

DHSSPS

Unit Cost Review

Royal Group of Hospitals

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Prepared for: DHSSPS

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FOREWORD

This report presents the findings of the review of high unit cost at the Royal Group of Hospitals. The review team would like to thank the Trust and the DHSSPS Finance Directorate for the data analysis they undertook for the report and the time taken to work with the team.

This document is divided into 4 main sections:

1. Executive Summary: This section contains a synopsis of the approach, findings, conclusions and recommendations of the review.

2. Introduction: The Introduction provides the background to the review, the Terms of Reference and the approach taken by PA.

3. Findings: The Findings section contains an account of the key issues identified through investigation at the Trust under the Terms of Reference. These issues are grouped into 4 themes:

- **Unit cost Variance**
- **Delivery of Efficiency Improvements**
- **Performance Improvement Infrastructure, and**
- **The Future Agenda.**

4. Recommendations: Section 4 provides the recommended actions in relation to each issue identified.

TABLE OF CONTENTS

Foreword	i
1. Executive Summary	1-i
2. Introduction	2-1
2.1 The organisational context	2-1
2.2 Background to this review	2-1
2.3 Terms of Reference	2-2
3. Findings	3-1
3.1 Unit Cost Variance	3-1
3.2 Delivery of Efficiency Improvements	3-10
3.3 Performance Improvement	3-22
3.4 Future Agenda	3-24
4. Recommendations	4-1
4.1 Unit Cost Variance	4-1
4.2 Delivery of Efficiency Improvements	4-1
4.3 Performance Improvement Infrastructure	4-3
4.4 Future Agenda	4-4

1. EXECUTIVE SUMMARY

The Appleby Review highlighted that fewer outputs across a range of measures are delivered at the Royal¹ per given level of input than in English Trusts. From a value for money perspective, this begs the question as to whether there are opportunities to reduce unit costs to the level of hospitals in England, thereby freeing resources for other priorities such as improved patient access and quality.

This investigation of high cost considered the use of resources at the Royal against NHS best practice, as recommended by organisations such as the NHS Institute. It also considered the potential to improve based on internal benchmarks, the progress made by the Trust on its various efficiency projects and, the potential that exists for better use of existing resources.

This review confirms that costs at the Royal hospital can be reduced by increasing efficiency and productivity.

The review found that the Trust has a comprehensive portfolio of efficiency and cost reduction projects underway, which are starting to yield results, however there remains a significant challenge to maximise use of available resources. This is reflected in the analysis of bed, theatre and staff indicators and the ongoing unit cost variance with England. This report therefore recommends actions to improve the Royal's efficiency, based on the experience of other Trusts. Of the recommendations set out in Section 4, we highlight the following as priority for the Trust to take forward:

- The introduction of comprehensive discharge planning for all patients
- The introduction of pre-operative assessment
- The reduction of cancelled operations
- The reduction of sickness absence.

It is recommended that the pace and degree of improvement are monitored on an ongoing basis using the set of high-level productivity and performance indicators set out in this report at Table 1.1. These are based on the "NHS Better Care, Better Value Indicators" which monitor productivity, efficiency and quality². For each indicator, the review team has provided a stretching target performance level. These levels are based on NHS best practice where this information is available, or an assessment by the level of performance the Trust should be aiming for as part of its drive to improve productivity and reduce cost. These indicators can also be used for ongoing internal benchmarking and external comparison against best practice.

¹ Royal Group of Hospitals and Dental Hospital Health and Social Services Trust – referred to as 'the Royal' in this report. From April 2008 the Royal has been incorporated into the new Belfast Trust

² Launched 23 October 2006 by Andy Burnham, Minister of State for Delivery and Quality

1. Executive Summary. . .

This report provides a sense of the scale of the benefits to be achieved through implementation of the recommendations. It is for the Department and the Trust to agree an improvement timeline and interim efficiency goals.

The recommended actions and indicators are based on general principles designed to promote good resource management across the Trust rather than targeting particular specialties or clinical pathways.

As part of the review, links to support sharing of best practice were established with two English Trusts (Guy's and St. Thomas' and South Devon Healthcare Trust). These Trusts were selected as they have a demonstrated track record in delivery of similar efficiency and productivity improvements.

Finally, the review found that the programme of health reform driven by the DHSSPS is acting as a catalyst for better use of resources by the Trust. The formation of the new Belfast Area Trust must be viewed as the key opportunity to transform services and increase efficiency.

Table 1.1 Recommended Productivity and Performance Indicators

The aims for these performance measures are stretching and represent best practice. A recommended next step is for the Trust and the Department to agree timescales and trajectories for achievement. The current Trust position reflects the data provided by the Trust for the review and the diagnostic interviews with the Trust.

Resource	Performance Measure	Current Trust Position	Aim	Source	
1. Beds	1.1	Pre-Operative Assessment Rate	Trust is introducing pre-operative assessment	100%	NHS Modernisation Agency Checklist for Pre-Operative Assessment 2004
	1.2	Day Surgery Rate Based on the British Association of Day Surgery Basket	3 procedures >77.1%	77.1%	NHS Top Quartile Day Surgery Rate
	1.3	Day of Surgery Admission	50%	90%	NHS Institute – Reducing Pre-operative Bed Days
	1.4	Delayed Discharges	C.6,000 in 06/07	0	Trust and Community aim for medically fit patients to be discharged
	1.5	Occupancy Rates	85%	90%+	See section 3.2.2 c of this Report
2. Theatres	2.1	Cancelled Operations	10.9%	0.8%	NHS Best Practice Performance
	2.2	Percentage of patients readmitted within 28 days of operation cancelled for non-clinical reasons	To be collected as cancelled operations are reduced	100%	NHS Best Practice Performance
	2.3	Utilisation of Available Sessions	99% of staffed, funded sessions delivered (90.5% of funded sessions)	90%	NHS Best Practice Performance, Bevan Report
	2.4	Utilisation of Sessions	<i>Different method of presenting utilisation in place at Trust</i>	92.5%	Audit Commission, 2003
3. Staff	3.1	Sickness Absence	6.23%	3%	Best Practice Performance against NHS Better Care, Better Value Indicators
	3.2	Agency Cost % of Total Staff Spend	To be collected	1%	Best Practice Performance against NHS Better Care, Better Value Indicators

1.3: Please note the impact of regional specialty and casemix may result in a lower Day of Surgery Admission percentage.

2. INTRODUCTION

2.1 THE ORGANISATIONAL CONTEXT

Prior to its incorporation into the Belfast Trust in April 2007, the Royal Group of Hospitals and Dental Hospital Health and Social Services Trust (the “Royal”) was already Northern Ireland's biggest hospital complex. The Trust comprised four linked hospitals - the Royal Victoria, Royal Jubilee Maternity Service, Royal Belfast Hospital for Sick Children and the Dental Hospital.

As the main provider of almost all the regional, medical, surgical and dental speciality services in Northern Ireland the Trust had more than a fifth of all acute beds in Northern Ireland and a staff of some 6,500, including a quarter of all hospital doctors in the province.

The Trust's stated mission was 'to provide the highest quality cost-effective health care as outstanding acute general hospitals and tertiary referral centres through exceptional service to our patients, staff and community in an environment of education, teaching and research'.

The Royal treated more than half a million people every year. Approximately two thirds of the Northern Ireland population live within 40 minutes travel from the 70 acre site, situated near Belfast city centre.

The Royal now forms part of the new Belfast Trust - amalgamating the current Belfast City Hospital, Royal Group of Hospitals, Mater Infirmorum, Greenpark, North and West Belfast (including Muckamore Hospital) and South and East Belfast HSS Trusts.

2.2 BACKGROUND TO THIS REVIEW

This report contains the findings of a review of reasons for high unit costs at the Royal Group of Hospitals. A similar review has been undertaken for the former Green Park Healthcare Trust, the findings of which are contained in a separate report.

In August 2005, Professor John Appleby of the King's Fund reported on his review of the provision of Health & Social Care Services in Northern Ireland³.

Professor Appleby reported that Northern Ireland exhibited lower productivity than the UK average across a range of indicators including activity per member of staff, per available bed and per pound of health spend. Higher than average unit costs were also reported and these varied significantly between Trusts. This analysis highlighted both the Royal and Green Park Healthcare Trust as outliers – in fact excluding these hospitals from the analysis would have removed the overall Northern Ireland cost difference with England.

Whilst a number of hypotheses were suggested to explain this variance, the Appleby review did not have sufficient evidence to comment on the cause(s). Professor Appleby therefore recommended: “Further investigation is needed to explore possible reasons for high unit costs at the Royal and Green Park Trusts”. This current review is aimed at addressing the Appleby Report's recommendation.

³ Independent Review of Health and Social Care Services (Aug 2005)

2.3 TERMS OF REFERENCE

It was agreed with the DHSSPS Finance Directorate that the review should have a particular focus on the current pathways of patient care, and how they could be improved to increase efficiency and reduce cost. In this way, the review aimed to identify practical actions that the hospital could take forward to reduce cost. This focus included the identification of:

- The features of care delivery at the Trust that reduce efficiency and increase cost
- The opportunities to increase cost efficiency and productivity at a local level, notwithstanding comparative performance
- The best practice that could be adopted based on the learning and performance of other hospitals
- The sources and peers that the Trust could link with to inform implementation of best practice
- Action taken by the Trust to better understand its high unit cost
- The future or strategic actions to reduce cost, outside the immediate gift of the Trust.

Table 2.1 below sets out the Terms of Reference and the section of the report in which they are addressed.

Table 2.1: Terms of Reference

	Term of Reference	Section
1.	An assessment as to which English Trusts within the relevant Audit Commission peer group are the most appropriate comparators for each Trust recognising the desire for NI Trusts to attain best practice levels of performance	3.1
2.	An explanation of the various factors identified which explain the material reported variations	3.1, 3.2
3.	A determination of the relative significance of each factor explaining the material variations	3.1, 3.2
4.	A summary of work carried out and results, in particular, as to whether investigations of cost carried out by the two Trusts were sufficiently thorough	3.1
5.	Recommendations as to possible methodologies to adopt for future cost benchmarking	3.1
6.	On the basis of the above, recommendations regarding action that can be taken to improve the efficiency and effectiveness of delivery of the range of acute services provided by the two Trusts towards the NI average through to English best practice levels to the extent considered appropriate; and	4
7.	Identification, with justification, of any factors that can not be influenced by direct Trust action in the short term but which in part explain apparent underperformance, that could be addressed in the longer term	3.4

2.3.1 Our Approach to Delivering the Terms of Reference

PA's approach to delivering these terms of reference involved:

- Mobilising a multi-disciplinary project team including an NHS Chief Executive and a former NHS doctor.
- A review of the considerable body of comparative and internal unit cost analysis work that had been undertaken by the DHSSPS and the Trust.
- Diagnostic interviews with key stakeholders at the Trust. This process included meetings with Trust executives and managers across Head and Skeletal, Women's and Children's, General Medicine and General Surgery, Anaesthetics, Theatres and Intensive Care Services (ATICS), HR and Finance.
- An assessment of the use of resources at the Trust against best NHS practice. This included beds, theatres and staff. This involved the review of patient pathways in place and analysis of performance and utilisation data against a range of indicators for each resource.
- Development of findings, conclusions and recommendations, which were discussed and tested with the Trust and the Department.
- Completion of this report.

3. FINDINGS

3.1 UNIT COST VARIANCE

The Appleby Report identified that unit costs at the Trust were high when compared to English Trusts. In response to the Terms of Reference, the review team considered the following questions:

- Does unit cost variance with English Trusts still exist (given that the Appleby Report was based on 2002/03 data)?
- What investigation into the reasons for unit cost variance has the Trust undertaken?
- What factors comprise the unit cost variance? What is their relative significance?
- What are the implications for future cost benchmarking?

The team drew on the extensive analysis and associated research work provided by the Trust and the DHSSPS Finance Directorate including:

- CHKS⁴ benchmarking material including the results of the Payment by Results (PbR) Risk Assessment Programme, which assess financial vulnerability and potential losses arising from PbR
- Analysis undertaken and materials produced by the Trust including HRG⁵ Query proforma completed by the Trust
- Analysis undertaken and materials produced by the DHSSPS Finance Directorate
- The Appleby Report.

This section presents our findings in relation to each question.

3.1.1 Does Unit Cost Variance with English Trusts still exist?

The **overall** variance in unit cost between Northern Ireland and England has decreased but is still significant. It narrowed from 9% in 2003-04 to 6% in 2004-05. The notional saving that would ensue if equivalent English averages were applied to actual Northern Ireland activity and casemix was £31m after adjusting for known costing differences. The biggest single difference between Northern Ireland and English unit costs was in Maternity services, which constituted £16.7m of the variance in 2004-05. It is important to note that there are two ways of comparing and analysing cost with English hospitals, by epidemiological category and by Trust.⁶ When we analyse by category, there is significant maternity services deviation from English averages in all NI Trusts, not just RGH.

⁴ CHKS is a UK provider of comparative information for healthcare organisations

⁵ Healthcare Resource Groups (HRGs) are standard groupings of clinically similar treatments, which use common levels of healthcare resource

⁶ DHSSPS Finance Directorate Report, 2004-5 Reference Costs, 2006

Comparison of the **Trust's** unit costs in particular with English unit costs shows that the hospital level unit cost variance remains. Independent analysis by CHKS confirms there is variance between the Trust's unit costs and those at a general English peer group. Most of the Trust's specialties incur higher unit costs than at the general English peer group identified by CHKS. Taking a similar approach to HRGs, those accounting for the greatest overall costs to the Trust tend to have higher unit costs than at comparable Trusts in England. HRG benchmarking is a tool best used in the context of an understanding of Trust service configuration, methodological difference, specialty appropriate peers etc. This analysis is still useful however and it confirms that the variance identified in the Appleby Report still exists.

Table 3.1 shows cost comparison between the RGH Trust, Audit Commission Groups and the Northern Ireland average. Of the RGH variance from English Peers, £5m relates to obstetric HRGs. Of the RGH variance from Northern Ireland average, £0.8m relates to obstetric HRGs.

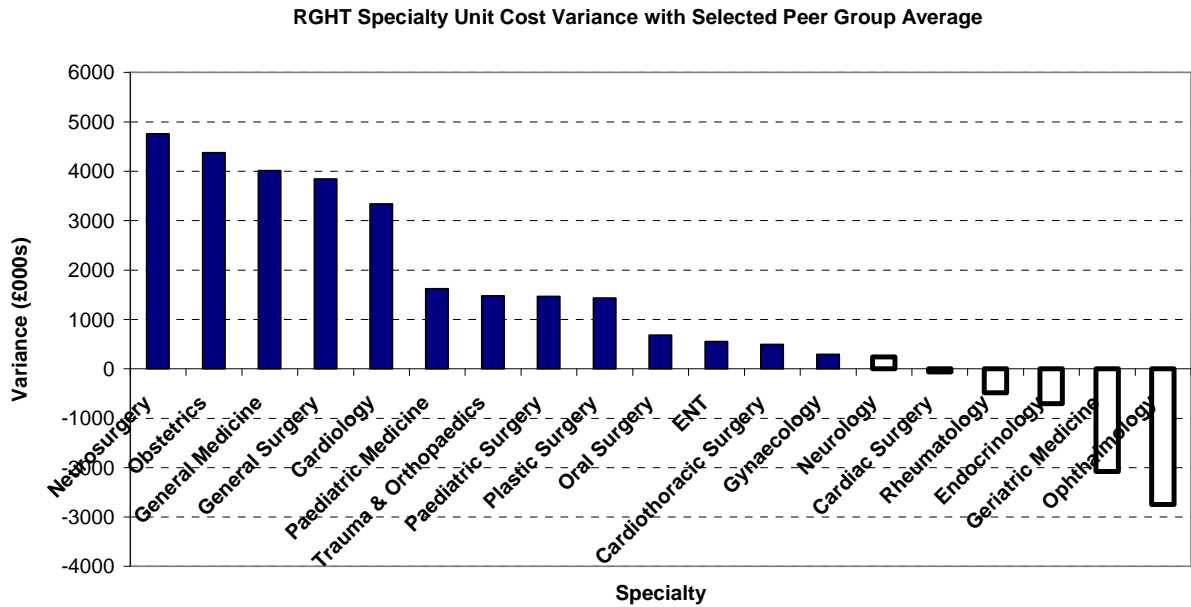
Table 3.1: 2004/05 Cost Comparison⁷

	Actual Cost (£m)	Audit Commission – English Peers (£m)	Northern Ireland Average (£m)
Royal	119.8	100.9	104.4

⁷ This analysis includes elective inpatients, day cases and non-elective inpatients for acute specialities, elderly medicine, obstetrics and gynaecology. It does not include critical care, renal dialysis, community services, PSS services, outpatient services or rehabilitation. HRG level activity has been multiplied by peer averages and Northern Ireland averages respectively to indicate what the activity would cost if delivered elsewhere.

Figure 3.1 shows that when the Trust’s specialties are compared with a general peer group of Trusts (rather than comparing each individual specialty at the Royal to a Trust with a similar profile in a given specialty) most of the Trust’s specialties have higher unit costs than those at comparable Trusts in England. The data table for this graph is provided at Appendix B.

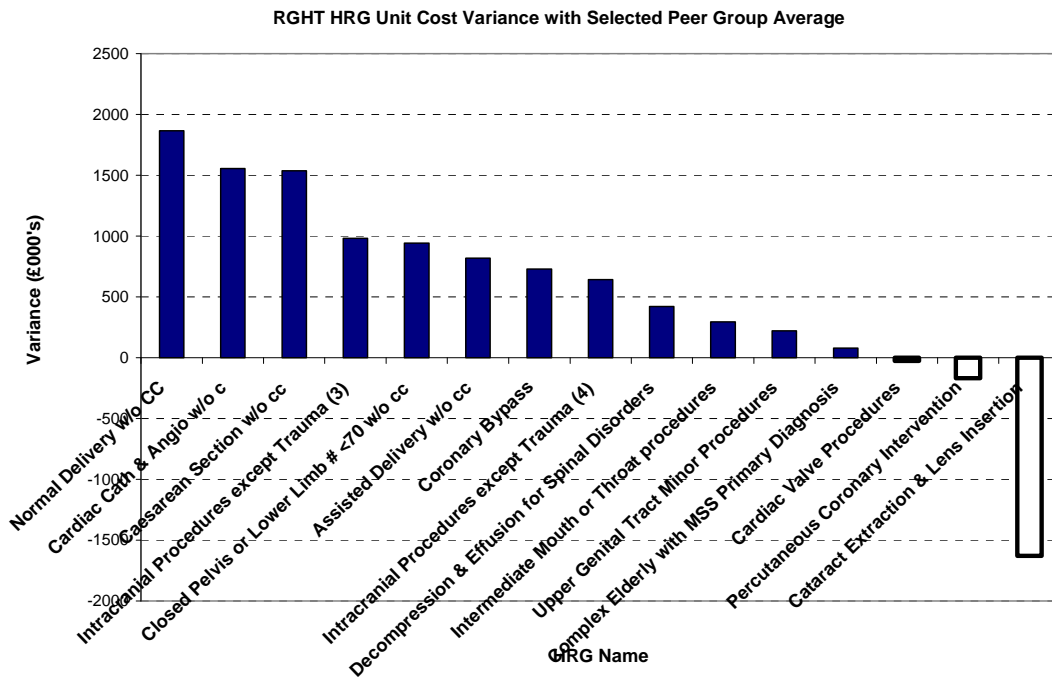
Figure 3.1: RGHT Specialty Level Unit Cost Variance⁸



⁸ Please note that in respect of Obstetrics and Neurosurgery, 6 of the 8 peers in this group do not provide regional sub-specialties.

Figure 3.2 shows that undertaking similar analysis at a HRG level, those HRGs accounting for the greatest overall costs to the Trust tend to have higher unit costs than at comparable Trusts in England. The data table for this graph is provided at Appendix B.

Figure 3.2: RGHT HRG Level Unit Cost Variance



3.1.2 What investigation into the reasons for unit cost variance has the Trust undertaken?

The Trust has taken a comprehensive and robust approach to investigating unit cost variance.

This investigation has helped to inform the Trust's portfolio of efficiency and cost reduction projects, which are starting to yield results. The outputs from this investigative work are actively used by the Trust, for example a review of cost is incorporated into the twice yearly Accountability Review process at Divisional level, to gain a better understanding of unit cost variance.

The Trust's approach to cost investigation has included undertaking an extensive assessment of the methodological differences between English and Northern Irish unit cost calculation.

The Trust undertakes extensive external cost benchmarking as evidenced in the Trust Benchmarking Register. This register is regularly updated and used to explore reasons for high cost. The Trust Information Department and Finance Department have met with Hospital Divisions, including clinical representatives, to explore reasons behind high unit costs and issues highlighted by the CHKS data e.g. long lengths of stay. Some of this work has been reflected in the HRG query responses.

CHKS HRG comparative analysis against a selection of peer Trusts has been commissioned for a number of years to confirm variance and identify outlying services and procedures. The Trust continues to be a member of the CHKS Teaching Hospitals Benchmarking Group. The Trust undertook a collaborative benchmarking project with BCH for Cardiology and General Surgery specialties. The Trust is also working with Civileyes to gain an understanding of productivity and rate of outputs per given inputs at consultant level.

3.1.3 What factors comprise the unit cost variance?

There are many factors that influence hospital unit costs, such as the type and range of services provided, service frequency, the population served, clinical practice and treatment, the extent to which available resources are used efficiently.

The Trust is the sole provider of a range of tertiary services for Northern Ireland⁹. This results in a high proportion of emergency / non-elective work in trauma and neurosurgery (58% non-elective compared to 33% at peers), which the Trust serve with a higher skill mix and nurse to bed ratio. Low volumes of highly complex patients impact specialty costs. These costs are reflected in both elective and non-elective HRGS.

The Trust and the Department have identified that some of the variance in unit costs reflects the different costing methodologies in Northern Ireland and England. It is not possible to harmonise costing completely as national funding streams are not the same.

⁹ Provision of the regional neurosurgery unit, regional cardiac surgery specialty; regional trauma services; host of the Northern Ireland dental school; regional centre for a range of paediatric services; provision of regional sub-specialties (e.g. intestinal failure within general surgery).

Both the Trust and the Department agree however that unit cost variance is still a useful and valid indicator of efficiency.

We contend however that the single biggest influencer of unit cost is how a hospital manages the above factors. The dominant reason why unit costs vary is because hospitals do things differently, not because their patients are different or their circumstances are unique. For example, casemix of patients is often cited as a reason why a hospital has a high unit cost, whereas in fact the high cost is often caused by the planning, management and treatment pathways in place for these patients. For this reason, our review approach placed great emphasis on a diagnosis of the current practices in the Trust and the identification of opportunities to maximise resources and reduce excess capacity.

Efficiency is the system's optimal use of available resources to yield maximum benefits or results. It shows a system's ability to function at lower costs without diminishing attainable and desirable results.

Our assessment of the use of resources at the Trust against best NHS practice indicates that current practices reduce efficiency and lead to increased unit costs. The review of the Trust's data indicates that the Trust is not as productive as it could be in light of the system inputs and outputs. The areas highlighted as requiring focus and change to reduce costs are the utilisation and management of beds, theatres and staff. The analysis supporting this conclusion is provided in Section 3.2. Analysis of the current use of beds, in particular shows considerable potential for improvement for example:

- Length of stay by HRG is longer than that at English Trusts
- The volume of delayed discharge (although reducing) is high
- Day of surgery admission (DoSA) rates are low at 50%

The value of excess bed days¹⁰ at the Trust in 2004/05 was £11,857,799, a figure which highlights the considerable cost of long hospital stays¹¹.

The provision of maternity services also accounts for a significant proportion of the unit cost variance. The DHSSPS has recently completed a detailed review of maternity services and the factors associated with higher costs of provision in Northern Ireland compared to England. If significant cost reduction is to be achieved, a strategic decision to change the type of service provided is required. This is explored in Section 3.4. This should not preclude the Trust from continuing to strive to improve efficiency in delivery of maternity services.

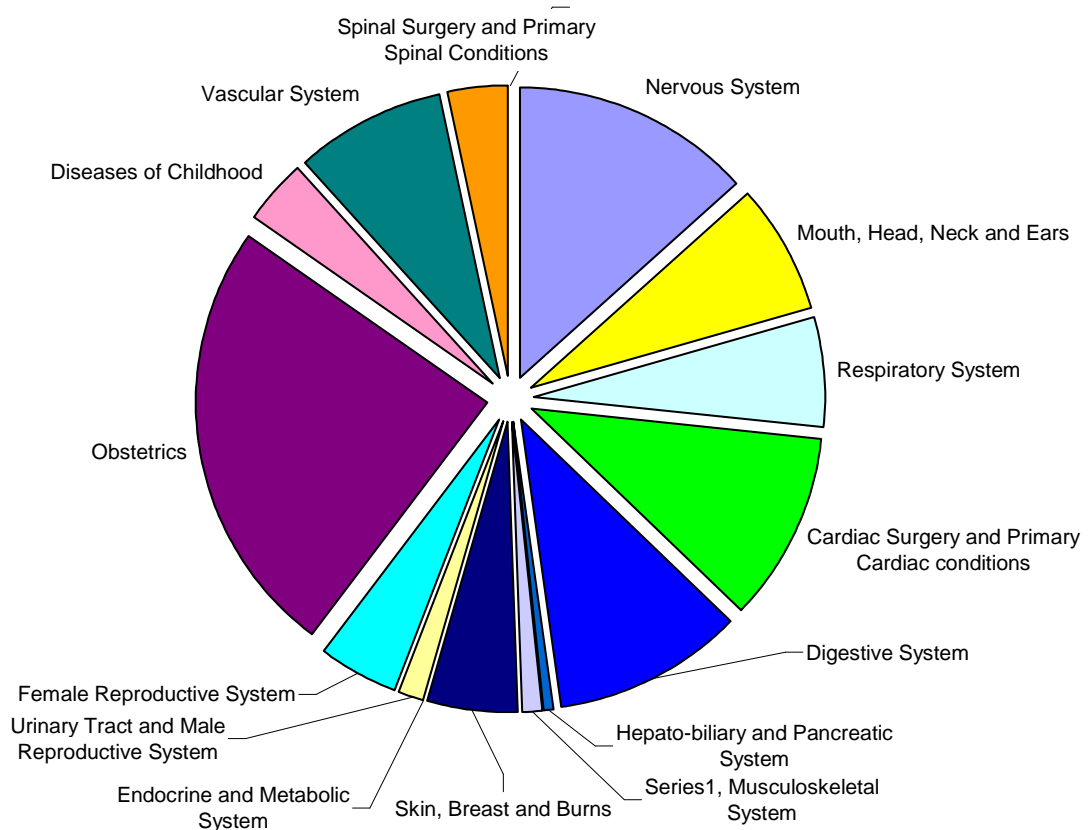
¹⁰ Excess bed days are those bed days that are above the maximum of the range normally expected for an episode in respect of any given HRG

¹¹ Note: this includes the total cost of those bed days, and as such cannot be interpreted in total as a target saving through better management of beds.

3.1.4 What is the relative significance of the factors increasing cost?

Maternity unit cost variance accounted for 25% of the overall unit cost variance between the Trust and its English Teaching Hospital peer group. While other trusts in Northern Ireland show similar deviations from English performance, it is important to consider and understand the reasons for that deviation.

Figure 3.3: Proportion of RHG Unit Cost Variance Split by HRG Chapter¹²



As this graph illustrates, whilst obstetrics and neo-natal care¹³ account for a significant share of the unit cost variance, the majority of HRG chapters contribute¹⁴. The way the

¹² This graph is based on RGH absolute variance from English Teaching Peer group 2004/05 by HRG Chapter

¹³ N codes include obstetrics and neo-natal care, however very little neonatal care is included in the variance as most of the N codes for neonates are not HRG coded.

¹⁴ Two chapters have positive variance: Eyes and Periorbita and Haematology, Infectious Diseases, Poisoning and non Specific Groupings

Trust uses its key resources of beds, theatres and staff impacts all of its procedures, and all unit costs. It is a cross-cutting issue that affects all HRGs. Therefore productive use of resources is the most important factor driving increased unit cost.

Of these resources, based on the findings of this review, the current use of beds is the most significant factor driving the unit cost variance. Whilst the costs of staff sickness and reliance upon agency staff are major costs and areas where achieving best practice levels would realise significant savings, as most Trusts in England are not achieving best practice in these areas, it is concluded that these are not the reasons for variance.

Later in this section, in line with the approach adopted by the NHS Institute and based on data provided by the Trust, we have provided a sense of scale of possible gains to be made from taking forward the recommended productivity and efficiency actions.

3.1.5 What are the implications for future cost benchmarking?

Unit cost benchmarking remains an important indicator of efficiency to focus the Trust on the costs it can influence. The extensive comparative analysis and consideration of unit cost undertaken by the Trust and the Department underlines the real value of unit cost comparison as one of a suite of indicators, which can be used to target efforts to improve efficiency. This holistic approach is supported by this review, as it ensures a debate focused on the actions that will improve efficiency. Investigation into unit cost variance has provided the Trust with useful data to inform efficiency projects. This involves consideration of the local operational context and the regional strategic context.

It is important that the Trust focuses on how well it manages the factors that influence its own costs and regardless of whether its patients are different to other providers or its circumstances are unique. To this end, cost benchmarking should be complemented by an increased focus on productivity and efficiency indicators, such as those provided in Table 1.1.

The review team has established links with two English Trusts consulted regarding delivery of efficiency improvements (South Devon Healthcare, an NHS Centre for Innovation and Guy's and St. Thomas' NHS Foundation Trust), which provides an opportunity for the Trust to share best practice.

3.1.6 Unit Cost Variance: Conclusions

The variance between the Trust's unit costs and English unit cost still exists.

The Trust has undertaken comprehensive and robust investigations of unit cost variance. The Trust maintains a strong focus on methodological differences. There is however evidence of a focus on actions that can be taken, with the Trust using unit cost variance as one of a set of indicators to identify areas to focus on e.g. incorporation of unit cost into the Accountability Review discussions.

The use of resources at the Trust against best NHS practice indicates that current practices reduce efficiency and lead to increased unit costs.

The provision of maternity services accounts for a significant proportion of the unit cost variance. The conclusion of the review is that a strategic decision to change the type of maternity service provided is required if significant cost reduction is to be achieved. This is explored in Section 3.4. This should not preclude the Trust from continuing to strive to improve efficiency in delivery of maternity services.

The most significant factor causing the unit cost variance at the Trust is that current practices reduce efficiency and lead to increased unit costs. Based on the pathway analysis undertaken, this review concludes that the current use of beds is the most significant factor driving the unit cost variance. Each of the factors outlined in this section contribute sufficiently to the unit cost variance to merit change and these recommendations are set out in Section 4.

Unit cost variance is a useful comparative indicator and should be used in conjunction with performance and productivity indicators, such as those recommended in this report as part of future benchmarking, which give a clear view of areas where the Trust must increase efficiency. Linking with Trusts that have achieved such efficiencies should play an important role in attaining best practice levels of performance. Both the Trust and the Department agree that any consideration of why unit costs are higher at one provider than another must take a holistic view of the operational and regional context. To this end the comparison undertaken with specialty specific peers (as undertaken for the Trust by CHKS) supports the Trust in achieving greater understanding of local reasons for cost variance.

Full harmonisation of the costing methodologies is not possible due to different national cost structures. The Trust's performance against a range of performance and productivity indicators clearly shows a need for improvement, therefore complementing unit cost analysis with such analysis should avert any debate regarding validity of unit cost comparison.

3.2 DELIVERY OF EFFICIENCY IMPROVEMENTS

In considering 'action that can be taken to improve the efficiency and effectiveness of delivery of the range of acute services', the review team undertook an assessment of the use of resources at the Trust against best NHS practice. This involved the review of patient pathways in place and analysis of performance and utilisation data against a range of indicators for each resource. Contextually, it is important to note that the English health service is at a more advanced stage of service reform than hospitals in Northern Ireland however this comparison is useful in identifying the type and extent of efficiency improvements the Trust should focus on. The review team considered the following questions:

- What action has been taken by the Trust to improve efficiency and reduce cost?
- Is bed capacity maximised based on:
 - Day surgery rates
 - Day of surgery admission
 - Pre-operative assessment rates
 - Occupancy rates
 - Delayed discharges
- Is theatre capacity maximised based on:
 - Cancelled Operations
 - Reasons for cancelled operations
 - Use of Day Surgery
 - Cancelled Sessions
 - Utilisation of sessions
- Are other resource issues increasing cost?

3.2.1 What action has been taken by the Trust to improve efficiency and reduce cost?

The Trust has a wide-ranging portfolio of cost reduction and efficiency projects, which are starting to yield results - an example is the reductions the Trust is achieving in the volume of delayed discharges. Some of these projects are part of the AGE II project (Advisory Group on Efficiency), many of which are driven within Divisions. These are considered particularly in Section 3.2.1.a.

These projects have delivered results in the past year, e.g. reduction in 21 beds on 9 wards and savings in pharmacy and laboratory services of £1m.

The Trust is using unit cost variance as one of a set of indicators to identify areas to focus on internally and improve efficiency.

The Trust has also used the unit cost variance analysis to trigger some pathway and practice based comparisons with peers, for example:

- Staff from a range of areas including Cardiology, Thoracic, Medical and Surgery have visited St. George's
- The colorectal team have visited St Mark's, St George's and are currently developing an enhanced recovery programme to reducing length of stay

- The Head & Skeletal Division is working with Hope Hospital in Salford to benchmark practice and develop the patient pathway.

Example of action to improve efficiency and reduce cost: Obstetrics

Obstetrics is identified as a high cost area by CHKS analysis and several obstetric procedures are amongst the top 50 HRGs by total negative cost variance e.g. N11, M05.

The Trust is the regional centre for referrals relating to maternal and foetal reasons. The Trust has identified closure of local units, decreased the level of local / step down support available, as a factor driving increased acute length of stay. The Trust is also the sole regional centre for fertility treatment, undertaking complex operative procedures. The service is configured to support a stand alone gynaecology theatre with an on-call service for emergencies.

Using CHKS data as a starting point, the Trust compared service configuration and allocation of beds to peer Trusts. As a result, the Trust planned to reduce the number of beds by 10. Six beds have been removed so far. The Trust has also delivered a reduction of half a day in length of stay in obstetrics over the last year.

a. *WHAT ACTION HAS THE TRUST TAKEN TO INCREASE EFFICIENT BED USE?*

The Trust has a range of projects, underway and planned, to improve bed use and these are starting to show results. Examples of bed related projects currently being undertaken or planned by the Trust include:

- Understanding delayed discharges and introduction of conditional discharge
- Reducing emergency length of stay
- Introduction of pre-operative assessment in January 2007
- Introduction of day of surgery admission in February 2007
- Introduction of an ambulatory care pathway for varicose veins
- Assessment of appropriate bed base, informed by external benchmarking
- Introduction of a specialist specific take system for patients admitted from A&E, which should reduce length of stay.

These projects have started to deliver results:

- The Trust has reduced its bed base by the equivalent of 21 beds
- Reduction of length of stay in Obstetrics by half a day over the last year, 6 beds removed as part of a plan to reduce by 10
- Reduction of length of stay in respiratory medicine (6.4 to 6 days). COPD has seen the greatest improvement
- Gastroenterology length of stay has decreased from 7.6 to 7.3 but still above the peer average of 5.5 days
- Colo-rectal Surgery length of stay has reduced to 7.5 days against 7 days in the peer. This represents a continuing reduction from 8 days last year.

b. *WHAT ACTION HAS THE TRUST TAKEN TO INCREASE EFFICIENT THEATRE USE?*

The Trust is capitalising on the roll-out of the Theatre Management System (TMS) and continually improving the depth and breadth of theatre data available to drive performance changes. There is a good level of confidence in theatre data.

Theatre utilisation and activity data is discussed with each Division as part of the Accountability Reviews. To enable closer monitoring of theatre activity, detailed reports are provided to divisions on a monthly basis. Analysis of monthly theatre data for ENT and Ophthalmology has led to improvements in theatre utilisation.

The Trust has commissioned comparative analysis from Civileyes (now underway), which enables consultants to compare their throughput and efficiency with peers.

The Trust has started to roll out pre-operative assessment and plans to introduce it in most specialties in 2007.

A considerable number of sessions (354 or 286 when adjusted for annual leave) were lost due to a shortage of consultant anaesthetists between April and September 2006. The Trust recruited 5 additional locum anaesthetists to prevent further loss of sessions and increase the number of sessions delivered and service level to the end of the year.

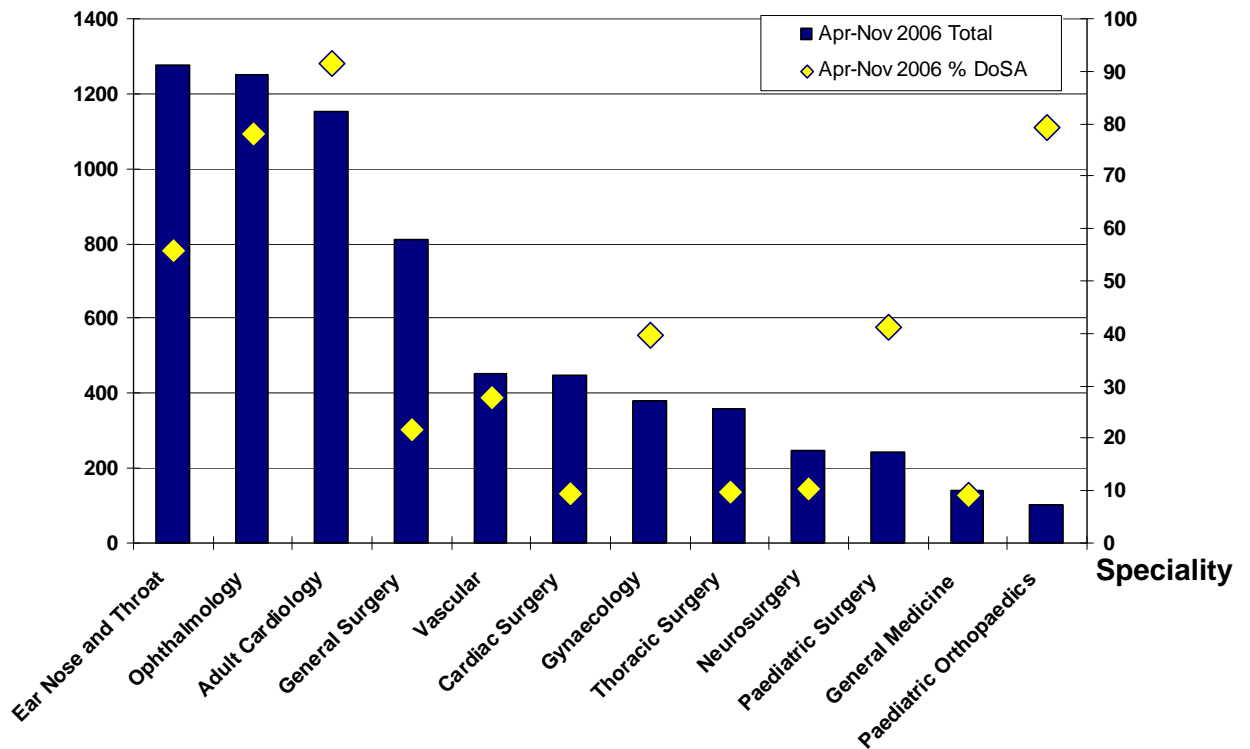
3.2.2 Is bed capacity maximised?

A range of indicators and practices demonstrate that beds could be more efficiently used. There is clear evidence that regardless of casemix and catchment population issues generated by the Trust's role as a regional centre, there is significant potential for the Trust to increase efficiency and reduce cost through better management of their bed capacity.

a. DAY OF SURGERY ADMISSION

50% of patients are admitted on the day before surgery, rather than as day of surgery admissions. This has improved from 43% last year. This is below average compared to English Trusts. Given the need to increase efficiencies, the Trust should be aiming for a DoSA rate of 90% however it is noted that the impact of regional specialty and casemix may result in a lower Day of Surgery Admission percentage.

Figure 3.4: Day of Surgery Admission Rate



b. PRE-OPERATIVE ASSESSMENT RATES

Pre-operative assessment is not yet comprehensively in place, increasing pre-operative stay and cancelled operations, and reducing opportunity to commence discharge planning¹⁵.

c. OCCUPANCY RATES

Occupancy rates have increased from 80 to 85% and vary considerably across specialties. The variance indicates pressure on beds in some areas of the Trust, which may indicate that the allocation of beds between specialties could be improved. For example, fracture occupancy rates are extremely high. There are issues with pre- and post-operative length of stays, and incidence of fracture outliers on other specialty wards.

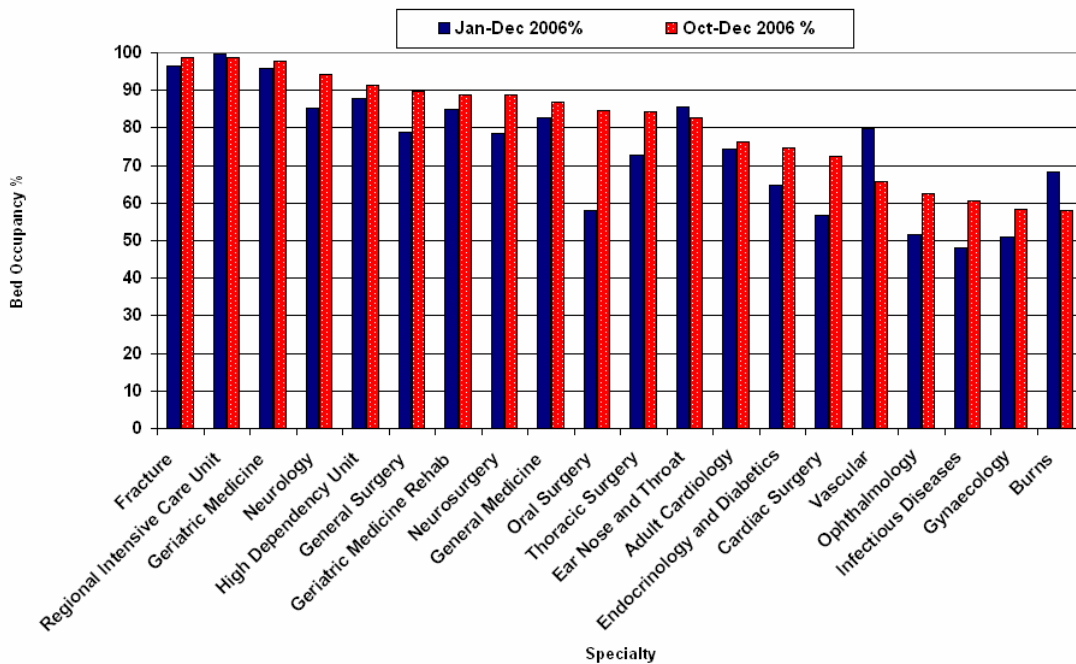
¹⁵ The Peri-operative System: a new approach to managing elective surgery. Anaesthesia and Intensive care Kerridge R, Lee A, Latchford E, Beehan SJ, Hillman KM. 1995;23:591-6. Liverpool Hospital, Sydney, New South Wales

The Trust has difficulty ensuring that patients referred from other hospitals are transferred back to the originating hospital in a timely manner.

There is no single desirable level of bed occupancy across a hospital. Instead an acceptable occupancy with its corresponding refusal rate is a complex function of casemix, size of bed complement and variability in patient LOS¹⁶. The concept of seeking to reduce bed occupancy to around 85%¹⁷ has now been superseded by emphasis on understanding and managing the hourly availability of beds.

The Trust's bed occupancy rate is low when considered in the context of low rates of day of surgery admission and delayed discharges. Many Trusts are now achieving good emergency flows at occupancy levels above 90% by monitoring occupancy on an hour by hour inflows basis¹⁸.

Figure 3.5: Bed Occupancy Rates



d. DELAYED DISCHARGES

Delayed discharges are a major issue, however these have reduced significantly. Approximately 6,000 bed days were lost this year due to delayed discharges of care managed complex discharges, a sub-set of complex discharges. (Figure 3.7). There are difficulties arranging timely community input to discharge e.g. involvement of social workers does not occur until the patient is ready or almost ready for discharge, and this

¹⁶ Modelling for the Planning and Management of Bed Capacities in Hospitals PR Harper and AK Shahani, Journal of the Operational Research Society, 53 (2002), 11-18

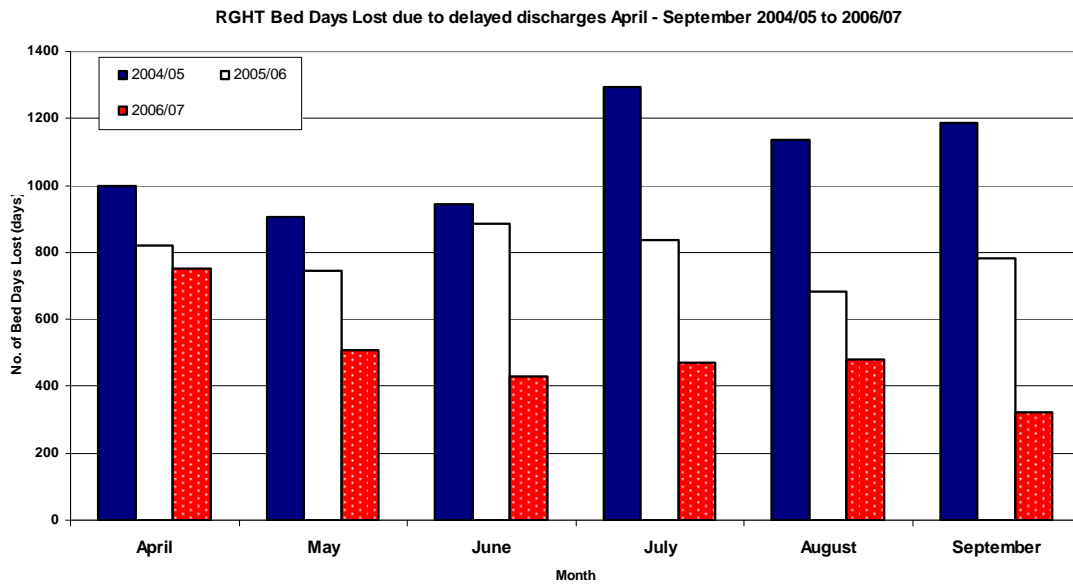
¹⁷ Total time in English accident and emergency departments is related to bed occupancy. Cooke MW, Wilson S, Halsall J, Roalfe A. Emerg Med J. 2004 Sep;21(5):575-6.

¹⁸ NHS Library Emergency Care Briefing Modernising Bed Management Original author: Nathan Proudlove; Updated in January 2006 by: Nathan Proudlove and Deidre Barr; Series Editor: Matthew Cooke

results in delayed discharge. The introduction of timely and comprehensive discharge planning, and increased joint working with the community is required to eliminate delayed discharges.

Despite the opportunities to use bed capacity more efficiently, there is a low incidence of surgery cancelled due to lack of bed (other than HDU (1%) or ICU (2.7%)), which would indicate that in some areas the Trust has excess capacity that would be released if beds were used efficiently.

Figure 3.6: Delayed Discharges

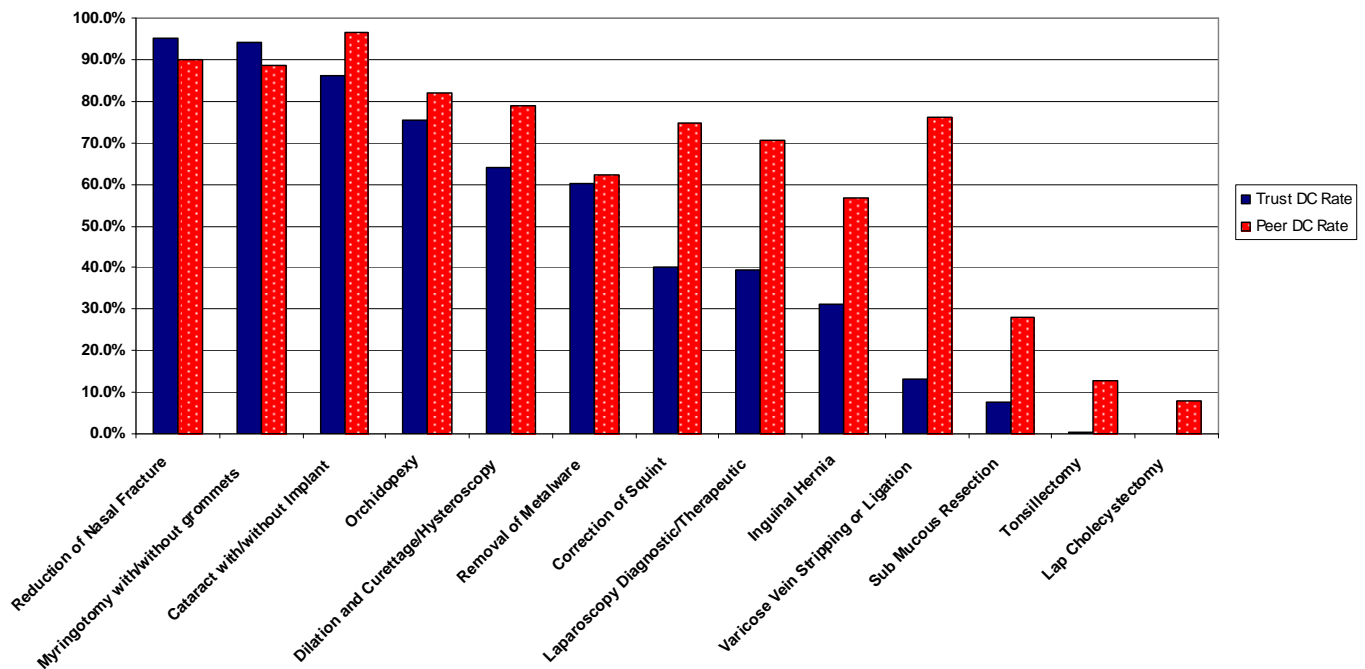


e. *DAY SURGERY RATES*

Day surgery rates are low when compared to selected peers and national averages against the recommended basket of day surgery. For all except four of the BADS (British Association of Day Surgery) procedures, the Trust's performance is below the NHS average of 69.8%. 77.1% indicates NHS top quartile performance. Unplanned overnight stays (stay-ins) are high for some procedures (Correction of squint 22.5%; Laparoscopy 20%). Stay-in rates of above 5% tend to indicate issues with day surgery classification and day surgery pathways.

A proportion of less complex day surgery is undertaken at the Lagan Valley Hospital (LVH) and therefore this data is included in the day surgery analysis.

Figure 3.7: Day Surgery Rates



f. *LENGTH OF STAY*

Length of Stay for 7 of the 13 elective HRGs accounting for the greatest overall costs to the Trust is higher than the average for the selected peer group. Length of Stay for 8 of the non-elective HRGs accounting for the greatest overall costs to the Trust is higher than the average for the selected peer group.

g. *EXCESS BED DAYS*

All of the above factors contribute to excess bed days at the Trust. Excess bed days are those bed days that are above the maximum of the range normally expected for an episode in respect of any given HRG. Excess bed days accounted for 17.3% of total bed days at the Trust in 2004/05.¹⁹

¹⁹ Source: data provided by DHSSPS Finance Directorate

3.2.3 Is theatre capacity maximised?

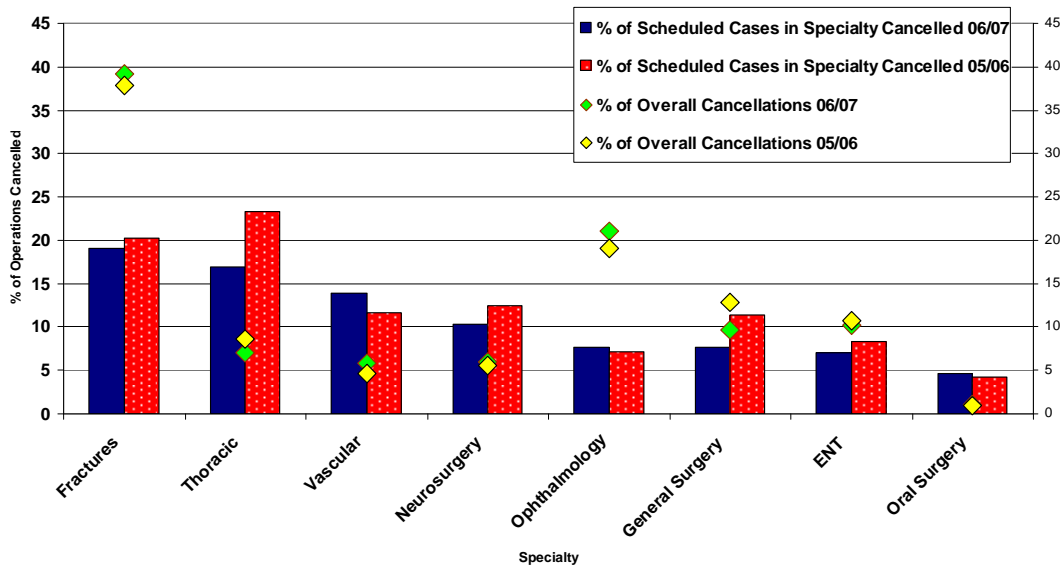
A range of indicators and practices demonstrate that theatres could be more efficiently used.

a. CANCELLED OPERATIONS

The Trust has reduced the number of cancelled operations, but this must be improved further. The Trust should ultimately aim for top quartile NHS performance of 0.8%. It is noted however that the cancellation rate reflects the Trust’s policy of over-booking for Fracture surgery and use of standby lists in Thoracic surgery to increase utilisation of available theatre time. Over-booking does not contribute to positive patient experience, as by definition it leads to patient cancellation. The Trust also maintains a list of patients who can attend for surgery at short notice, to backfill cancellations.

Between April and September 951 operations were cancelled – 10.9% (Figure 3.9). Whilst this is an improvement, compared to 12.3% during the same period last year, over 1% is not a good cancellation rate.

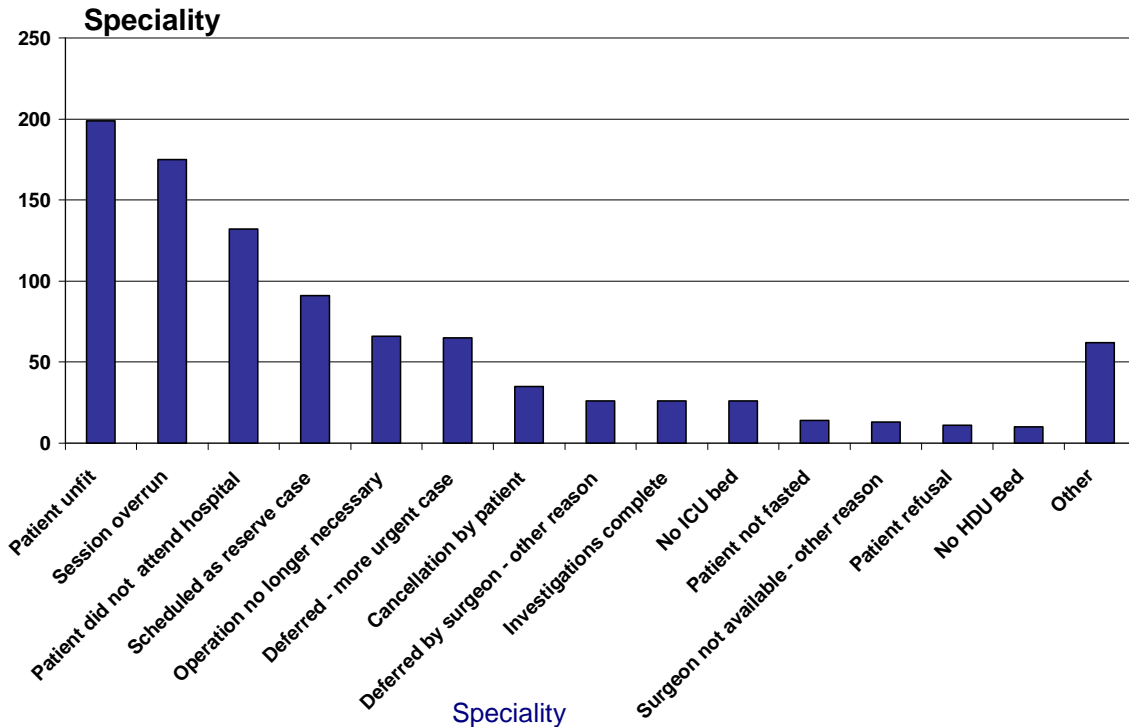
Figure 3.8: Cancelled Operations by Specialty



b. REASONS FOR CANCELLED OPERATIONS

The Trust has a high incidence of avoidable cancellations. ‘Patient unfit’ (20.9%), ‘session overrun’ (18.4%) and ‘patient did not attend’ (13.9%) are the most common reasons for cancellation .

Figure 3.9: Reasons for Cancelled Operations



c. USE OF DAY SURGERY

There is evidence that utilisation of the day procedure unit could be increased and that it has the capacity to accommodate an increase in activity.

TMS went live in the day procedure unit in July 2006. Much of the data available reflects the summer period, when, depending upon practice to ensure leave coverage, lower utilisation of sessions might be expected. The data also indicates poor utilisation of session time however – out of 251 sessions undertaken, the equivalent of 67 sessions was under utilised.

The average number of procedures carried out per session was higher than scheduled, but the data still shows significant potential to undertake more day surgery work.

d. UTILISATION OF SESSIONS

Over-utilisation of actual used sessions is high, except for the Day Procedure Unit, ENT and Ophthalmology. This method of analysing over/under utilisation of sessions however does not show where there are late/early starts and finishes, and the opportunity to reduce down-time between cases, which more detailed analysis would reveal.

The data indicates that overall theatre capacity is not a constraint for the Trust. Use of available physical (as opposed to funded) theatre time has increased from 76% to 86%

since the Northern Ireland Audit Office report, as part of the drive to achieve maximum wait time targets.

The allocation of staffed, funded theatre sessions across specialties is not optimum. This is reflected in the high levels of session over-utilisation in some specialties e.g. Fractures. This is being addressed by a separate project.

The number of theatre sessions held compared with the number intended on a yearly basis is typically 99% at the Trust. The increase in planned session cancellations and the decrease in unplanned cancellations would suggest that planning and management of leave and holiday have improved, and could improve still further. This is supported by the fact 'session not used by surgeon' is the most common reason for unplanned cancellations.

The re-planning of sessions, back-filling of theatre lists and re-booking of patients creates a heavy administrative burden for the Trust and increases patient delay.

e. USE OF FUNDED SESSIONS

Over 9.5% of funded sessions were not used, based on the data provided by the Trust. In the vast majority of occurrences, the constraint to using the session was the lack of consultant resource to undertake the session.

3.2.4 Are other resource issues increasing cost?

The data provided by the Trust indicates challenges containing staff costs.

High levels of sickness and dependence upon agency staff are increasing cost. Sickness/absence is running at high levels at 6.23%. There is a resultant dependency on high cost agency staff.

The Trust is implementing a range of interventions to improve of sickness absence and reduce dependency upon agency staff. These include undertaking directorate audits, ensuring compliance with the Trust's management of absence policy, revision of the training programme, sharing of Trust best practice and review of individual cases with HR and Occupational Health. 10 of the 17 Divisions/Directorates have now delivered the Trust's internal target rate of 5.07%, however based on NHS good practice we recommend the Trust should be seeking to achieve levels of 3%.

Sources for further information are provided in the recommendations section of this report.

3.2.5 What are the Potential Benefits of Improving Efficiency?

This section illustrates the potential benefits of tackling some of the individual efficiency issues described in this section.

a. DAY OF SURGERY ADMISSION

Based on the 2005/06 data provided by the Trust, the benefit of increasing DoSA can be seen in the following scenarios:

Table 3.1 Potential Benefit of Day of Surgery Admission

Scenario	Saved Bed Days
Increase DoSA to 60%	1878
Increase DoSA to 70%	2986
Increase DoSA to 80%	4095
Increase DoSA to 90%	5203

Applying an indicative cost per bed day of £250²⁰ to these scenarios illustrates the potential scale of benefits to be achieved. If DoSA rates were increased to 90%, the potential saving would be £1,300,750. It is noted that the impact of regional specialty and casemix may result in a lower Day of Surgery Admission percentage.

b. DELAYED DISCHARGES

The volume of delayed discharges at the Trust has decreased significantly since 2004/05. The data from April to September 2006 shows that potentially 5924 bed days per year could be saved if delayed discharges were reduced 0. Applying an indicative cost per bed day of £250²⁰ confirms the potential benefit of this improvement: £1,481,000.

c. LENGTH OF STAY

The value of excess bed days²¹ at the Trust in 2004/05 was £11,857,799, a figure which highlights the considerable cost of long hospital stays²². Recent analysis by Dr. Foster²³ further underlines the importance of reducing length of stay. This analysis of English

²⁰ Please note this is a full cost including overheads and therefore the full amount could not actually be saved in cash terms.

²¹ Excess bed days are those bed days that are above the maximum of the range normally expected for an episode in respect of any given HRG

²² Note: this includes the total cost of those bed days, and as such cannot be interpreted in total as a target saving through better management of beds.

²³ Source: Dr Foster Intelligence analysis 2006

Trusts concluded that if Trusts with longer than average lengths of stay moved just 25% closer to the median length of stay, the average potential bed saving would be 13% of the total hospital capacity.

d. DAY SURGERY

Initial consideration might indicate that the gains to be made from increasing day surgery at the Trust rates are not significant, however it is important to bear in mind that day surgery is increasingly regarded at the potential mode of delivery for all surgery. The NHS Institute recommends that day surgery is regarded as the norm for elective surgery, with an emphasis on justifying the need to admit the patient. The following scenario is conservative, estimating a saving of one bed per patient treated as a day patient rather than an inpatient. If the day surgery rate for the procedures shown in Figure 3.7 was increased to NHS top quartile performance of 77.1%, 1331 bed days could be saved, equating to a potential saving of £332,750.

e. PRE-OPERATIVE ASSESSMENT

In total, 47% of the 951 operations cancelled in the 6 months April to September 2006 (does not include cancellation of 186 emergency theatre bookings) could be categorised as potentially avoidable through use of pre-operative assessment:

- Patient unfit (21%)
- Patient did not attend hospital (14%)
- Operation no longer necessary (7%)
- Cancellation by patient (4%)
- Patient refusal (1%).

The table below sets out some scenarios of the potential benefits of introducing pre-operative assessment based the April to September 2006 data.

Table 3.2 Potential Benefit of Pre-operative Assessment

Scenario	Reduction in Cancellations over One Year
Introduction of pre-operative assessment delivers an 80% reduction in these cancellations	715
Introduction of pre-operative assessment delivers an 70% reduction in these cancellations	626
Introduction of pre-operative assessment delivers an 80% reduction in these cancellations completely excluding specialties with over-booking policies / use of standby lists (Fracture surgery, Thoracic surgery)	383

f. **TACKLING CANCELLED OPERATIONS**

Based the April to September 2006 data, if the level of cancelled operations were reduced to NHS best practice of 0.8% through initiatives such as increasing pre-operative assessment, in theory an additional 1,762 operations could take place. Completely excluding specialties with over-booking policies / use of standby lists from this calculation (Fracture surgery, Thoracic surgery) however indicates that an additional 1,012 operations could potentially take place.

3.2.6 Agency Costs

Data from the Trust Financial Return (TFR) can be used to illustrate potential gains for reducing the cost of agency staff, however as recommended in Section 4, Recommendation 3 this should be taken forward and validated by the Trust.

The total of the TFR return for salaries and wages for the financial year 2005/06 was £188m, of this, £7.8m was on non HPSS staff, a category mostly comprised of agency staff costs. This would equate to a percentage agency spend of approximately 4.1%. In this context, reducing agency spend to 1% would realise savings of £5.9m however there would be additional costs within the paybill to the extent that the agency spend is related to vacancies (rather than sickness).

3.2.7 Sickness

Drawing on the same Trust returns, the total costs associated with employed staff were £180m. This data indicates that savings of £5.8m could potentially be achieved if sickness absence were reduced to 3% from 6.23%.

3.2.8 Delivery of Efficiency Improvements: Conclusions

The Trust is investing a significant amount of time and effort in improving use of resources. A wide range of projects are planned or underway.

There is significant opportunity to improve the use of the beds and theatres, and reduce sickness / absence. Specific recommendations are made in Section 4.

3.3 PERFORMANCE IMPROVEMENT

In exploring the 'action that can be taken to improve the efficiency and effectiveness of delivery of the range of acute services provided', the review team examined the performance improvement infrastructure in place at the Trust to deliver the identified improvements.

The team considered the following questions:

- Is a performance improvement infrastructure in place at the Trust, through which targets are identified and communicated to staff, progress monitored and managed, and change delivered?
- Is appropriate data collected by the Trust to drive performance change?

The investigation team drew on interviews with senior staff at the Trust and the documents the Trust produces to report on performance

3.3.1 Is a performance improvement infrastructure in place at the Trust?

The Trust has a strong performance improvement infrastructure in place. All stakeholders consulted had a shared understanding of the Trust's delivery and improvement priorities for this year, were aware of the suite of change projects underway and how they were linked to these priorities.

Delivery of change and improvement is supported by a strong performance management regime. Detailed divisional Accountability Reviews take place every 6 months. Targets are set for each division to meet financial, access and patient safety targets. There are also examples of good performance management infrastructure within divisions, e.g. Medicine and surgery division use a pro-forma on a monthly basis to get feedback from budget holders regarding any variances they incur during the month. As part of this regime, the Trust uses external benchmarking to better understand operational performance and this approach yields results.

Improvements are being delivered as part of business as usual. This increases sustainability and local ownership of change, however in the current context of a drive to deliver significant changes internally and the ambitious and fast-paced reform programme driven by the Department, the burden on operational managers creates risk .

3.3.2 Is appropriate data collected by the Trust to drive performance change?

The Trust collects a range of data to support performance improvement.

- The Trust undertakes extensive external benchmarking as discussed in Section 3.1.
- Consultant level data is produced to support the consultant appraisal process
- An annual clinical indicators report is produced and is publicly available
- An extensive and detailed Board Report is produced bi-monthly
- The Trust collects and monitors data against a range of utilisation measures and outcome including mortality and readmissions. This comparison shows:
 - Lower mortality rates both crude and adjusted (crude mortality of 1.4 against 2.7 in specialty specific peers)
 - Readmissions at 3.6% against 5.9%
 - Complications at 1.3% against 1.7% and misadventure 0.03 against 0.08.

3.3.3 Performance Improvement: Conclusions

The Trust has a strong performance improvement infrastructure in place.

This infrastructure has supported the Trust in achieving improvements and the Trust has a track record of change delivery, as illustrated by examples throughout this report.

There are opportunities to increase internal benchmarking between individuals, specialties and divisions. This is particularly valuable given the different stage in the reform agenda of the Trust's English peers, as highlighted in Section 3.2.

3.4 FUTURE AGENDA

The review team was asked to identify ‘factors that can not be influenced by direct Trust action in the short term but which in part explain apparent underperformance, that could be addressed in the longer term’.

In addressing this requirement, the team considered specifically:

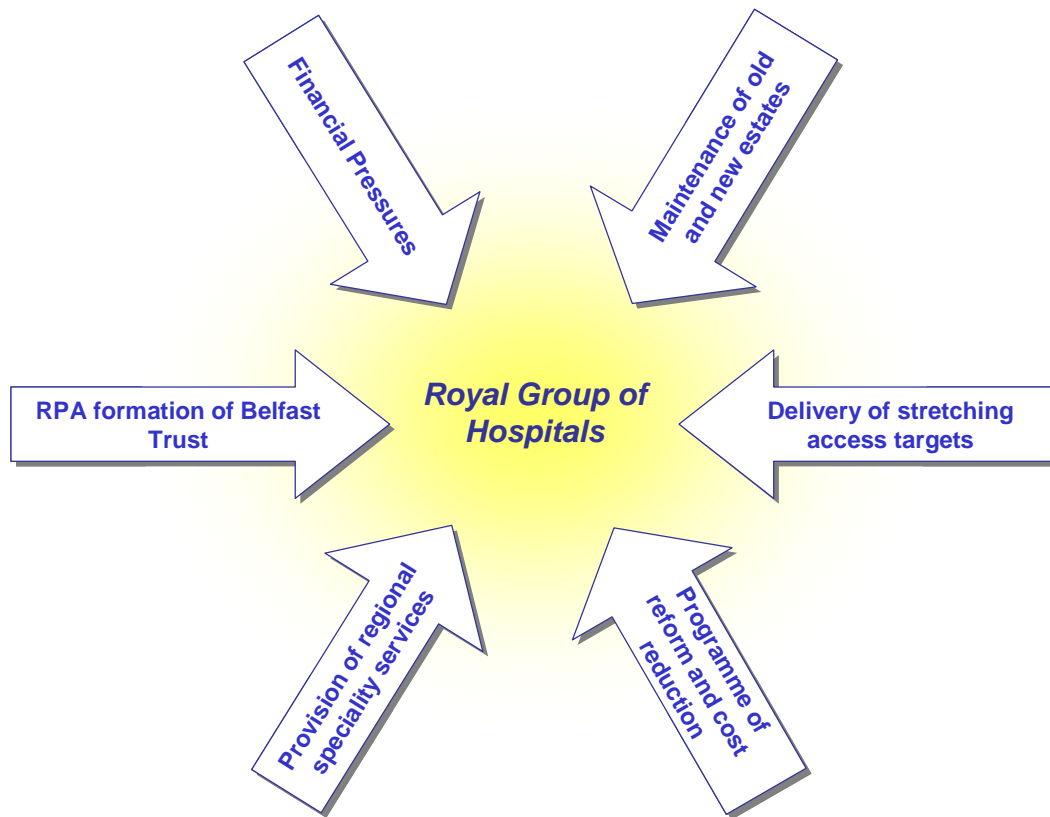
- The current context of healthcare delivery at the Royal
- The areas in which the advent of the new Belfast Area Trust should provide a valuable opportunity to drive efficiency
- Aspects of service delivery at the Royal where strategic, rather than discrete operational, decisions to reduce cost are required

3.4.1 Current healthcare delivery context at the Royal

The pace and scale of healthcare reform in Northern Ireland is ambitious. The reform agenda presents both challenges and opportunities to the Royal, however, overall, these are not exceptional and are similar to challenges faced by Trusts in England and elsewhere. The Royal is currently tasked with:

- Delivering a series of wide-ranging and stretching access targets in several areas of the patient pathway including outpatients, inpatients and A&E
- Achieving cost reductions and efficiencies, and preparing for the introduction of tariff
- Participating in a range of improvement and change projects including Outpatients Improvement Programme, implementation of the Hospital Registration Offices, ICATS, roll-out of the Theatre Management System, waiting list management, fracture services, procurement savings etc.
- Engaging in the Reform of Public Administration and the creation of the Belfast Area Trust

Figure 3.4.1: Current healthcare delivery context at the Royal



This programme of reform is acting as a catalyst for better use of resources by the Trust. Delivering these changes simultaneously is challenging however and can result in apparently conflicting objectives at the operational level. Such magnitude of change over an ambitious timeframe places pressure on the performance improvement infrastructure and capability at the Trust, and may prove a threat to sustainability.

3.4.2 In which areas would the advent of the new Belfast Area Trust provide a valuable opportunity to drive efficiency?

There is a range of areas where the structure of the new Trust could be used to increase efficiency and reduce cost. The Royal will form part of the new Belfast Area Trust - amalgamating the Current Belfast City Hospital, Royal Group of Hospitals, Mater Infirmorum, Greenpark, North and West Belfast (including Muckamore Hospital) and South and East Belfast HSS Trusts.

The new Trust should prove a major opportunity to support efficiency initiatives underway and planned in areas which were more difficult to influence under the previous structure. Specific operational factors include:

- Improving links with community health service provision, for example to support reduction of delayed discharges
- Planning of consultant commitment across sites to facilitate all-day theatre sessions, pre-operative assessment of patients and reduce travelling time between sites,
- Rationalisation of the on-call rota

3. Findings. . .

- Baselining the allocation of theatres based on demand
- Improving the collection and sharing of performance data.

3.4.3 What aspects of service delivery should be considered strategically by the new Trust before cost reduction is pursued operationally?

In some areas, if the cost of services is to be significantly reduced, then a strategic decision by the new Trust and the new Health Authority, to change the shape and type of service provision is needed, rather than discrete cost reduction. The review identified these areas where direct Trust action to reduce cost was either inappropriate or not possible under the previous organisational structure:²⁴

- The provision of specialist and regional services, including service type and level
- The provision of maternity services (see case study overleaf)
- The modernisation of the workforce, to reflect a move from consultant delivered services to consultant led services and any changes to the grade mix of staff on wards
- The level of outreach service provision e.g. outpatient clinics
- The increased provision of services in the community, rather than acute setting.

These areas all need to be considered in the context of the positive comparison of the Royal's clinical indicators against peers:

- Lower mortality rates both crude and adjusted (crude mortality of 1.4 against 2.7 in specialty specific peers)
- Readmissions at 3.6% against 5.9%
- Complications at 1.3% against 1.7% and misadventure 0.03 against 0.08.

Case study: Maternity

If significant cost reduction is to be achieved, a strategic decision to change the type of service provided is required. This should not preclude the Trust from continuing to strive to improve efficiency in delivery of maternity services.

The biggest single difference between Northern Ireland and NHS costs remains in Maternity services. The main explanations of this gap are greater length of stay in hospital, higher ratio of mid-wives and other staff to patients, a generally 'richer' grade mix, and differing clinical practice e.g. more caesarean sections.

There are examples of where the Trust is working to improve efficiency and reduce cost in obstetrics (see Section 3.1).

²⁴ The Review Team did not consider A&E in its deliberations, as this was outside the scope of this project. Therefore, no comments on A&E are included.

If the cost of maternity is to be significantly reduced, this would require provision of a different type of service in Northern Ireland. Some examples include:

- Proactive discharge – e.g. within 12 hours of birth
- Reduction of the staff: patient ratio
- Plans to reduce caesarean section rates
- Dilution of the grade mix on the wards

The Trust should continue to action opportunities to improve efficiency such as reducing the length of stay and reducing the bed base.

A wealth of analysis exists regarding the cost of maternity service provision in Northern Ireland and the differences with England and other services. This analysis should be sufficient to inform the new Northern Ireland Health Authority and the new Belfast Trust, in conjunction with the other Trusts, to decide whether they want to propose any changes to the service.

It is the view of the review team that such a decision to change services should be strategic and reached via a consultative process, rather than occur by default through a cost reduction exercise.

3.4.4 Conclusion

To ensure sustainable improvements, the impact and deliverability of the reform agenda in totality must be assessed as a whole from the viewpoint of the Trust, in conjunction with the Department. This is increasingly important given the proportion of the reform agenda, in terms of patients accessing services that the new Trust will deliver. This would necessitate increased joint-working with the Department on the co-ordination of reform initiatives, operational do-ability and impact and incentives.

The new Belfast Area Trust must be viewed as an opportunity to transform services and increase efficiency rather than an administrative change.

There are several areas of delivery where the Trust, the Department and the Health Authority should decide strategically the service they plan to provide before driving cost reduction.

4. RECOMMENDATIONS

Recommendation 1: The review team recommends that a dedicated infrastructure and dedicated resource is established within the Belfast Trust to address the strategic and operational points raised in this report, given the fundamental nature and extent of reform underway and the wider re-structuring and reform agenda under consideration by the new Trust and Health Authority.

Recommendation 2: The aims for the performance measures set out in this report are stretching and represent best practice. The recommended next step for the Trust and the Department is to agree timescales and trajectories for achievement these aims.

Recommendation 3: The Trust should seek to obtain indicative costs to give a sense of scale of the improvements that could be delivered on foot of the recommendations made in this report being implemented.

4.1 UNIT COST VARIANCE

Recommendation 4: Unit cost variance is a useful comparative indicator and should be used in conjunction with the performance and productivity indicators recommended in Table 1.1 as part of future benchmarking, which give a clear view of areas where the Trust must increase efficiency.

Recommendation 5: As the methodology for unit costing cannot be fully harmonised, the Department and the Trust should confirm that they both support a more holistic approach to unit cost comparison. Characteristics of a holistic approach would include:

- Use of unit cost variance as one of a suite of indicators.
- Agreement that unit cost variance is an indicator where savings and efficiencies can be achieved
- A move away from focus on variance of specific HRGs, to a more rounded approach agreed by the Trust and Department. This could include specialty level variance against specialty specific peers, rather than trying to match overall trust service profile.

4.2 DELIVERY OF EFFICIENCY IMPROVEMENTS

Section 3.2 sets out the significant number of efficiency improvement projects planned and underway at the Trust.

In this section, recommendations to improve use of resources are made based upon pathway assessments, discussions with the Trust and data analysis provided by the Trust.

The review team has established links with two English Trusts consulted regarding delivery of efficiency improvements (South Devon Healthcare, an NHS Centre for Innovation and Guy's and St. Thomas' NHS Foundation Trust), which provides an opportunity for the Trust to share best practice.

We have provided benchmarks based on best practice for a range of indicators to inform ongoing performance monitoring. These recommendations are principles that should

apply to all specialties (with the exception that surgery specific indicators will not apply to medical beds).

4.2.1 Beds

Recommendation 6: Plan patient discharge from the point of pre-operative assessment (elective) or within 24 hours of admission (non-elective). Implement an escalation procedure for delayed discharge. The Trust should aim to reduce delayed discharges to 0.

Recommendation 7: Undertake a diagnostic of the use of medical beds by assessing appropriateness of admission and reviewing delays during care delivery. This would build on the Trust's work to date understanding delayed discharges and would inform the new Trust in its consideration of community alternatives to acute care. Delayed discharge data collection should be expanded to include simple discharges.

Recommendation 8: Use the advent of the new Trust as a catalyst to improve delayed discharges and link with the community. Community Trusts need to be involved earlier in the discharge process to reduce the impact of delayed discharges.

The following initiatives planned by the Trust will also increase efficient use of beds:

- Day of Surgery Admission: Introduction of same-day admission as the norm for all clinically appropriate patients. We recommend aiming to achieve DoSA rates of 90% however it is noted that the impact of regional specialty and casemix may result in a lower Day of Surgery Admission percentage.
- Pre-operative assessment: This should reduce the need to admit patients the day before surgery and reduce cancellations. We recommend aiming to pre-operatively assess 100% of patients to some degree.
- Implementation of condition or protocol led discharge

These improvements in the use of beds should be reflected in higher bed occupancy rates of over 90%.

4.2.2 Theatres

Recommendation 9: Review allocation of theatre capacity based on demand and efficient use of capacity rather than historical allocation

Recommendation 10: Use all-day lists as the default in ENT and Ophthalmology

Recommendation 11: Increase the number of procedures where day surgery is the default mode of treatment. Building on the planned pathway for varicose vein procedures, consider further procedures where a dedicated ambulatory care pathway would be suitable. Work closely with clinicians within individual specialties to investigate reasons why greater proportions of elective surgery are not done as day surgery. We recommend aiming to achieve top quartile NHS performance (77.1%) in the BADS basket of procedures.

Recommendation 12: Improve pre-assessment of day surgery patients to provide better care and reduce cancellations

Recommendation 13: Encourage pooling of referrals so that appropriate procedures can be listed for surgeons who routinely perform them as day surgery

Recommendation 14: Use monthly theatre activity information to ensure that allocation of theatre sessions is not fixed, but dynamic based on demand and efficient use. Some limited changes to the data used (e.g. inclusion of down-time between cases, charting starts/finishes/throughput) would provide a clearer view of how sessions are used. This will support clinicians and managers in identifying and evidencing issues, and tracking improvement. This would also support the Trust in reducing reliance on the policy of over-booking.

Recommendation 15: Reduce the proportion of cancelled operations. The best performing NHS Trusts are now achieving 0.8%. Given the policy of over-booking in some specialties, the Trust will need to consider with the Department the implications of aiming for 0.8%. Any patient cancelled for non-clinical reasons should be re-admitted within 28 days.

4.2.3 Staff

Recommendations to reduce sickness absence and dependency upon agency staff.

Recommendation 16: The Trust currently has monitoring mechanisms in place and interventions underway that are starting to reduce sickness absence rates.

Recommendation 17: NHS Trusts are currently achieving sickness absence rates of between 3 and 6% and agency spend of less than 1%. Best practice therefore indicates that the Trust should aim for a maximum sickness absence rate of 3% and maximum agency spend of 1% of total staff costs.

A range of health provider specific supporting materials are available on both the DHSSPS and Department of Health websites, including Model Employer / Improving Working Lives (Policy and guidance section on DH website) and the Review of Occupational Health Services in the HPSS: Supporting a Healthy Workforce March 2004 on the DHSSPS website.

Some examples of approaches that worked elsewhere are provided in Appendix A.

4.3 PERFORMANCE IMPROVEMENT INFRASTRUCTURE

Recommendation 18: Continue to use external benchmarking to drive performance improvement. This benchmarking should drive further efforts to identify and adopt better practice from other Trusts, as outlined in Section 3.1.

Recommendation 19: Continue to increase the use of internal benchmarking, through sharing of specialty and consultant level efficiency indicators such as the following:

- Day surgery rates, Day of Surgery Admission rates and pre-operative Length of Stay, Theatre Session use and session utilisation
- Delayed discharges, Use of Estimated Dates of Discharge, protocol led discharge, Length of Stay
- Patient episodes per consultant
- Use of agency staff

- Such data should be used to drive more consistent uptake of the good practice that exists within the Trust.

4.3.1 Incentive Scheme

Targets for the incentive scheme are set objectively and equitably across all Divisions at the beginning of the Business/Financial year for example:

- 3 targets common to all Divisions (access, CIP, financial balance)
- 3 targets that are Division specific (e.g. LoS reduction)

Performance against targets is measured regularly against a predefined timetable.

Divisions which hit targets are given earned autonomy and allowed to make decisions without reference to central authority – for example, to fill replacement posts, or decide how to spend a pre-defined portion of the capital budget.

Individuals and directorates who do not use resources (e.g. beds, theatre sessions) efficiently have their resource allocation reviewed. This data is also incorporated as part of the Consultant appraisal process.

Where targets are exceeded (predominantly in financial terms) this is shown as genuine over-performance and acknowledged as such with original targets standing.

This incentive scheme could be used as a first step towards consideration of a more mature incentive model, with revenue implications (e.g. Divisional retention of a proportion of surplus).

4.4 FUTURE AGENDA

As the new Trust is seeking to affect a transformation in healthcare delivery, rather than an administrative re-structure, we would recommend the following areas are considered:

Recommendation 20: Increase joint-working with the Department on the co-ordination of reform initiatives, operational do-ability and impact and incentives.

Recommendation 21: Capitalise on the advent of the new Belfast Area Trust to increase efficiency through facilitation of operational changes.

Recommendation 22: Undertake a strategic review of high cost areas where reducing cost would fundamentally alter service provision.

APPENDIX A: PERFORMANCE IMPROVEMENT CASE STUDIES

A.1 CASE STUDY 1

Resource: Beds	Case Study
Trust: Guys and St. Thomas'	Improvement Achieved: 4 medical wards were closed over 2 years without any negative effect on readmission rates.
	<p>Action Taken:</p> <ol style="list-style-type: none"> 1. Information on Length of Stay was made available and used including a daily report on the bed state by LOS with a red/amber/green system for alerting the consultant in charge to patients exceeding ALOS. 2. Length of Stay was performance managed. <ol style="list-style-type: none"> (a) Multi-disciplinary 'Cluster meetings' were held each week involving the consultant in charge, their junior team, ward sister, physio etc. Each patient under that consultant team was discussed and their discharge plan reviewed. (b) Monthly performance data on LOS by consultant was issued (as well as other key measurables such as income per bed day) 3. Changes were clinically championed. Clinical champions worked with analysts to improve data credibility and piloted changes to clinical process to lead by example for other clinicians.
Contact	Adrian Hopper, Mark Kinirons

A.2 CASE STUDY 2

Resource: Beds	Case Study
Trust: Barking, Havering and Redbridge Trust	Improvement Achieved: Reduction in average length of stay of 2.26 days.
	<p>Action Taken:</p> <ol style="list-style-type: none"> 1. The National Orthopaedic Project team undertook benchmarking and recognised that the length of stay for emergency orthopaedic operations was higher than the national average. 2. The Trust established a project group and developed a plan to identify actions required to reduce the length of stay for orthopaedic trauma patients. 3. The Trust introduced two additional weekly trauma theatre lists, and implemented daily discharge monitoring, with an emphasis on protocol led discharge.

A.3 CASE STUDY 3

Resource: Theatres and Beds	Case Study
Trust: South Devon Healthcare Trust	<p>Improvement Achieved: Reduction in patient recovery and length of stay to three days after surgery when the norm was 10-14 days through pre-operative assessment</p> <p>Action Taken:</p> <ol style="list-style-type: none"> 1. On hearing about a multi-modal (care bundles) approach to peri-operative care for at The Royal College of Surgeons, the team at Torbay decided to change their practice and introduce a new pathway. Key steps in the programme were pre-op assessment (planning ahead), change to surgical technique (designing a reliable system) and preparation of patients on the ward (patient involvement in the pathway). 2. As part of the project plan, the team tried to make it difficult for staff NOT to follow the new care pathway, e.g. the only paperwork available was the Integrated Care Pathway paperwork, whilst drug prescription charts were already written for required drugs. 3. Another way of driving the pathway was giving patients their own care pathway documentation. This informed patients of what should happen from pre-assessment onwards, and also meant that they were given the paperwork on admission. The patient and their carers recorded what the patient ate or drank, as well as the distance walked and when catheters and epidurals were removed. 4. The Enhanced Recovery nurse drove the programme, checking that the pathway and pain management procedures were being followed. The nurse and ward sisters had extended skills enabling them to dispense epidural top ups so they weren't reliant on other teams to do it. The nurse also collected data and collated evidence of improved morbidity and success.

A.4 CASE STUDY 4

Resource: Theatres	Case Study
Trust: James Paget University Hospital, Great Yarmouth	<p>Improvement Achieved: An equalization of waiting times achieved through baselining theatre capacity according to demand.</p> <p>Action Taken:</p> <ol style="list-style-type: none"> 1. The Trust looked at all aspects of the clinicians' working practices: <ul style="list-style-type: none"> • Level of outpatient clinics • Conversion rate • Waiting list size • Case complexity • Theatre allocation • Theatre utilisation – underruns/overruns • Alternative procedure areas, i.e. LAs – minor surgery 2. This information was used to plan the level of theatre sessions required by each speciality to achieve the required waiting time and led to a major reorganisation of theatres, increasing allocation to some specialities and a reduction in allocation to others. 3. All of the information was made available to the clinicians and discussed with individual specialities and the proposed realignment of services was templated.

A.5 CASE STUDY 5

Resource: Staff	Case Study
Trust: Guy's and St. Thomas'	Improvement Achieved: Dependency on agency nursing staff from 21% of the total spend in 2001/2 to 5% of the total spend in 2005/6
	<p>Actions Taken Included:</p> <ol style="list-style-type: none"> 1. Temporary staffing strategy group chaired by chief nurse, attended by director of finance and director of HR 2. Timely, detailed, readily available management information improved understanding of reasons for use of temporary staff 3. Promotion of in-house bank - currently 80-90% bank use and 10-20% agency use compared to 46% bank and 49% agency in September 2003 4. Complete control of booking processes and recruitment to bank 5. Close involvement of finance, procurement and HR departments 6. Close monitoring and support to divisional teams from assistant director of nursing 7. Improvement in permanent recruitment supported by return to practice and adaptation programmes 8. Flexing of permanent staff between wards 9. Measurement of patient acuity and dependency to inform business planning and establishment setting 10. Key part of clinical nurse manager/modern matron role to monitor and control use of temporary staff 11. Introduction of trust wide rota policy and implementation of IT rostering system.

A.6 CASE STUDY 6

Resource: Staff	Case Study
Trust: The Whittington Hospital NHS Trust	Improvement Achieved: The trust tackled staff sickness absence by focussing on problem area and saved approximately 700 days in sickness absence - a reduction of 16% in the average rate of sickness.
	<p>Actions Taken Included:</p> <ol style="list-style-type: none"> 1. Identifying the trust's 'top 50' absences, which consisted of 15 long-term sickness absence cases. The other absences were made up of 35 individual's with the highest Bradford scores in the trust. DN footnote. 2. Developing individual plans jointly between managers and HR project manager to reduce the top 50 highest absentees and estimated savings tracked. These savings were calculated based on the reduced reliance on temporary additional staffing, and percentage of sickness absence. 3. Streamlining IT systems, which capture sickness absence data, particularly concentrating on the Bradford score system 4. Identifying training needs and delivering training across the trust to enhance manager's skills to effectively manage sickness absence 5. Communicating the project widely for example through hospital wide staff briefings by the chief executive and director of HR and the staff magazine 6. Revising and implementing changes in policy and procedures e.g. updating the sickness absence guidelines 7. Working in partnership with staff side colleagues e.g. through a partnership steering group. <p>DN [2] The Bradford Score System is a method of recording and setting a trigger point for action. An individual Bradford score - which measures irregularity of attendance is calculated as: $S \times S \times D = \text{Bradford points score}$ S= Spells of absence D= days absent over last 365 days</p>

A.7 CASE STUDY 7

Resource: Staff	Case Study
<p>Trust: South Eastern Sydney Illawarra Area Health Service</p>	<p>Improvement Achieved: 49% reduction in nursing overtime and a 54% reduction in sick leave</p> <hr/> <p>Action Taken:</p> <ol style="list-style-type: none"> 1. To establish the full extent of the problem, overtime, call backs, sick leave, nursing recruitment and retention, after hours operating room allocations data was collected and reviewed. Staff were consulted 2. The main contributing factor to high absence and overtime levels was unreasonable and variable nursing workloads. 3. A new booking system was implemented 4. Continuous collection of overtime, sick leave, call back, staff satisfaction surveys, recruitment and retention data and clinical priority coding benchmarks. 5. Over a five month period between Jan 06 and May 06, despite a 31% increase in emergency cases, the data indicates that there has been a 32 % reduction in overtime and a 24% reduction in sick leave.

APPENDIX B: DATA TABLE HRG UNIT COST VARIANCE

B.1 FIGURE 3.2 DATA TABLE

From CHKS data (page 3) provided by Trust for year 2004/05 - (cut off of over 650 FCEs per year for inclusion) - not adjusted for Market Factors

Specialty Code	Specialty Name	Negative Unit Cost Variance to Selected Peer Group Avg.
150	Neurosurgery	4760
501	Obstetrics	4376
300	General Medicine	4015
100	General Surgery	3845
420	Paediatrics	1616
110	Trauma & Orthopaedics	1481
171	Paediatric Surgery	1463
160	Plastic Surgery	1432
140	Oral Surgery	682
120	ENT	549
170	Cardiothoracic Surgery	489
502	Gynaecology	296
400	Neurology	239
172	Cardiac Surgery	-68
410	Rheumatology	-485
302	Endocrinology	-706
430	Geriatric Medicine	-2075
130	Ophthalmology	-2747
320	Cardiology	-3341

B.2 FIGURE 3.1 DATA TABLE

From CHKS data (pages 17 & 22) provided by Trust for year 2004/05 - (cut off of top 15 only - of 50 - for inclusion) - not adjusted for Market Factors.

Procedure Code	Procedure Name	Negative Unit Cost Variance to Selected Peer Average
N07	Normal Delivery w/o CC	1867
E14	Cardiac Cath & Angio w/o c	1556
N11	Caesarean Section w/o cc	1538
A03	Intracranial Procedures except Trauma (3)	981
H37	Closed Pelvis or Lower Limb # <70 w/o cc	943
N09	Assisted Delivery w/o cc	820
E04	Coronary Bypass	729
A04	Intracranial Procedures except Trauma (4)	641
R03	Decompression & Effusion for Spinal Disorders	421
C58	Intermediate Mouth or Throat procedures	296
M05	Upper Genital Tract Minor Procedures	220
H99	Complex Elderly with MSS Primary Diagnosis	79
E03	Cardiac Valve Procedures	-27
E15	Percutaneous Coronary Intervention	-170
B13	Cataract Extraction & Lens Insertion	-1630