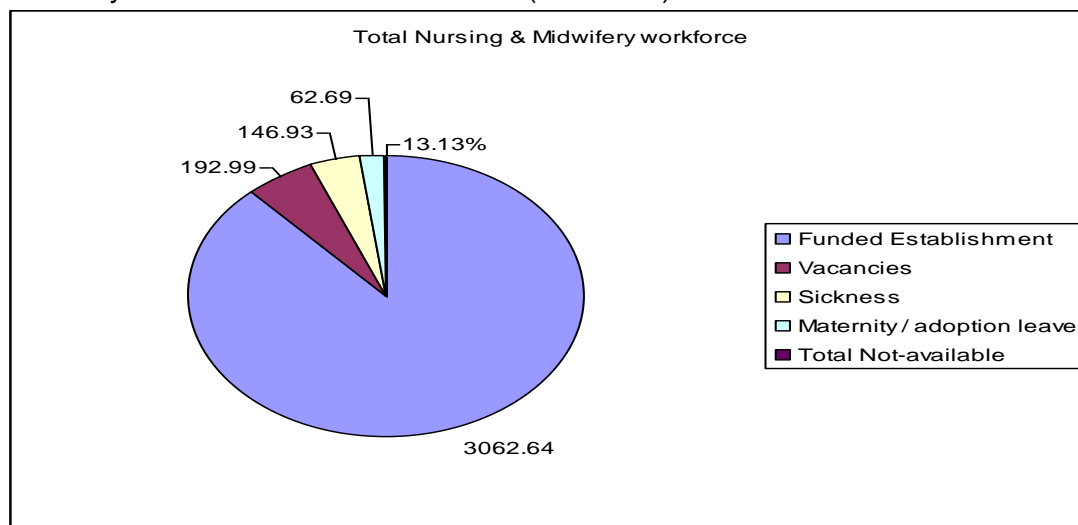


Figure 5: WTE Vacancies, sickness and maternity leave Registered Nurses & Midwives EKHUFT Dec 2011 (ESR data)

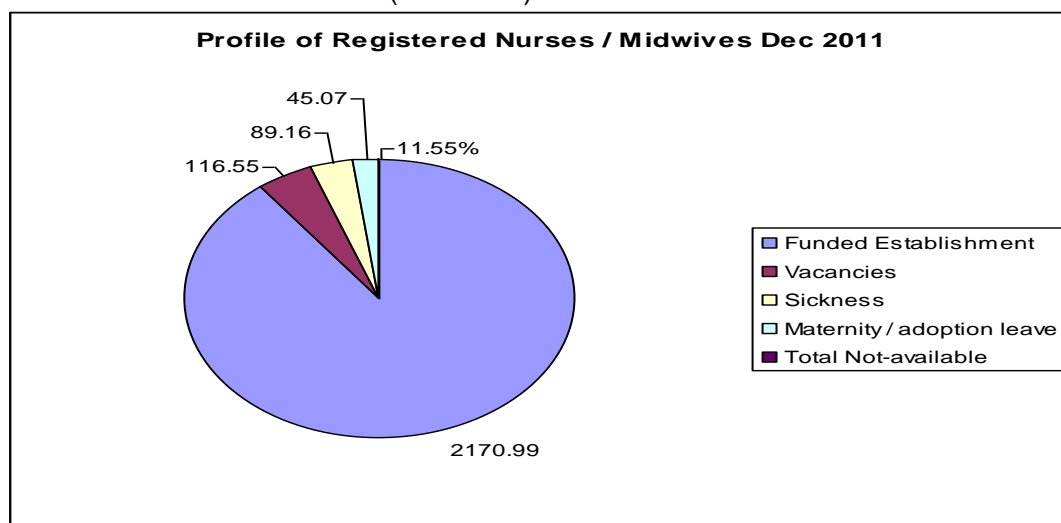
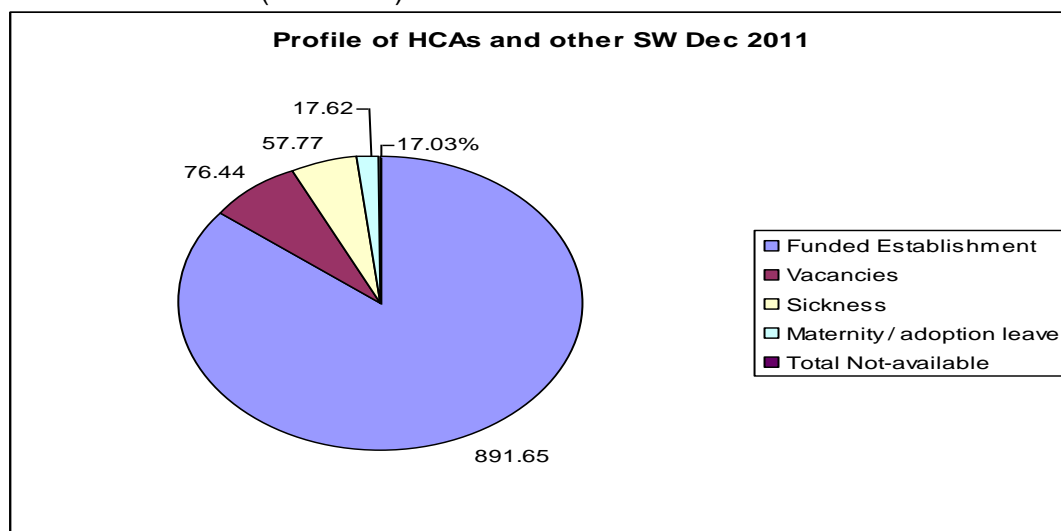
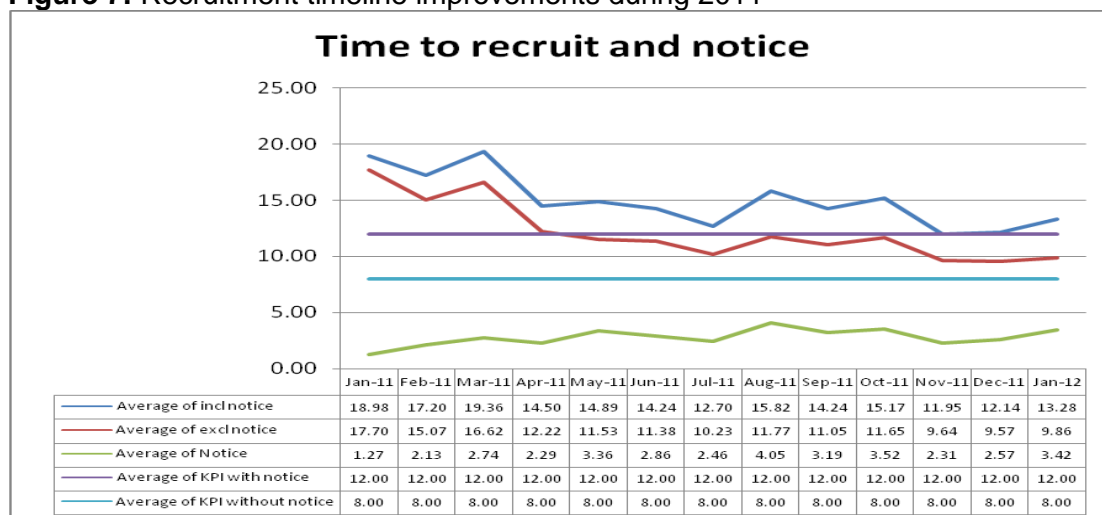


Figure 6: WTE Vacancies, sickness and maternity leave Healthcare Assistants EKHUFT Dec 2011 (ESR data)



The resourcing team have made improvements to the recruitment process resulting in a reduction in average time between the date of an advert being opened on NHS Jobs and the date that all pre-employment clearances are completed from 18 to under 10 weeks over the last year thereby reducing the impact of vacancies.

Figure 7: Recruitment timeline improvements during 2011

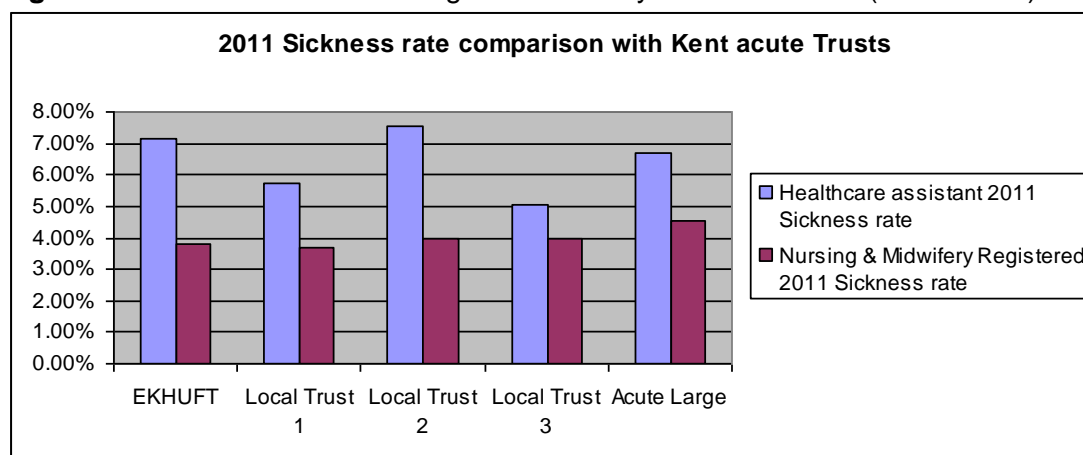


4.3 Sickness absence

Data from the Health and Social Care Centre (NHS I -View) demonstrates that our average sickness rate in 2011 for registered nurses and midwives at 3.79% was lower than two of our three nearest acute hospital Trusts and lower than the average large acute Trust.

The average sickness rate in 2011 for healthcare assistants at 7.16% was higher than the average acute large Trust and two of our three largest Trusts.

Figure 8: Sickness rates of nursing and midwifery workforce 2011 (NHS i-View)



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Sickness absence rates, from ESR data, in December 2011 for registered nurses & midwives and healthcare assistants were 4.11% and 5.90% respectively. This percentage rises to 4.78% for registered nurses and 8.20% for healthcare assistants across the 41 wards reviewed.

This indicates that there is significantly higher sickness rate amongst ward healthcare assistants that for those working in other areas which may be partly associated with the often higher physical and emotional workload associated with ward work.

Table 3: Comparison of Trust wide nursing and ward nursing absence rates ESR December 2011.

	Staff group	Sickness %
Wards reviewed	HCA & Other Support	8.20%
	Registered Nurses	4.78%
All other	HCA & Other Support	5.90%
	Registered Nurses & Midwives	4.11%

Considerable work has been undertaken to support managers in ensuring robust management of sickness and return to work. The HR team, Occupational Health, and divisional teams have worked in collaboration to review and update the current sickness absence policy. The Occupational Health team are now working with the divisional managers to ensure the policy is applied consistently and have implemented a motivational humanistic approach, working with national health and well being initiatives to enable staff to return to work eg interventional physiotherapy.

A pilot is being undertaken within UC<C to review those who are off sick to ensure compliance with the policy and provide early access to return to work initiatives. Over a 5 month period 360 sick days were avoided by using early interventional physiotherapy with an associated productivity gain of £53,160. Cost avoidance of replacing band 2 and band 5 staff with temporary cover was calculated at around £24,766 set against the cost of the pilot which was supported by 0.5 WTE band 6 physio at £11,150. The Trust has recognised the potential this initiative has to reduce lost work days and has supported further piloting on all three sites. Almost 60% of those accessing the physiotherapy service were bands 2 to 5.

Additional allowance or percentage headroom within funded establishments is 21% which includes a 3% allowance for sickness. In reality sickness is higher than 3% and not all staff are entitled to the 30 days annual leave if they have less than 5 years NHS service, but even if the calculated allowance is adjusted for a more accurate sickness level of 4.6% this should still allow staff an average of 4 study days per year.

Table 4: Ward establishment allowance calculation adjusted for actual sickness absence levels

Nursing Rota - Headroom Calculation:

	Hours	Days
Total Hours Paid per Year 1.00 wte	1955.36	260.72
Annual Leave Average x 30 days	225.00	
Bank Holidays x 8	60.00	
Sickness 4.6%	89.95	11.99
Mandatory and other training x 4	30.00	
Total Hours Absent	404.95	
Headroom %age	20.71%	

Therefore, if sickness was managed more effectively it would enable some of the increased available hours to be invested into more training for staff and a reduction in bank use.

4.4 Temporary staff usage

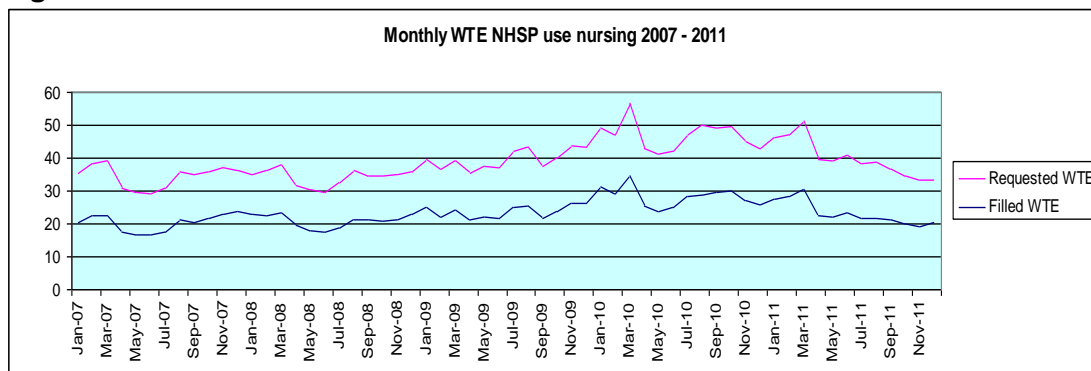
The level of temporary staff usage across the divisions is managed with appropriate controls and monitored in relation to total ward staffing expenditure. The current use of temporary staff through NHS Professionals provided 21,600 hours in November 2011 with 74.4% hours filled by the NHS-P bank and 5.4% filled by agency. NHS-P bank is fairly consistent at delivering a fill rate of around 75% and agency use has almost halved from 9.7% in February 2011 to 5.4% of hours requested (this is largely restricted to theatres and day surgery areas).

Fill rate for registered nurse shifts are fairly consistent and are currently 66.1% compared with almost 80% for healthcare assistant shifts. Most registered nurse shifts (65%) worked through NHS-P are by our own substantive staff but only 35% of healthcare assistant shifts are worked by our own staff. This partially closes the gap presented by vacancies and planned / unplanned absences but does operationally present a challenge for both the Trust and our supplier through NHS-P particularly in filling gaps at short notice.

With rigorous management controls through the temporary staff booking process the use of NHS-P overall has fallen since March 2010 with the most dramatic reduction

seen since April 2011. This has also led to the significant reduction in agency use seen over the last year. It should be noted that no substantive member of staff is permitted to work additional shifts for the Trust through an agency and the use of agency healthcare assistants has been completely eliminated since 2010. The Audit Commission ward staffing benchmarking review 2011/12 found that our percentage costs for bank staff at 7.4% is below the median of 7.7%, and below the Kent comparator.

Figure 9: Trend of NHS-P demand and fill in WTE from 2007 to 2011

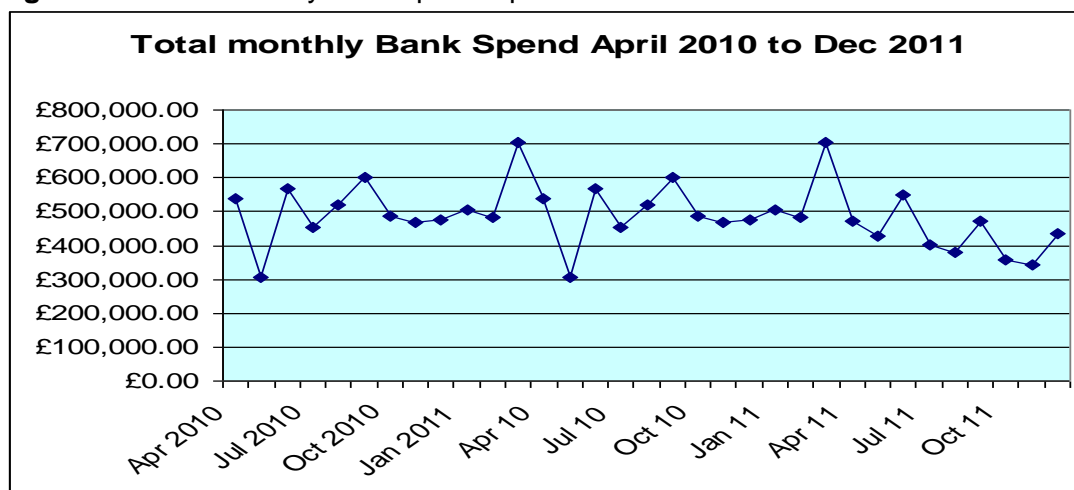


Initiatives to reduce cost of temporary staff and improve fill rates have been implemented during 2011/12:

- Reduction of pay from agenda for change spine point 3 to 1 for healthcare assistants from August 2011
- Enabling newly qualified nurses to work through NHS Professionals during the Preceptorship period on the ward where they hold a substantive post three months after qualification.
- Providing an opportunity for healthcare assistants with nursing home experience to gain the skills and competence to work with the hospital environment from December 2011.
- Winter incentives for NHS-P bank workers working additional shifts from 1.12.11 to 31.1.12, with no cancellations, to win shopping vouchers.

The impact of this reduction in NHSP use has been a reduction in monthly expenditure over time. This equates to a reduction in spend from £1,429,600 in quarter 3 2010/11 compared to £1,137,750 in quarter 3 2011/12, demonstrating a cost reduction of £300,000 over the 3 month period set against greater productivity and more efficient use of the staffing resource.

Figure 10: Total monthly bank spend April 2010 to December 2011



5. MODELLING METHODS

5.1 Temporary staffing budgets

Current funded establishments for wards are comprised of registered nurses, healthcare assistants and ward clerk support. However, most ward budgets (35 out of the 41 reviewed) also include a separate recurrent bank line which provides a resource in addition to the funded WTE to manage peaks and troughs in activity and replacement for sickness more flexibly. This separate bank line was originally derived from the funded establishment as unfilled vacancy and was thought to enable the staffing resource to be used more flexibly if identified as a separate bank line.

However, as it is not defined as part of the funded establishment, it is not factored into the E-Rostering system as available to cover shifts and therefore cannot be used to incorporate within planned rosters without requesting for additional shifts to be enabled on the system through the E-Rostering support team. Additionally some ward managers have interpreted the separate bank line as not part of the staffing establishment leading to misinterpretation of its original intention. This serves to over-complicate the management of the existing resource and does not support ward managers in managing the staffing resource effectively.

The separate bank line has not been recognised in previous staffing reviews and therefore may have underplayed the level of resource for benchmarking purposes. In order to ensure that it is included for the purposes of benchmarking the total available resource the WTEs for bank staff were calculated by taking the recurrent bank budget and splitting it by registered nurse and healthcare assistant according to actual usage during April to November 2011. These amounts were converted to hours using the average NHSP hourly cost (supplied by NHSP) for each and the hours were converted to WTE.

If this resource is converted into WTE it accounts for an additional 33.9 WTE across 35 of the 41 wards, and equates to between 0.35 and 5.15 WTE per ward. This provides an enhanced total funded establishment which has been used as the baseline when making comparisons with the Hurst model and the AUKUH acuity and depending modelling methods within this review.

5.2 Whole time equivalent per bed

Previous investment is reflected in higher nurse per bed ratios since 2008/09 in all specialties except renal, vascular and urology where there has been a fall from 1.23 wte per bed to 1.18 following a slight reduction in funded establishment on Marlowe and Clarke since the 2008/09 review. Comparisons are shown against the Hurst (2009) Nurse per Occupied bed (NPOB) tool.

Table 5: Average current WTE per bed comparison with previous staffing reviews and Hurst (2009) recommendation.

Average staff : bed ratio				
Specialty	2007/08	2008/09	2011/12	Hurst NPOB
Medical wards	1.14	1.19	1.28	1.23
Coronary Care	2.22	2.2	2.42	3.26*
Stroke	1.19	1.52	1.57	1.17*
Rehabilitation	1.10	1.18	1.29	1.4
Surgery	1.09	1.28	1.46	1.43
T+O	1.12	1.17	1.21	1.43
Renal, vascular & Urology	1.06	1.23	1.18	1.47*

*The Hurst NPOB tool is not particularly useful in benchmarking against the following specialties:

- Coronary care units due to the closest fit being a high dependency unit
- Stroke units as our funded establishments include around additional 5.0 WTE stroke thrombolysis nurses which are largely non ward-based . These nurses have to be available to leave the ward to administer thrombolysis in A+E and provide 1:1 care for the first 24 hours.
- The combination of renal, vascular and urology. Urology (Marlowe ward) is close to Hurst NPOB bed recommendation but the 2 surgical wards are only funded to around 1.0 WTE per bed which is below the 1.43 NPOB recommended level for surgical wards.

The average staff:bed ratios above do not include the 38 trainee Associate practitioners who are working across many wards areas. They spend three days per week working as part of the ward team whilst undertaking the two year Foundation Degree in Health through Canterbury Christ Church University. They are fully integrated into the ward team and experience 'placements' across the whole patient pathway and although are largely supernumerary are expected to contribute to a reduction in temporary staffing expenditure during their 2nd year of training. This effectively boosts ward establishments to a degree even after taking into account the time required for supervision and mentoring.

5.3 Skill-mix

Previous investment is reflected in a higher skill-mix since 2007/08 in all specialties but there has been an average reduction since 2008/09 in surgery from 60/40 to 55/45 and in T+O from 57/43 to 56/44. This has been influenced by the difficulty in attracting experienced registered nurses into these specialties and the conversion of some vacant registered nurse posts to support worker posts to ensure availability of workforce to meet service demands.

Most T+O wards have a rota of dedicated therapy support which contributes to the work of the team so the lower nursing skill mix is manageable. In addition, T+O were early implementers of the associate practitioner role and a number of trainees have already completed and are working as band 4s which contributes to the skill-mix reduction.

Table 6: Average current skill-mix across specialties comparison with previous staffing reviews

Average skill-mix			
Specialty	2007/08	2008/09	2011/12
Medical wards	55/45	56/44	56/44
Coronary Care	78/24	76/24	81/19
Stroke	51/49	63/37	63/37
Rehabilitation	48/52	53/47	54/46
Surgery	53/47	60/40	55/45
T+O	53/47	57/43	56/44
Renal, vascular & Urology	53/47	62/38	62/38

Emerging service delivery models recently implemented, e.g Hospital at Home and Ambulatory Care, largely require the skills and competences of registered nurses, most of whom have been recruited from our own ward teams. As the numbers of wards are reduced further we will need to ensure the maintenance of an appropriate skill-mix.

5.4 Measurement of acuity / dependency and nursing workload

Nursing workload is directly related to patient acuity and dependency. That is, the level of patient need in meeting activities of daily living combined with the complexity of treatment of the medical condition which necessitated admission to hospital. Examples of therapies and treatment which increase nursing workload include the care of patients requiring non-invasive respiratory support such as CPAP or BIPAP, caring for patients requiring enteral or parenteral nutrition, management of central venous lines, tracheostomy care, complex medication regimes including oral and intravenous therapy, neurological assessment, monitoring and observation for signs of deterioration and escalation of care.

Nursing workload is further increased when supporting patients with complex nursing care needs including altered states of consciousness, patients with dementia, complex mental health needs or complex communication difficulties associated with learning disability. Increasing the throughput of patients and decreasing length of stay generates additional nursing work related to assessment on admission, and planning safe discharges to tight time-frames.

The Nursing and Midwifery Council (NMC), the regulator for nurses and midwives whose main purpose is to protect the public, have set standards for the supervision and assessment of students and learners in practice which produces another level of work which is conducted without additional resource to the budgeted ward establishments. Mentors with responsibility and accountability for making the final sign-off in practice must have the equivalent of an hour per student per week allocated during their final period of practice learning. With around 150 students alone undertaking this assessment within EKHUFT annually this represents a significant workload that is also absorbed at ward level.

There are advantages and disadvantages to the different methods and tools used to model staffing levels, and also a view that none of them capture the communication aspects of nursing work (nurse-patient, nurse-family, nurse-doctor, nurse-other healthcare professionals and departments, nurse-other agencies). Different systems applied to the same care environment can produce different results, and so combining two or more methods is recommended to improve reliability and validity.

5.5 Nurse per occupied bed method

The Nurse per Occupied Bed (NPOB) formulae (Hurst 2009) were applied to the main specialties. These formulas are unique because they are derived from data collected in same specialty wards. The wards providing these data (across the UK) passed a quality test, that is, none fell below a pre-determined quality standard to avoid projecting from inadequately staffed wards. Hurst formulae are available for 22 specialties and all wards were benchmarked against the most appropriate 'fit'.

Calculation of establishments using the Nurse per Occupied Bed (Hurst 2009) method suggested that 21 out of 41 wards current establishments are based on a lower staff per bed ratio.

5.6 Association of United Kingdom University Hospitals (AUKUH) tool

The dimensions of patient dependency and acuity are important variables in determining nursing workload and the Association of United Kingdom University Hospitals (AUKUH 2007) acuity dependency tool was applied to study current nursing workload in all wards to calculate ward establishment. Data was collected on participating wards at 15.00 daily, Monday to Friday at 15.00 for 20 days and quality control was provided by senior nurses. Acuity dependency is studied regularly at divisional level but where recent data was not available a snapshot assessment was

made by a senior nurse and the result extrapolated to illustrate average nursing workload.

Calculation of establishments using the AUKUH (2007) method of calculating establishments taking account of nursing workload associated with patient acuity and dependency demonstrated that 17 out of 41 wards have current establishments which are lower than those suggested by the tool

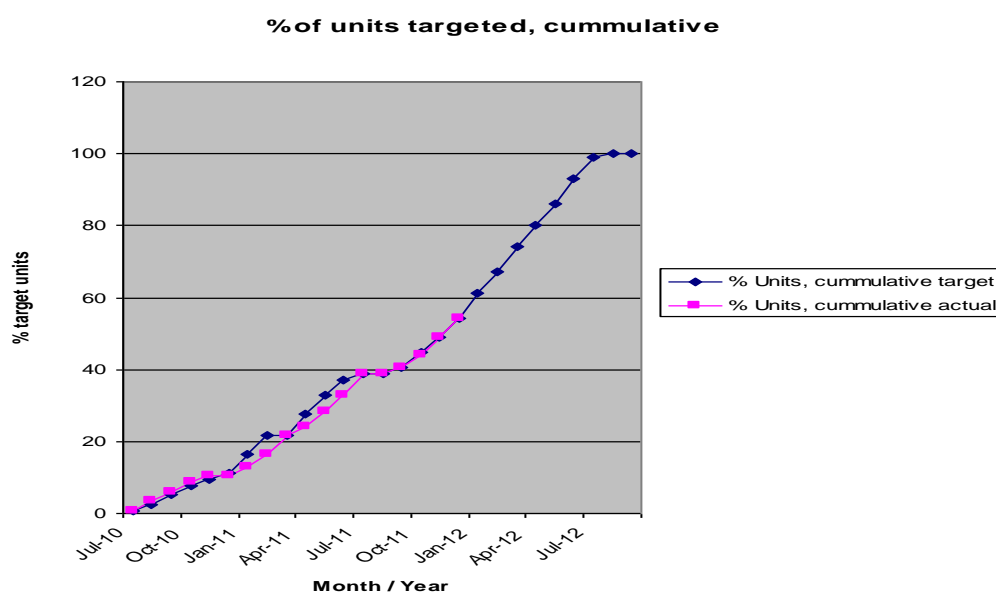
The findings from the two methods were then synthesised to identify where there are gaps when mapped against current ward establishments. Comparison of establishment generated by using both Hurst and AUKUH suggests there is good correlation between the approaches for CDU, stroke, rehabilitation, most medical wards and haematology. Comparison of establishment generated by using both approaches applied to ward areas with a combination on in-patients, day case and outpatient activity (coronary care, urology, gynaecology, surgery, head and neck and T+O) resulted in a poor fit between approaches. However, only 2 wards were more than 15% below the suggested Hurst calculated establishment demonstrating a significant improvement from the 2008/09 review. 2 wards were more than 15% below the suggested AUKUH establishment which may be due to normal variations of nursing workload over the period of data collection or lack of consistency in assessment as there was wide variation between some consecutive days on these wards.

6. E-ROSTERING

An E-Rostering system was purchased by EKHUFT during 2009/10. A system implementation and support team were recruited in January 2010 and implementation of the system commenced in May 2010. The main purpose of the system is to maximise the use of the existing resource.

The rollout programme is running to schedule with 63 clinical areas (affecting 1890 staff) implemented to date. Completed of all 116 units (3394 staff) will be achieved by September 2012.

Figure 11: E-Rostering roll-out against plan



Since April 2011 the 'unused contracted hours' indicator has been included in the corporate dashboard to enable monitoring of the effectiveness of the rosters. Matrons

are responsible, every 4 weeks, for signing off all rosters for their areas of responsibility to ensure that they are safe, effective and fair. These indicators are described as:

Safety measure: To ensure that shifts are not allocated to the wrong grade type to ensure the optimum balance of registered nurses to health care assistants.
To ensure that there is always a suitably experienced nurse in charge of each shift.

Effectiveness measure: To ensure that unused contracted hours are restricted to rolling over small numbers of hours to the following month to make a whole shift. This is particularly used where 12 hour shifts are worked.

Fairness measure: To ensure that staff are working with the permitted number of requests.
To ensure that the roster meets the ward 'rules' created to ensure the needs of the service are met. For example a ward may require more staff on particular shifts where increased activity is planned.

There are % tolerances for all the above measures which have been agreed as part of the EKHUFT Roster policy and which are included in the management reports that the matrons have access to in the system when authorising the monthly rosters. The management reports provide detailed information about each roster and the 'unused contracted hours' only provides one element for monitoring through the corporate dashboard.

Figure 12: Analyser Key Performance Indicators – used during production of a roster

Group	Key Performance Indicator	Amber Threshold	Red Threshold
Rostering Effectiveness	Unused Contracted Hours %	1.5%	2.5%
	Over Contracted Hours %	1.5%	2.5%
	Additional Duties (Hours, 4 weekly)	1	22
Staffing Unavailability	Overall Overhead Limit	19%	23%
	Sickness % (Funded for 3%)	2.5%	4%
	Annual Leave Minimum %	11%	
	Annual Leave Maximum %	17%	
	Study Day %	5%	
	Working Day %	3%	
	Special leave %	5%	
	Other % (e.g. supernumerary)	1%	3%
	Overview (total unavailability)	19%	23%
Fairness & Safety	Requested Roster %	15%	25%
	Duties with Warnings %	7.5%	15%
	Shifts without Charge Cover	1	3
Flexible Working	% of staff with some form of flexible working pattern / restriction	<i>No threshold to be set, data to be considered alongside metrics above</i>	

An even more useful indicator than 'unused contracted hours' is the '% time worked' indicator, available within the system, which provides another dimension for evaluating the effectiveness of the roster created. It reflects the % time nurses in post spend on clinical duties. Time lost includes annual leave, sick leave, management days, training days and maternity / paternity leave. It does not include vacancies and therefore, because the % allowance within the rosters is 21%, each roster should ideally run at 79% clinically effective.

The average achievement of % time clinically effective for December 2011 across the 26 of the 41 wards currently using E-Rostering was 71.69% Only 6 of the 26 wards achieved more than 75% which demonstrates significant opportunity for improvement. An annual leave planner has already been developed to support ward managers in managing the spread of annual leave for 2012/13 and is awaiting distribution.

Meeting the 79% clinically effective measure will require effective annual leave planning to ensure it is evenly spread, effective sickness management, training days are allocated fairly, and management time is used effectively. Managers have the ability to adjust how many staff are on annual leave to manage fluctuations but where maternity or adoption leave or jury service leave exists this measure will not be achieved.

7. ANALYSIS OF SPECIALTIES INCLUDING AUDIT COMMISSION FINDINGS, COMPARISON TO HURST MODEL AND MEASUREMENT OF ACUITY AND DEPENDENCY

The current funded establishments for all 41 wards as at December 2011, proportion of staff in post, adjusted establishment incorporating the separate bank line, WTE per bed, skill-mix, comparison with Hurst and acuity dependency models and gap analysis is provided in Appendix 2.

7.1 Medicine

Ward	Specialty	No. beds	Additional capacity	Funded Establishment (wte)	Separate bank line adjusted	WTE:bed	Skill mix	Hurst (21% on cost)	Acuity dependency	Gap analysis (>15% less Hurst (H) or Acuity (A))	E-Rostering effectiveness (% time worked)
Treble ward	Neurology	18		28.47	29.08	1.58	54:45	27.6	23.06		69.70%
Mount McMaster	Respirator	26	2	33.09	34.08	1.27	56:44	32	32.74		NA
Invicta	Medical	24		27.51	28.20	1.14	56:44	29.5	39.88	<29.2% (A)	62.20%
St Lawrence	Medical	28	4	34.89	35.68	1.24	52:48	34.5	36.97		75.10%
Cambridge J	Respirator	28	6	31.54	32.34	1.12	57:43	34.5	28.4		77.30%
Cambridge K	Cardiology	26	2	29.59	30.32	1.13	61:39	32	28.83		77.30%
Cambridge M2	Gastro	23		25.39	26.02	1.10	57:43	28.3	35.84	<27.3% (A)	71.20%
Oxford	Infectious	14		20.61	21.12	1.47	65:35	23.6	14.62		80.70%
Minster Ward	Medical	23		33.11	33.98	1.43	51:49	28.3	33.7		69.30%
Sandwich Bay	Respirator	29		33.65	34.42	1.16	57:43	35.7	39.85		71.60%
St Margarets	Medical	20	5	29.06	29.90	1.45	50:50	24.6	31.8		66.00%
Deal Ward	Medical	20		24.53	25.05	1.22	60:40	24.6	28.65		75.90%

WTE per bed averages 1.28 across the wards which are in line with the recommended NPOB Hurst level for medical wards. There are differences in sub specialties with the Cambridge wards and Invicta being below 1.2 WTE per bed.

Skill-mix is below 60:40 in nine of the twelve wards and below 55:45 in four wards, similar to that seen in the previous review and below recommended RCN levels.

All medical wards have a separate recurrent bank budget which if converted to actual WTE equates to a total of 8.75 WTE across these wards.

There is a fairly close correlation between the actual ward establishment (adjusted to reflect inclusion of separate bank line), the ward establishment calculated when applying the Hurst model, and the acuity dependency assessment of nursing workload for most wards. However, the AUKUH tool does not effectively capture the additional workload of single rooms, reflected in a mismatch for Oxford ward. Only two wards showed a gap of more than 15% below AUKUH recommended levels which may be due to normal variations of nursing workload over the period of data collection or a lack of consistency in assessment as there was wide variation between some consecutive days.

The 2011/12 Audit Commission review found that across all areas categorised as Medicine including the CDUs, HCOOP, Stroke, Rehabilitation, Oncology, Nephrology WTE per bed is similar to Kent comparators, and skill-mix is just above the median and also the Kent comparator (Appendix 3).

Of the 11 areas using the E-Rostering system only 5 are achieving >75% time clinically effective in December 2011 indicating further room for improvement in managing sickness, ensuring even spread of annual leave and more creative solutions for covering paid maternity leave.

7.2 Clinical Decision Units

Ward	Specialty	No. beds	Additional capacity	Funded Establishment (wte)	Separate bank line adjusted	WTE:bed	Skill mix	Hurst (21% on cost)	Acuity dependency	Gap analysis (>15% less Hurst (H) or Acuity (A))	E-Rostering effectiveness (% time worked)
Bethersden/CDU WHH	Assessme	51		64.46	65.98	1.26	67:32	69	66.6		68.10%
CDU, QEQM	Assessme	26	5	40.19	41.66	1.54	63:37	42.1	43.9		72.60%

The variation of WTE per bed across the CDUs reflects the requirement of the funded establishment at the WHH to cover 18 higher intensity assessment beds alongside the 35 medical beds on the ward.

Skill-mix is close to the 1.62 WTE per bed recommended by the Hurst NPOB tool when applied to the QEQM CDU.

There is a close correlation between the actual ward establishment (adjusted to reflect inclusion of separate bank line), the ward establishment calculated when applying the Hurst model, and the acuity dependency assessment of nursing workload on both CDUs.

Both CDUs are using the E-Rostering system but neither of the CDUs achieved >75% time clinically effective in the December 2011 roster.

7.3 Coronary Care

Ward	Specialty	No. beds	Additional capacity	Funded Establishment (wte)	Separate bank line adjusted	WTE:bed	Skill mix	Hurst (21% on cost)	Acuity dependency	Gap analysis (>15% less Hurst (H) or Acuity (A))	E-Rostering effectiveness (% time worked)
CCU WHH	CCU	7 & 6		31.65	32.14	2.43	81:19	34.0	21.01		69.30%
Taylor KCH	CCU	6	2	15.66	15.66	2.61	91:9	19.6	10.71		66.50%
CCU QEQM	CCU	10		22.14	22.49	2.21	70:30	32.6	16.41	<31% (H)	62.90%

There appears to be a correlation between the establishment calculated when applying the Hurst model to the adjusted establishment (incorporating the separate

bank line) for the coronary care units at WHH and KCH but not for QEQM.

There is a wide variation of skill-mix which is higher at WHH to support the pPCI service and at KCH where the unit is small and requires a minimum registered nurse presence.

There is also wide variation in % time clinically effective within E-Rostering with none achieving >75% in December 2011.

7.4 Stroke

Ward	Specialty	No. beds	Additional capacity	Funded Establishment (wte)	Separate bank line adjusted	WTE:bed	Skill mix	Hurst (21% on cost)	Acuity dependency	Gap analysis (>15% less Hurst (H) or Acuity (A))	E-Rostering effectiveness (% time worked)
Kingston	Stroke	23	5	37.78	38.54	1.64	62:38	35.4	35.54		73.10%
Richard Stevens Unit	Stroke	24		35.88	36.51	1.43	61:39	36.6	25.51		72.30%
Fordwich Ward	Stroke	21		34.33	35.41	1.63	67:33	33.1	37.24		72.80%

The current funded establishments include around 5 WTE thrombolysis nurses for each stroke unit. These nurses have to be available to leave the ward to administer thrombolysis in A+E and provide 1:1 care for the first 24 hours. This is reflected in the skill-mix which is variable but no less than 60:40.

In applying the Hurst tool 4 beds were included as 'acute beds' using the closest 'fit': High dependency. There is a close correlation between the establishment calculated when applying the Hurst model to the adjusted establishment (incorporating the separate bank line) for all the stroke units but less correlation when applying the acuity dependency method.

There is a similar % time clinically effective within E-Rostering across the 3 units but none achieved >75% in December 2011.

7.5 Rehabilitation wards

Ward	Specialty	No. beds	Additional capacity	Funded Establishment (wte)	Separate bank line adjusted	WTE:bed	Skill mix	Hurst (21% on cost)	Acuity dependency	Gap analysis (>15% less Hurst (H) or Acuity (A))	E-Rostering effectiveness (% time worked)
Cambridge L	Rehab	26		38.69	39.68	1.48	55/45	40.3	40.34		68.70%
Reculver	Rehab	16		18.86	19.62	1.17	53:47	22.4	21.78		74.70%
Harvey ward	Neuro rehab	19		23.18	23.18	1.22	53:47	26.6	29.54	<21.5% (A)	69.30%

There is a wide variation of skill-mix against the Hurst recommendation of 1.4 WTE per bed for rehab wards. Skill-mix is not above 55:45 in any of the wards.

There is some correlation with current adjusted establishments when applying the Hurst and nursing workload tools in 2 of the wards but less so for Harvey ward.

None of the wards are achieving >75% clinically effective within E-Rostering for December 2011.

7.6 Surgery

Ward	Specialty	No. beds	Additional capacity	Funded Establishment (wte)	Separate bank line adjusted	WTE:bed	Skill mix	Hurst (21% on cost)	Acuity dependency	Gap analysis (>15% less Hurst (H) or Acuity (A))	E-Rostering effectiveness (% time worked)
Kings A2	Surgery	20		23.39	24.16	1.16	57:43	28.6	26.83		NA
Kings B	Surgery	27		32.18	33.20	1.19	51:48	38.6	33.34		NA
Rotary	Maxillofaci	16		32.26	33.25	2.01	55:45	25.4	15.9		NA
Cheerful Sp Male	Surgery	18	2	28.52	29.38	1.58	53:47	25.8	23.2		69.70%
Cheerful Sp Female	Surgery	18	4	24.53	25.44	1.36	60:40	25.8	18.63		73.40%

There is disparity between the WTE per bed on the Kings wards at the WHH and the Cheerful Sparrows wards at the QEQM. Skill-mix also shows wide variation with 2 wards below 55:45.

There is some correlation with current adjusted establishments when applying the Hurst and nursing workload tools in the Kings wards but less so for the Cheerful Sparrows wards. There is no correlation when applying the tools to Rotary ward as they do not capture the outpatient and ward attender activity.

The 2011/12 Audit Commission review found that across all areas categorised as Surgery (including T+O) WTE per bed is at the upper quartile but similar to Kent comparators, and skill-mix is in the upper quartile and similar to Kent comparators (Appendix 4).

7.7 Trauma and Orthopaedics

Ward	Specialty	No. beds	Additional capacity	Funded Establishment (wte)	Separate bank line adjusted	WTE:bed	Skill mix	Hurst (21% on cost)	Acuity dependency	Gap analysis (>15% less Hurst (H) or Acuity (A))	E-Rostering effectiveness (% time worked)
Kings D1	Orthopaed	25		28.42	29.09	1.13	52:48	31.3	34.89	<16.6% (A)	NA
Kings D2	Orthopaed	14	5	17.9	23.04	1.27	58:42	17.5	20.37		NA
Kings C1	Orthopaed	27		31.67	32.74	1.17	54:46	33.8	36.04		NA
Kings C2	Orthopaed	24		35.03	35.95	1.45	55:45	30.1	33		NA
Bishopstone	Orthopaed	28		32.66	33.71	1.16	52:48	35.1	36.65		NA
Quex	Orthopaed	22		25.44	26.31	1.15	62:38	27.5	21.4		NA
Seabathing	Orthopaed	26		29.9	30.89	1.15	59:41	32.6	31.5		NA

WTE per bed is below the 1.25 Hurst model on most wards. Skill-mix varies and is above 55:45 on only 4 of the 7 wards. However, T+O wards have dedicated and rostered Therapy support, Monday to Saturday, which is not included in the above.

There is some correlation with current adjusted establishments when applying the Hurst and nursing workload tools except for Kings D1 where the acuity and dependency of patients appears higher. The bank budget for Kings D2 has recently been uplifted to enable cover for the additional 5 beds on the ward.

7.8 Renal, vascular and urology

Ward	Specialty	No. beds	Additional capacity	Funded Establishment (wte)	Separate bank line adjusted	WTE:bed	Skill mix	Hurst (21% on cost)	Acuity dependency	Gap analysis (>15% less Hurst (H) or Acuity (A))	E-Rostering effectiveness (% time worked)
Marlowe	Nephrolog	29+6DC		53.48	53.48	1.52	63:37	56	48.04		NA
Clarke	Surgery	36+6DC		39.75	40.76	0.94	60:40	56.1	42.58	<27.3% (H)	NA
Kent	Surgery	22+6 DC		30.46	31.29	1.08	62:38	36.1	29.38		NA

There is poor correlation when applying the Hurst model to Clarke ward but good correlation with the acuity and dependency model for all wards although it does not capture the day case activity.

The higher WTE per bed for Marlowe reflects the requirement for the 13 acute haemodialysis beds.

7.9 Oncology and Gynaecology

Ward	Specialty	No. beds	Additional capacity	Funded Establishment (wte)	Separate bank line adjusted	WTE:bed	Skill mix	Hurst (21% on cost)	Acuity dependency	Gap analysis (>15% less Hurst (H) or Acuity (A))	E-Rostering effectiveness (% time worked)
Brabourne	Oncology	8+6 amb		18.9	18.90	1.35	73:27	14.7	14.9		NA
Kennington ward	Gynae	11	4	23	23.00	2.09	54:46	14	10.67		74.10%
Birchington	Gynae	17		31.86	31.86	1.87	63:37	21.6	25.68		80.20%

There is poor correlation when applying the Hurst and acuity dependency model to all wards but particularly for the Gynaecology wards which does not take account of ward attenders or the volume of throughput with these wards.

The 2 wards using E-Rostering are achieving near 75% clinically effective within the December 2011 roster demonstrating effective rostering practices and optimal use of the existing resource.

The 2011/12 Audit Commission review found that across the two paediatric wards with in-patient beds the WTE per bed is below the Kent comparators and in the lower quartile (Appendix 5). However, the comparator group was small and the variable of ambulatory and day attenders was not included across the comparator group so this may not be a useful benchmark. The skill-mix is in the upper quartile, however, suggesting an opportunity to review the profile of the workforce to maximise its effectiveness in meeting the needs of the service. Further work to review Paediatric staffing is being undertaken currently.

8. CONCLUSIONS

1. All 41 wards, including the CDU's were reviewed for staffing levels and skill-mix.
2. These 41 wards were benchmarked against 17 other trusts as part of the 2011/12 Audit Commission ward staffing benchmarking review. The main findings from data submitted for May and June 2011 were:
 - a. The Trust's nurse staffing levels are average with no major variance from the mean for:
 - i. Whole time equivalent (wte) per available bed;
 - ii. Cost per available bed day;
 - iii. Cost per wte; or
 - iv. Occupancy.
 - b. Grade mix is in the lower quartile.
 - c. 92.7% of the nursing establishment in post is average and similar to other Kent trusts.
 - d. Sickness at 4.6% is in the upper quartile and above the Kent comparator.
 - e. Percentage costs for bank staff at 7.4% is below the median of 7.7%, and below the Kent comparator.
 - f. Although Paediatric staffing is shown as lower than many of the comparator Trusts it may not be a useful comparator due to the variable of ambulatory and day attenders not taken into account.
3. The investment of £2.1m into additional band 5 posts in 2008/09 is reflected in the findings of the December 2011 Audit Commission Ward Staffing Benchmarking report.

4. Previous investment is reflected in higher nurse per bed ratios since 2008/09 in all specialties except renal, vascular and urology where there has been a fall from 1.23 wte per bed to 1.18 following a slight reduction in funded establishment on Marlowe and Clarke since the 2008/09 review. Kent and Clarke wards average only 1.0 WTE per bed against the NPOB recommended level of 1.43 for surgical wards. The levels on the rehabilitation wards and T+O also remain below Hurst NPOB recommended levels.
5. Previous investment is reflected in a higher skill-mix since 2007/08 in all specialties but there has been an average reduction since 2008/09 in surgery from 60/40 to 55/45 and in T+O from 57/43 to 56/44. This has been influenced by the difficulty in attracting experienced registered nurses into these specialties and the conversion of some vacant registered nurse posts to support worker posts to ensure availability of workforce to meet service demands. However, most T+O wards have a rota of dedicated therapy support which contributes to the work of the team and these wards were early implementers of the associate practitioner role and a number of trainees have already completed and are working as band 4s which contributes to the skill-mix reduction.
6. Turnover of registered nurses and midwives (7.52%) and healthcare assistants (12.6%) is lower than the average large trust in the UK indicating relative stability in the nursing workforce.
7. The impact of current vacancy levels, sickness and maternity leave across the whole nursing and midwifery workforce is 13.1% meaning that only around 87% of funded establishments are available for work in December 2011. The absence associated with maternity leave is significant, at 62.69 wte (2.04%), across all nursing and midwifery and there is no allowance for this in the establishments.
8. Total average vacancies in December 2011, across the 41 wards is 7.14% against 6.3% across all nursing and midwifery. Across the 41 wards there are 53.44 wte registered nurse vacancies (7.18%) and 35.98 wte healthcare assistant vacancies (7%).
9. Sickness absence rates, from ESR data, in December 2011 for registered nurses & midwives and healthcare assistants were 4.11% and 5.90% respectively with an overall average of 4.79% or 146.93 wte. This percentage rises to 4.78% for registered nurses and 8.20% for healthcare assistants across the 41 wards reviewed. This indicates that there is significantly higher sickness rate amongst ward healthcare assistants that for those working in other areas which may be partly associated with the often higher physical and emotional workload associated with ward work. NHS I-view data suggests that sickness rates for our registered staff is lower than average but higher for our healthcare assistants.
10. The use of temporary staff through NHS-Professionals and agency has fallen since March 2010 with the most dramatic reduction seen since April 2011. The Audit Commission review found our percentage costs for bank staff at 7.4% is below the median of 7.7%, and below the Kent comparator. The expenditure on bank staff costs through NHS-P is around £100,000 less per month across quarter 3 2011/12 when compared to 2010/11.
11. Most ward budgets (35 out of the 41 reviewed) also include a separate bank line which provides a resource in addition to the funded WTE to manage

peaks and troughs in activity and replacement for sickness more flexibly. This serves to over-complicate the management of the existing resource and does not support ward managers in managing the staffing resource effectively. It cannot be easily factored into the E-Rostering system to incorporate within planned rosters and some ward managers have interpreted the separate bank line as not part of the staffing establishment leading to misinterpretation of it's original intention.

If this resource is converted into WTE it accounts for an additional 33.9 wte across 35 of the 41 wards, and equates to between 0.35 and 5.15 wte per ward. This 'uplifted' total funded establishment has been used as the baseline when making comparisons with the Hurst model and the AUKUH acuity and depending modelling methods within this review.

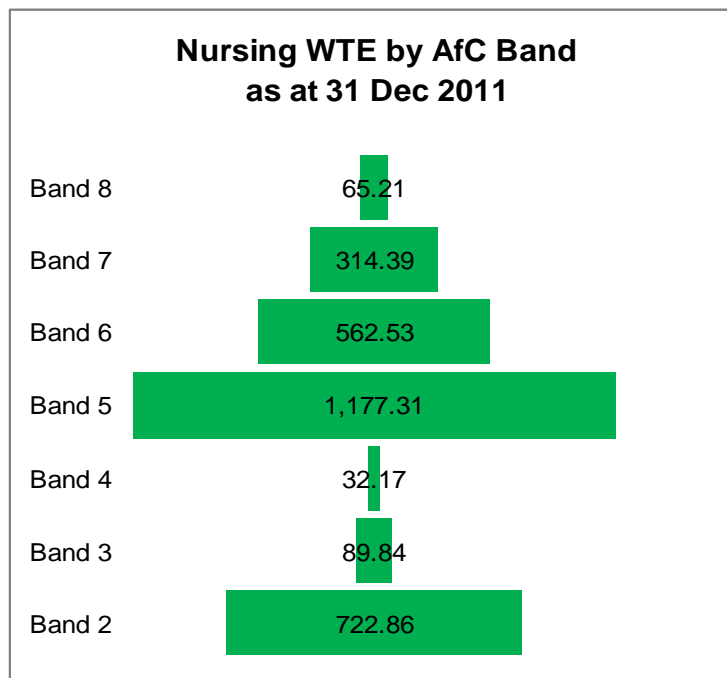
12. Calculation of establishments using the Nurse per Occupied Bed (Hurst 2009) method suggested that 21 out of 41 wards current establishments are based on a lower staff per bed ratio.
13. Calculation of establishments using the AUKUH (2007) method of calculating establishments taking account of nursing workload associated with patient acuity and dependency demonstrated that 17 out of 41 wards have current establishments which are lower than those suggested by the tool
14. Comparison of establishment generated by using both Hurst and AUKUH suggests there is good correlation between the approaches for CDU, stroke, rehabilitation, most medical wards and oncology.
15. Comparison of establishment generated by using both approaches applied to ward areas with a combination on in-patients, day case and outpatient activity (coronary care, urology, gynaecology, surgery, head and neck and T+O) resulted in a poor fit between approaches.
16. 26 of the 41 wards reviewed are using the E-Rostering system. A variety of KPIs are available including the '% time worked' indicator, which reflects the % time nurses in post spend on clinical duties. Time lost includes annual leave, sick leave, management days, training days and maternity / paternity leave. It does not include vacancies and therefore, because the % allowance within the rosters is 21%, each roster should ideally run at 79% clinically effective.

The average achievement of % time clinically effective for December 2011 across the 26 wards was only 71.69% and only 6 of the 26 wards achieved more than 75%. There is therefore opportunity for improvement in the percentage time spent clinically effective. Meeting the 79% clinically effective measure will require effective annual leave planning to ensure it is evenly spread, effective sickness management, training days are allocated fairly, and management time is used effectively. The average achievement of % time clinically effective for December 2011 across the 26 wards was only 71.69% Only 6 of the 26 wards achieved more than 75%.

9. FUTURE STAFFING MODELS

This workforce 'Christmas tree' shown in figure 13 represents the shape of the current nursing, midwifery and includes operating department practitioners as part of the theatres and day surgery workforce. It can be clearly seen that the workforce distribution across the agenda for change bands is highly dependent on the band 5 registered nurse element of the workforce.

Figure 13: Nursing and Midwifery workforce Christmas tree profile December 2011



9.1 Workforce supply

The number of adult nursing education commissions has decreased over the past two years due to the pressure of Non Medical Education and Training (NMET) funding. There has been a reduction of 5% for academic year 2011/12 and a further 5% reduction for 2012/13 which will directly impact on the supply of newly qualified nurses from 2014/15 and 2015/16.

According to NHS i-View there was an increase in the number of WTE registered nurses employed from October 2009 to October 2011 (4.9%) and during the last year from October 2010 (3.28%) across Kent and Medway.

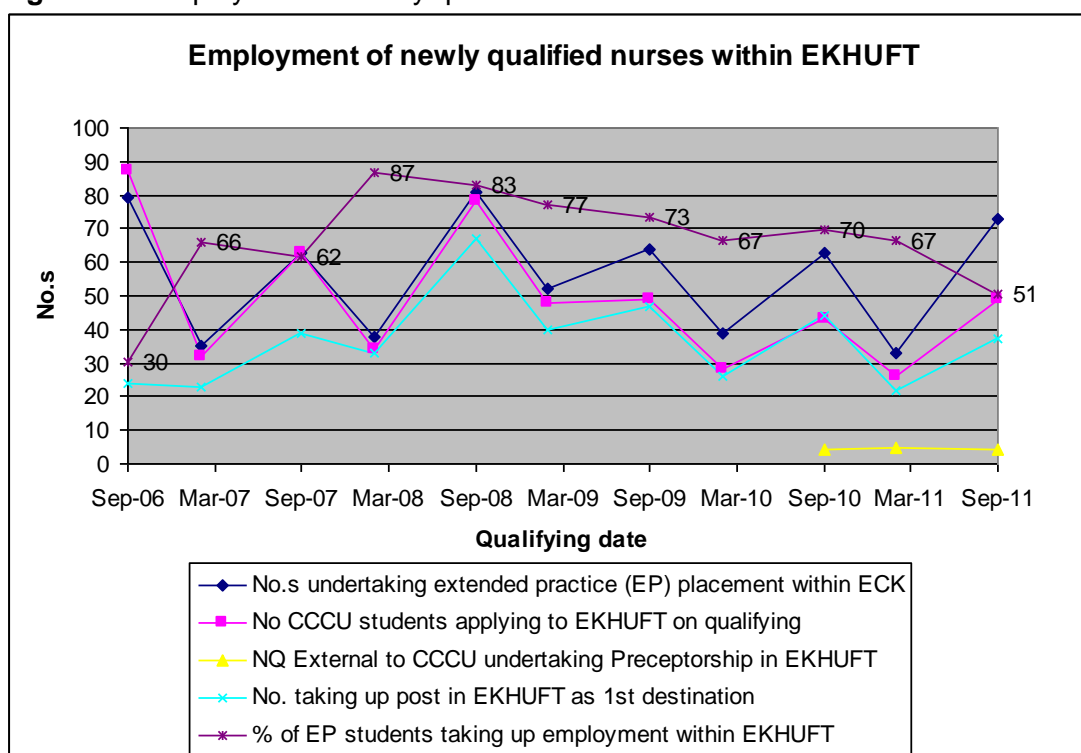
NHS Kent and Medway have predicted that, if growth continues at the same rate as it has over the past year and that staff retire according to assumptions of retirement rates, there will be a greater demand for staff than can be filled by the number of students in training. This assumption is made by looking at only one aspect of workforce supply and no assumptions have been made around turnover, the current economic climate, attrition from education or participation rate.

The percentage of newly qualified nurses taking up their first post with EKHUFT has fallen from 87% in 2007 to 51% in Sept 2011. This is due to an increasing number seeking their first post with Kent Community Health NHS Trust. Although 34 out of the 38 soon to qualify students have applied to EKHUFT for their first post currently the community Trust is preparing to advertise for newly qualified nurses so a number may redirect their attention to a first post in the community over the next couple of months.

Two cohorts of adult pre-registration students qualify each April and September from Canterbury Christ Church University. A group recruitment process is used to co-

ordinate the employment of these large groups to ensure a streamlined process and to maximise the opportunities for our newly qualified nurses to ensure that as many as possible are attracted to EKHUFT.

Figure 14: Employment of newly qualified nurses within EKHUFT



The planned reduction in commissioned places for adult nursing and the reduced proportion that will be employed by EKHUFT suggests that more creative solutions need to be found to ensure the delivery of safe and effective care to our patients.

The Audit Commission (2010) recognises that the efficiency savings required over the next few years will mean doing things differently and, following benchmarking work carried out in 2010, that variations in nurse numbers, use of temporary staff and grade mix suggest there is scope to improve productivity and reduce costs. They suggest trusts should:

- Understand the reasons for variations in WTE per bed and the cost of staffing wards;
- Have a suitable grade mix
- Reduce the cost of temporary staff
- Identify the longer term efficiency savings that could be made by reconfiguring wards.

The findings of the 2011/12 Audit Commission ward staffing benchmarking review found that EKHUFT staffing levels are average with grade mix in the lower quartile. Percentage costs for bank staff at 7.4% is below the median of 7.7% and the Kent comparator. Expenditure on temporary staffing has continued to decrease through effective management of its use alongside greater productivity and reductions in length of stay.

The Productive ward is having a profound effect on the way that wards teams organise their systems and processes of care; and have improved direct care time by

around 10% by reducing non value-adding waste in processes. The continued challenges facing ward teams include the need to:

- Optimise care pathways and reduce length of stay in hospital
- Optimise patient safety and reduce any avoidable harm events
- Optimise patient experience including maintaining single sex accommodation; ensure patients feel part of their care decisions which includes information-giving; and improving patient reported outcomes of care.
- Maximising the effectiveness of the existing resource by achieving the optimum % clinically effective time in each roster.

Having achieved the improvements in staffing levels, additional work needs to focus on the skills and competencies required to deliver clinical pathways in order to run services efficiently and make the best use of the staffing resource. Future scarcity of newly qualified nurses will mean greater use of higher level support workers and further development of band 3 and band 4 roles to support a skill-rich workforce. Historical skill mix assumptions will need to be challenged and work has already begun on determining the range of skills and competencies appropriate across the range of agenda for change bands from 1 to 8. NHS Employers (2010) highlights the options available to help meet the workforce challenges which include apprentices, healthcare support workers and associate practitioners to enhance patient care and reduce costs.

A framework for providing person-centred, safe and effective care has been developed with Canterbury Christ Church University during 2011 with four key competencies, shown in table 7, relevant across all staff. This will be used to underpin the learning and development needs of staff, enable career progression, role clarity and consistency to maximise the contribution of all staff.

Table 7: CCCU / EKHUFT framework competencies

- | |
|---|
| <ol style="list-style-type: none"> 1. Provides and assures person-centred care, evaluating and researching the patients' experience. 2. Provides and assures safe care, maintains a safe environment for all, monitors and evaluates safe practice 3. Provides effective care at the individual, team, service and organisational level, using evidence-based approaches and resources appropriately to achieve optimal patient outcomes 4. Contributes to establishing an effective workplace culture that sustains person-centred, safe and effective care through leadership, learning, development, innovation and continuous improvement |
|---|

Delivery of the benefits and efficiencies of increasing numbers of higher level support worker roles will require robust supervision and support to ensure that individuals develop confidence and competence to operate at a higher level to provide safe and effective services that meet the needs of patients and the public. The need to provide a high quality learning experience whilst safely achieving a higher level of practical skills is particularly relevant for associate practitioner trainees in preparation for substitution for band 5 vacancies on completion of training. Future education commissioning for adult nursing will need to provide a balance with the need for Foundation degrees to support the further development of associate practitioner roles.

10. RECOMMENDATIONS

Maximising the use of existing resources

1. Maximise the efficiency and effectiveness of rostering practices the % time worked (clinically effective) indicator will be incorporated into the balanced scorecard in addition to 'unused contracted hours' with an expectation of achievement of 75% to ensure maximum availability of staff to deliver patient care.
2. A dashboard on workforce indicators will be introduced for divisions, with clear aim statements to make rosters as efficient as possible including:
 - j. Target improvements for % time worked (clinically effective) within existing rosters (as above);
 - k. Target reduction for sickness;
 - l. Target reductions in bank and agency use
 - m. Target reduction in vacancies
 - n. Monitoring of turnover and time to recruit to vacancies
 - o. Target reductions in overall cost of rosters
3. Implement recruitment ahead of vacancies based on predicted turnover in order to minimise disruption to the availability of staff on wards. This should include over-recruitment during April and September when newly qualified nurses are applying for posts.
4. Manage high levels of sickness absence of ward based healthcare assistants.
5. Review the structure of ward budgets to determine the risks and benefits of the separate bank budget. Consideration should be given to recruiting to this component of the ward establishment to mitigate risks such as maternity leave which may impact across a number of wards.

Enabling clinical leaders

6. Implement the framework for person-centred, safe and effective care and associated competences and inclusion in job descriptions and appraisal process. This will be linked to a clinical leadership programme with particular relevance for ward managers.
7. Triangulate workforce indicators with quality outcomes as part of the implementation of the Safety Thermometer programme aligned to CQUINS for 2012/13.
8. Undertake twice yearly study of nursing workload, ensuring robust consistency checking, using the AUKUH acuity dependency tool on all wards to monitor against changes in activity and LOS.

Innovations in workforce modelling

9. Encourage the testing of innovative nurse staffing models to re-define the job family within ward staffing structures to optimise the delivery of safe, efficient and effective clinical pathways.
10. Develop the healthcare support worker career pathway. Explore expanding the development of generic support- worker roles in some ward areas to create a support role that combines nursing, physiotherapy and occupational therapy helpers' knowledge and skills.
11. Review and re-evaluate any changes in ward establishment configuration and agree a sign off process for making changes in budgeted establishments and skill-mix.

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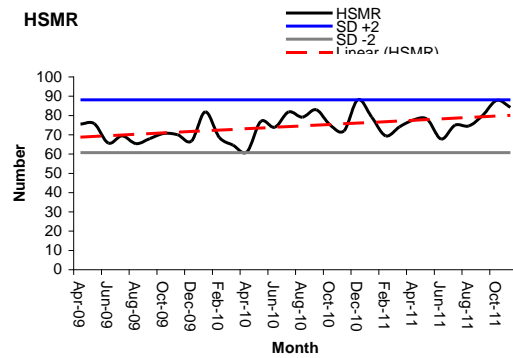
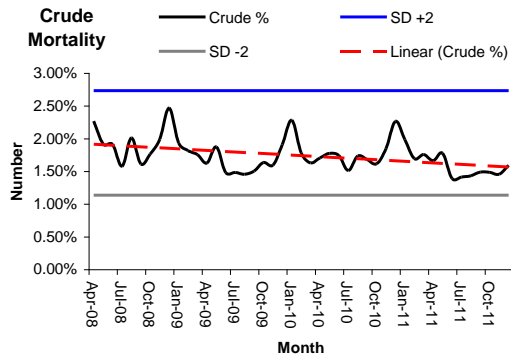
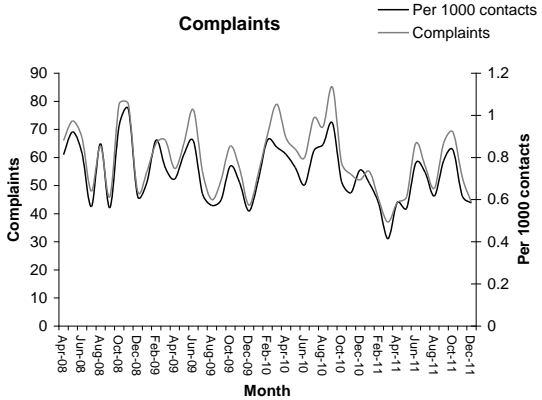
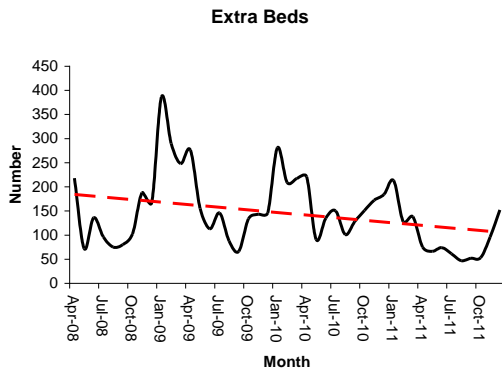
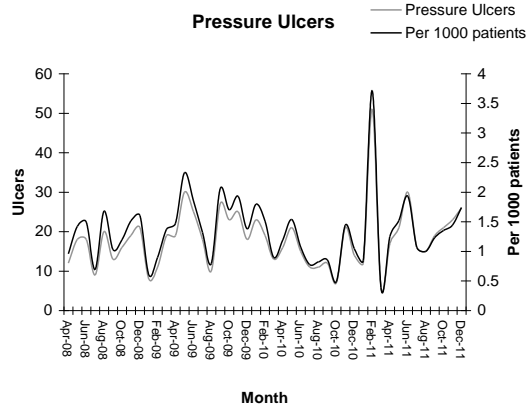
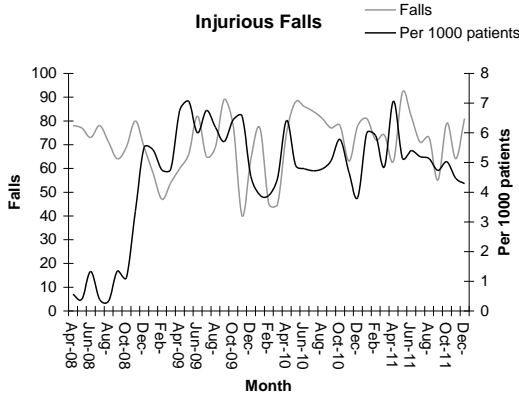
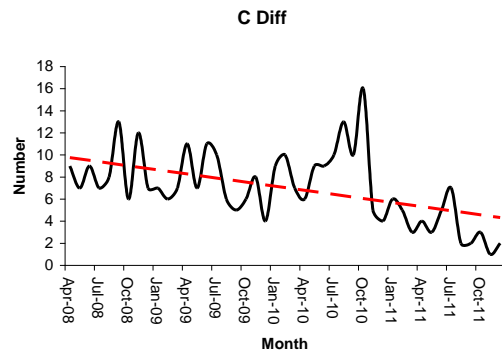
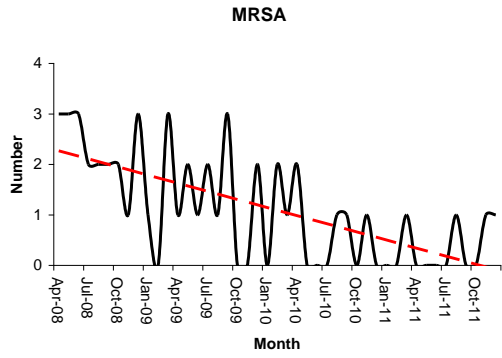
NHS Employers (2010) The support worker workforce: developing your patient-facing staff for the future.

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Appendix 1: Monthly incidence of MRSA bacteraemias, C.Diff, injurious falls, pressure ulcers, formal complaints about care, mortality and extra beds from 2008 – 2011 per 1000 patients

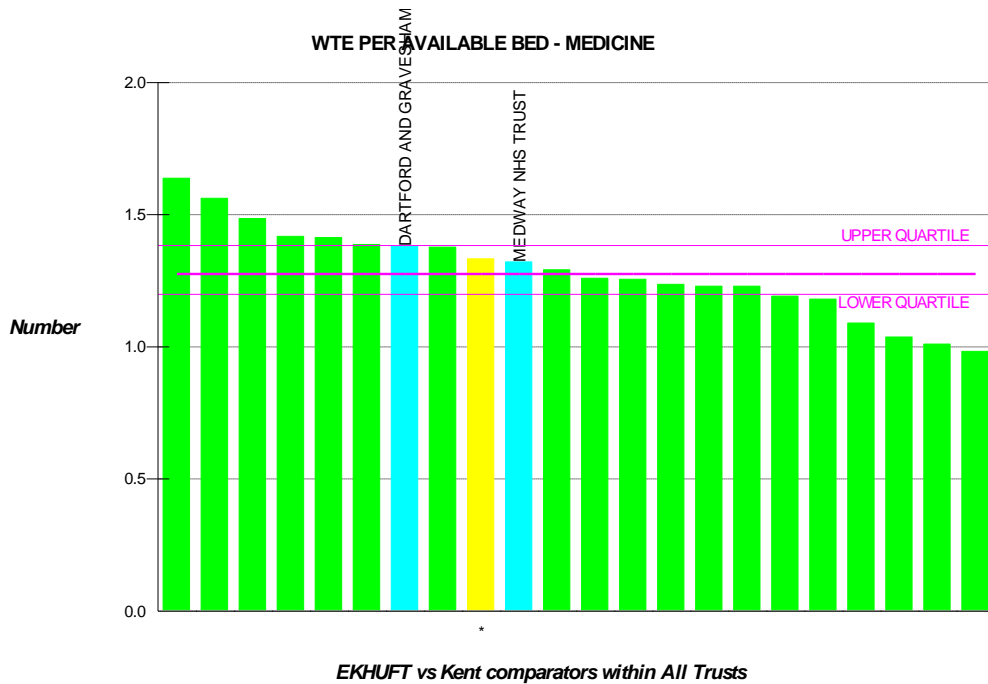
Ward Establishment review



Appendix 3: Audit Commission (2011/12) findings for Medicine

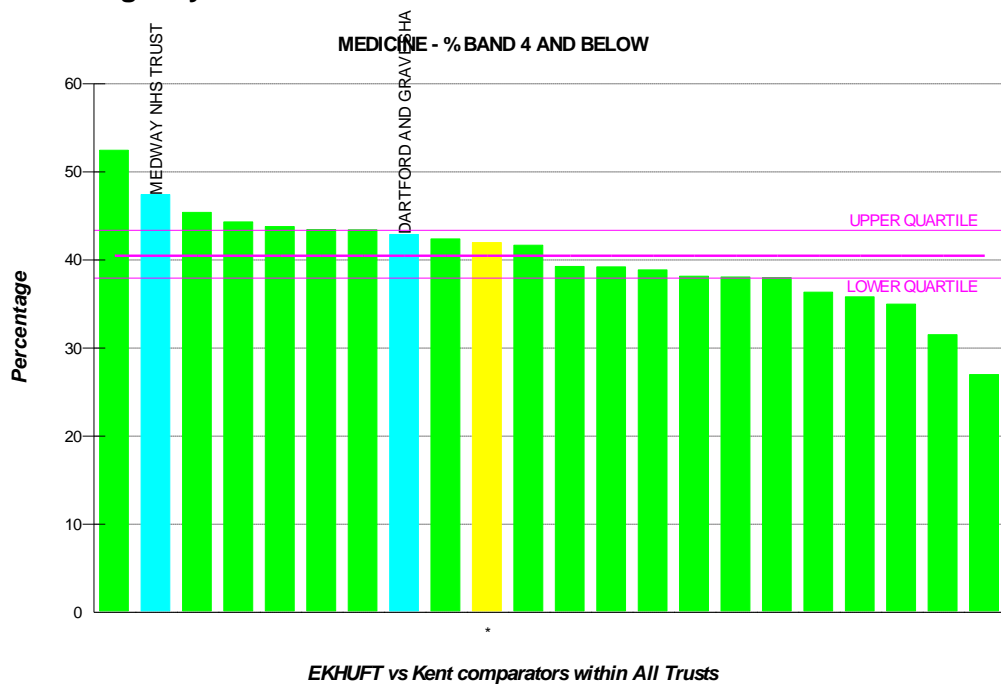
There are 1.33 wte per available bed in medicine is above both the median of 1.29 wte and Medway but below that of Dartford.

Figure 1: **Wte per available bed – Medicine**



In relation to grade mix in medicine 41.9 per cent of staff are at Band 4 or below, this is above the median and below the Kent comparator. The Trust has more staff at Band 5 and above (58.1 per cent) than the Kent comparators, figure 9 below.

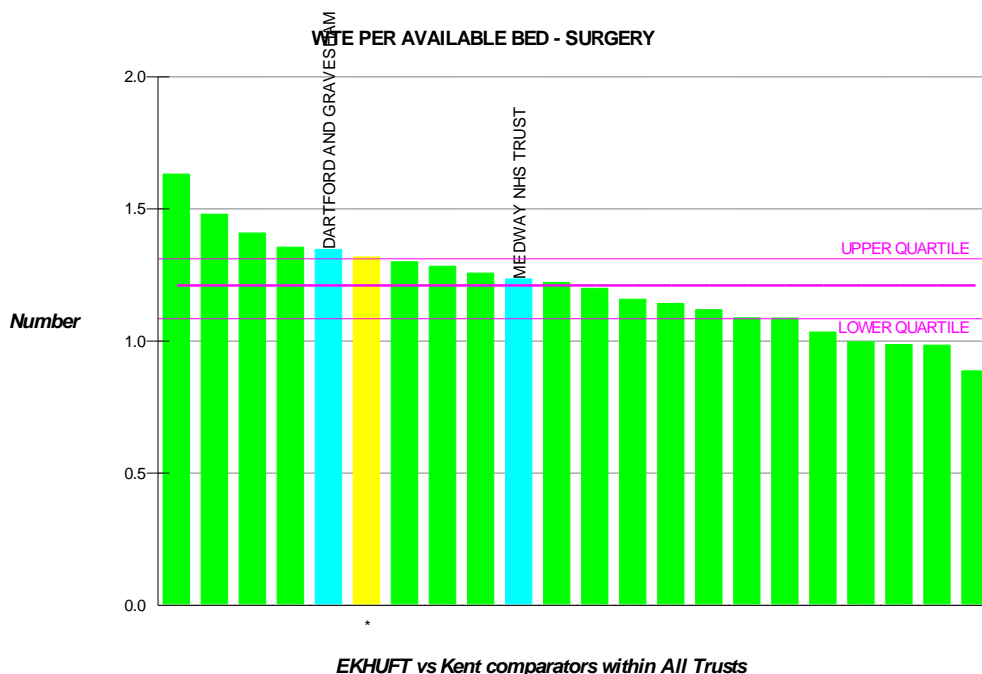
Figure 2: **Grade mix medicine percent band 4 and below– in post excluding bank and agency**



Appendix 4: Audit Commission (2011/12) findings for Surgery

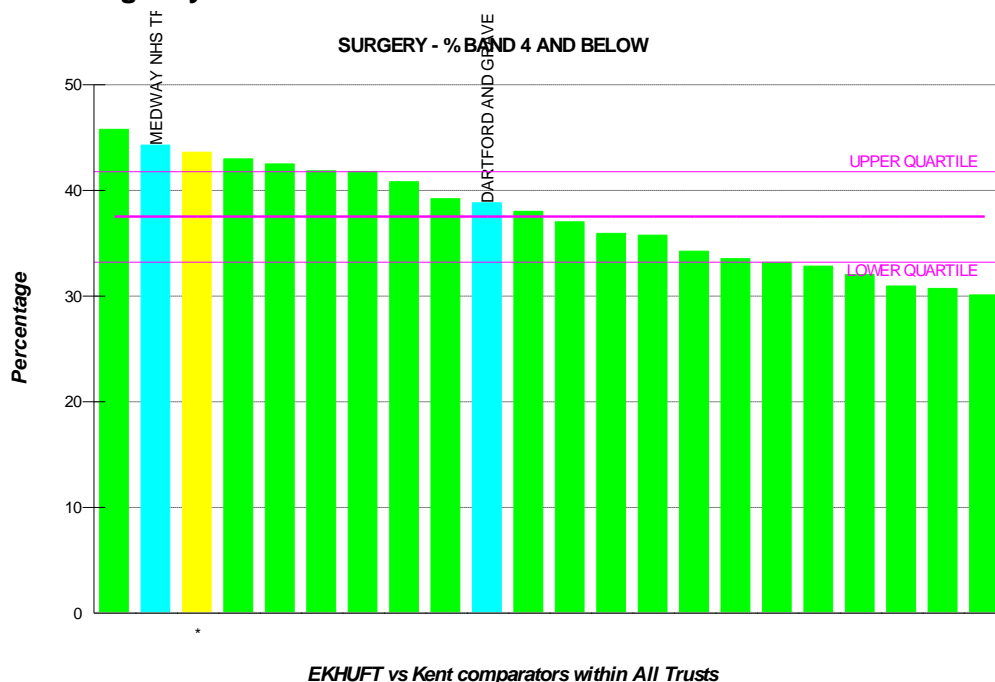
1 There are 1.32 wte per available bed in surgery. This is at the upper quartile compared to a median of 1.20 wte. It is below that of Dartford but above that of Medway.

Figure 3: **Wte per available bed – surgery**



In surgery 43.6 per cent of staff are at Band 4 or below, this is in the top 25 per cent of the comparative group, it is below the level of Medway and above that at Dartford.

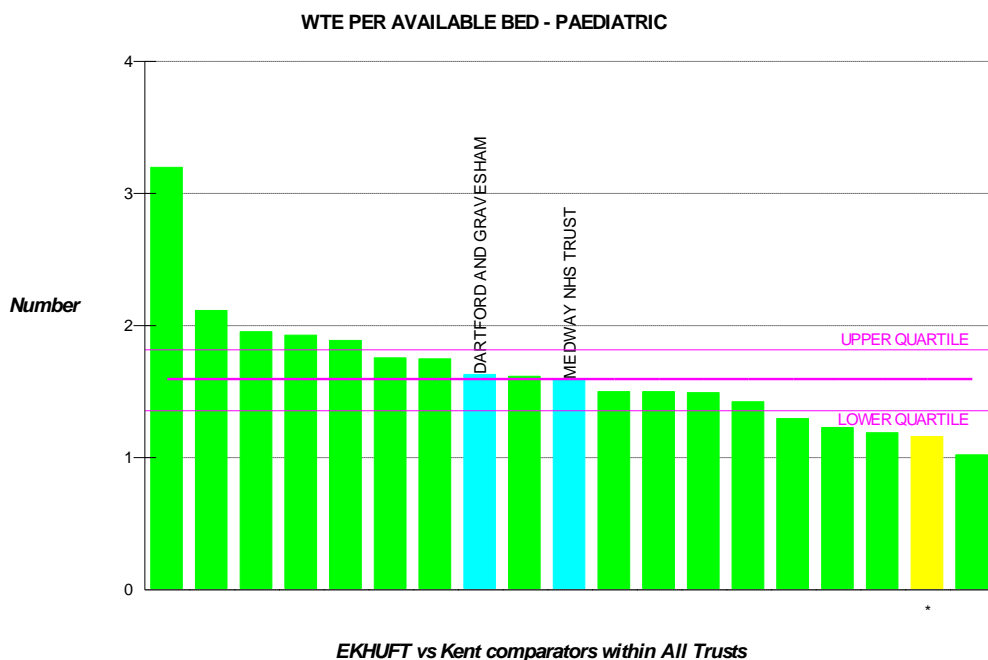
Figure 4: **Grade mix surgery percent band 4 and below –in post excluding bank and agency**



Appendix 5: Audit Commission (2011/12) findings for Paediatrics

There are 1.16 wte per available bed in paediatric. This is in the lowest 25 per cent, with a median of 1.61wte. It is also below the Kent comparator.

Figure 5: Wte per available bed - Paediatric



There are 17.9 per cent of staff at Band 4 or below in Paediatrics. This is in the lowest 25 per cent with a median of 22.6 per cent. It is also below Dartford but above Medway.

Figure 6: Grade mix paediatrics percent Band 4 and below – in post excluding bank and agency

