Keeping it in the County

Securing the future of hospital services in Shropshire, Telford and Wrekin

Submissions from

The Shrewsbury and Telford Hospital NHS Trust,
NHS Telford & Wrekin and Shropshire County PCT

for the

Joint Health Overview and Scrutiny Committee on 11 March 2011

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The contents of this pack are structured to reflect the questions in the letter from Fiona Bottrill on behalf of the Joint Health Overview and Scrutiny Committee (24 February 2011). A copy of the letter is also enclosed for reference.

Information Requested by the Joint HOSC for Meeting on March 11th 2011

Question	Evidence requested	Evidence from
1) Clarification on the Royal College of Surgeon's guidance 'children's surgery a first class service' (2006) which sets out that trauma and pediatric services should be on the same site. What status does this guidance have?	Copy of the recent correspondence from the Royal College of Surgeons on this matter and Tony Fox's view on this	SaTH / Strategic Health Authority
2) Clarification on why selling both sites and building a new hospital is not an option.	Written response prior to meeting	Strategic Health Authority / PCTs / SaTH
3) Details of the costings for the building work options to develop the sites at RSH and PRH. What documents were used to support the calculations for the facilities needed and the cost for this work? Have these been applied equally to both sites?	Written response prior to meeting	SaTH
4) Ensuring that the role of primary and community services are taken into account in the proposed reconfiguration - e.g. the development of hospital at home for children.	Written response prior to meeting	PCTs / Community Trust
5) If agreed, how will the implementation of this proposal support ongoing work to support PCTs and GP commissioners to avoid unnecessary hospital admissions?	Written response prior to meeting	PCTs / SaTH / Community Trust
6) Can the PCT, SaTH and Community Trust assure the Committee that the proposed reconfiguration of services will be sustainable at both sites if more patients are treated in the community? Does the calculations take account of demographic changes?	Written response prior to meeting	PCT / SaTH / Community Trust
7) What proportion of women who start their labour at a midwife led unit are transferred to a consultant led unit for the birth?	Written response prior to meeting	SaTH
8) How many of the 326 births in the Consultant led unit to women in the Powys Health Board area were elective or emergency?	Written response prior to meeting	SaTH
9) What discussions are taking place with other acute trusts outside Shropshire to develop care pathways to access services in emergency situations?	Written response prior to meeting	SaTH / WMAS / PCTs
10) Information on the care pathways and assurance of the clinical safety for maternity, acute surgery and pediatric services.	Written response prior to meeting	SaTH / WMAS
11) How will the WMAS plans for the Make Ready system support the implementation of these proposals?	Presentation at meeting 11th March	WMAS
12) Clarification of any additional costs identified by the WMAS in relation to increased demand for transfers and increased journey times. This should include the cost and time required to train additional paramedics required.	Written response prior to meeting	WMAS
13) Are there any other options to mitigate risks that have been identified during the consultation process? Do these options involve additional costs and if so how will these costs be covered?	Written response prior to meeting	SaTH / PCTs

Question	Evidence requested	Evidence from
14) Confirmation that transport arrangements between sites for patients, visitors and staff will be established as soon as services move between sites. What are the proposals to improve transport e.g. working with public transport providers, developing existing volunteer driver schemes.	Written response prior to meeting	SaTH / Local Authorities
15) Do the proposals include increasing the number of car parking spaces at PRH and if so have these costs been included?	Written response prior to meeting	SaTH
16) Has the Trust come to a view on feasibility of the ideas set out in the consultation documents for: Shuttle bus Maternity flying squad Night air ambulance Telemedicine	Written response prior to meeting	SaTH
17) Clarification on the stages in which the proposed changes would be implemented and commitment to give regular updates and ongoing engagement with the Joint HOSC and other stakeholders.	Written response prior to meeting	SaTH
18) Information on how the changes if agreed will be communicated to the public, patients and other service providers.	Written response prior to meeting	SaTH / PCTs

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1) Clarification on the Royal College of Surgeon's guidance 'children's surgery a first class service' (2006) which sets out that trauma and paediatric services should be on the same site. What status does this guidance have?

Briefing Note:
Royal College of Surgeons Guidance and the Provision of Paediatric Surgical Services

SUMMARY: Recent guidance has been considered in the clinical discussions on the options for the development of children's services within the proposed reconfiguration. More detailed pathways for paediatric surgical services will be developed during the planning and implementation phase, with wide clinical and patient/carer involvement.

The Royal College of Surgeons have recently published 'Ensuring the provision of general paediatric surgery in the district general hospital' (2010). The document provides guidance for commissioners and service planners to ensure the continued availability of high-quality general paediatric surgery (GPS) close to patients' homes and families. It is endorsed by:

- The Royal College of Surgeons of England
- The Royal College of Paediatrics and Child Health
- The Royal College of Anaesthetists
- The British Association of Paediatric Surgeons
- The Association of Paediatric Anaesthetists
- The Association of Surgeons of Great Britain and Ireland
- The British Association of Urological Surgeons

In summary, the guidance states:

- the need for innovative solutions for the continued provision and improvement in patient care
- that most surgical procedures performed on children are elective, relatively straightforward and performed in district general hospitals
- that when a child is very young, has existing co-morbidities, or if the receiving unit does not have the staff with the appropriate skills to manage the patient , the child should be transferred to another unit within the local managed network
- that the presence of on-site paediatricians and other children's services underpins the provision of elective GPS

- a managed clinical network is an interconnected system of service providers that allows collaborative working and the development of standards of care, routes of communication and agreed thresholds for patient transfer for elective and emergency surgery
- that in all care pathways there will be sites with emergency departments receiving children that will not have overnight paediatric inpatient services and no paediatrician on site. Involving paediatricians out of hours would be potentially by telephone or video link

In addition, Regional Trauma Systems Guidance (published by the Intercollegiate Group on Trauma Standards in December 2009) in relation to paediatrics state:

'The provision of care for seriously injured children should be considered alongside that of adults in order to realise the benefits of co-locating services. There are too few injured children in the UK to give sufficient experience for separate systems to treat children. The injured child therefore needs to be the responsibility of the trauma system but with additional expertise drawn from paediatric specialists. There will be considerable variation between SHAs in their approach to this depending on availability of specialist children's services. Links with regional children's retrieval services might be helpful in defining the pathway for injured children.'

This is reflected in the designation of the Royal Shrewsbury Hospital (RSH) as a Trauma Unit within the Improving Trauma Care in the West Midlands programme.

The Local Solution

Recent guidance has therefore been considered in the clinical discussions on the options for the development of children's services within the proposed reconfiguration.

The surgeons currently performing paediatric surgery on an elective basis will continue to do so. These surgeons are well-trained and very experienced at operating on and caring for children. The clinical risks associated with surgery within the Trust do not relate to paediatric surgery. These surgeons have agreed to form a stand-alone paediatric surgical rota for the provision of emergency surgery at the Princess Royal Hospital (PRH), for those children able to stay within a district general hospital setting and do not require the services of a specialist Trust. The surgeons will be joined on the rota by one associate specialist in gastro-intestinal surgery, one associate specialist in upper gastrointestinal surgery (who currently undertakes paediatric surgery now) and a new appointment of an Oncoplastic surgeon. Due to the changing needs of service and subsequent changes in surgical training, many surgeons are increasingly dual trained in breast and paediatric surgery. It is planned that a dual trained surgeon will join the team.

Whilst the finer details need to be carefully worked through, this development offers a robust and sustainable 24/7 dedicated paediatric surgical team within the Trust. The Trust will continue to be part of the wider West Midlands clinical network where children aged two years and under, those with co-morbidities or those requiring complex surgical intervention are treated and cared for at the Birmingham Children's Hospital (BCH). As described in the guidance and detailed in the children's care pathways, children with major trauma attending the RSH will be transferred to PRH or to BCH depending on their clinical need with the involvement of the on-call paediatrician. In the very rare case of the need for immediate life-saving surgery then the child will be operated on at RSH and then transferred to BCH once they are stable.

Briefing provided by:

Kate Shaw, FCHS Programme Manager, The Shrewsbury and Telford Hospital NHS Trust

Mr Tony Fox, Consultant Vascular Surgeon, Centre Chief for Surgery, The Shrewsbury and Telford Hospital NHS Trust

Dr Frank Hinde, Consultant Paediatrician, The Shrewsbury and Telford Hospital NHS Trust

3 March 2011

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2) Clarification on why selling both sites and building a new hospital is not an option.

Briefing Note:
Selling the two sites to establish a new acute site

SUMMARY: It is not considered viable or affordable to sell the two current sites to establish a new acute site. Further detail on the financial appraisal will be included in the Outline Business Case and Full Business Case. Presentations on the development of the Outline Business Case and Full Business Case will be brought to future meetings of the Health Overview and Scrutiny Committees.

The main background information for this is the feasibility study undertaken in 2009 as part of the Developing Health and Health Care work to look at scenarios for 2020 ("Developing Health and Health Care 2020 Vision: Feasibility Study - Executive Summary - Draft for Programme Board Review", Version 2.1, September 2009 – Strategic Healthcare Planning and Provex). This is attached and is available from the consultation website at http://www.ournhsinshropshireandtelford.nhs.uk/Library/Documents/090917-Att%20D%20Feasibility%20Study.pdf

The option of a new acute site was discussed in Option 4. The independent costings put this at £417M at the time. Pages 15 to 17 of the Feasibility Study set out the revenue implications of this level of capital borrowing. These run into tens of millions of pounds per year to service a loan of £417M, which would need to be found on top of the efficiency savings that we already need to find in the current economic climate. Whilst some aspects of the capital costings will have changed since 2009 (reduced MIPS, increased VAT) the required scheme would remain broadly in this price range and is therefore unaffordable.

The 2009 costings were based on retaining a range of local services at both existing hospitals (e.g. outpatients, Minor Injuries Unit, day surgery, Midwife Led Unit, specialist community services) as the alternative would be a substantially larger new acute site (with increased capital costs) and a large amount of travel for routine care. In this scenario we would not be able to realise the total land value of the current sites. Physical solutions and Illustrative Options are described in Sections 1.5 and 1.6 of the Feasibility Study (pp6-10).

In the "Keeping It In The County" consultation document we have briefly discussed and discounted the option of a new acute site (Option 3 on page 10). We have considered very carefully firstly whether this level of capital borrowing might be available to us and secondly whether we could afford to pay back the capital loan in the current economic climate. The short answer is that we cannot do either.

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The Joint Health Overview and Scrutiny has also asked whether a PFI scheme might be considered for a capital building scheme. A PFI scheme is one of a number of options that could be considered for seeking capital to cover the costs of building a new hospital. However, whilst this can provide opportunities for raising capital it does not solve the issue of having to pay for the revenue consequences of the scheme. A PFI scheme generally includes the costs associated with the revenue consequences of capital alongside additional fees for maintenance, catering or cleaning (as these services are often run by the PFI partner as part of the scheme rather than by the Trust). The monthly payments for recent PFI hospitals run into several million pounds each month (including both the "mortgage" fees and additional fees agreed as part of the scheme).

Briefing provided by:

David Gilburt, Finance Director, The Shrewsbury and Telford Hospital NHS Trust

Chris Needham, Head of Estates, The Shrewsbury and Telford Hospital NHS Trust

4 March 2011

Developing Health and Health Care
A Strategy for Shropshire, Telford and Wrekin

2020 Vision: Feasibility Study
Executive Summary
(Draft for Programme Board Review)

Version 2.1
Issued: 4th September 2009

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2020 Vision: Technical and Financial Feasibility Study

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Updated Draft Report: 4th September 2009

1 Executive Summary

1.1 Introduction

This document describes the work undertaken to study the technical and financial feasibility of a range of options for the configuration of acute services to meet the long term healthcare Strategy for Shropshire, Telford and Wrekin – 'Developing Health and Healthcare - 2020 vision'.

It has been prepared by Provex Consultancy Limited and Strategic Health Care Planning (SHP) under the direction of the 2020 Options Development Group reporting to the Programme Board.

1.2 Background

In November 2007 the Chief Executives of the four NHS organisations in Shropshire, Telford and Wrekin (Shropshire and Telford Executive Group) commissioned the Clinical Leaders Forum (CLF)[1] to lead the development of the eight 'Darzi' clinical pathways and to carry out an assessment of challenged services where there were clinical viability issues or concerns about sustainability of services. This work was carried out in close collaboration with key stakeholders, patients and members of the public.

A key objective of this work was:

"To review the evidence in respect of the options and to make recommendations for the future pattern of clinically safe general hospital services, serving the populations of Shropshire, Telford & Wrekin, and the catchments of the provider organisations.

In November 2008 the Clinical Leaders Forum submitted its report to the PCT Boards and set out three strategic objectives for the NHS in Shropshire, Telford and Wrekin:

- The prevention of disease and the promotion of healthy lifestyles and independent living;
- Provision of services at home or as close to home as possible;
- Provision of sustainable and accessible acute hospital services.

The third strategic objective comprised two aspects:

- To develop a single acute hospital for the seriously ill and injured as soon as is practically possible;
- To change the configuration of acute clinical services where this is needed urgently to improve patient safety, improve clinical outcomes, meet workforce legislative requirements or improve training.

The clinical strategy was accepted by the PCT Boards and as part of this work it was agreed that a feasibility study be carried out on the options for the development of a single site for the seriously ill and injured.

[1] The CLF includes the senior clinical staff from the two PCTs, the two acute trusts, representatives of the two local authorities and the directors of commissioning and strategy.

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The clinical strategy was also reviewed by the National Clinical Advisory team who *'strongly support the development of a single acute services site to provide for the population of 450-500,000 for Shropshire, Telford and Wrekin'.*

This report describes the work undertaken to assess the technical and financial feasibility of a range of options for the configuration of acute services to meet the long term healthcare Strategy for Shropshire, Telford and Wrekin – 'Developing health and Healthcare – 2020 Vision'. The feasibility study focuses on the technical and financial aspects. Considerable work has been done on the non-financial aspects of the options as part of the Clinical Leaders Forum work. In addition an equality impact assessment study has been commissioned. Any further assessment of the options will need to take into account both the financial and non financial implications of any changes to the configuration of hospital services in Shropshire, Telford and Wrekin.

This report outlines the work undertaken on activity and capacity forecasts; modelling the configuration of capacity across the various options; physical solutions to options; and a financial and economic analysis as part of the Feasibility Study for 2020. It also considers by way of a sensitivity analysis the potential changes to assumptions that would render the options feasible.

At this stage, details of the pattern of service under Option 1 are not determined, as the options for the 2012/13 Interim Configuration are still being appraised. A separate report is being prepared covering that aspect of work for the Programme Board.

1.3 Defining Service content within each Option

The options considered within the study are summarised in the table below:

Table 1 - Options

Option 1:	Do minimum, this is based on the anticipated acute service configuration that will be in place at 2012/13
Option 2:	"Acute" Hospital at Royal Shrewsbury Hospital (RSH); Outpatient, short-stay and day case surgery, minor injuries, midwife unit and specialist community services at both RSH and Princess Royal Hospital (PRH)
Option 3:	"Acute" Hospital at PRH; Outpatient, short-stay and day case surgery, minor injuries, midwife unit and specialist community services at both RSH and PRH
Option 4:	"Acute Hospital on new site; Outpatient, short-stay and day case surgery, minor injuries, midwife unit and specialist community services at both RSH and PRH

The team has defined the options in greater detail to articulate the various components of service to be provided on each site.

Table 2 - Service components

Services at acute hospital site	Services at other major site(s)
Total provision of Level 2 A and E	Local Minor Injuries Unit
Total provision of Acute Medical Beds	Local step down beds
Total provision of Complex Surgery	Local day and short stay surgery

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Total provision of Consultant Obstetrics	Local midwifery led maternity unit
Total provision of Cancer inpatient and complex chemotherapy	Local cancer outpatients and non complex chemotherapy
Total provision of Renal Inpatients and High risk dialysis	Local renal outpatients and non complex dialysis
Total provision of interventional cardiology	Local diagnostic angiography, cardiac outpatients and rehabilitation
Total provision of paediatric inpatient beds including children's surgery	Local paediatric emergency assessment

1.4 Activity and Capacity Forecasts

An activity and capacity modelling exercise was undertaken to quantify the capacity requirements in relation to the options defined above. The assumptions within the modelling included:

- Demography and Epidemiology for Shropshire County and for Telford and Wrekin, based on appropriate national and local projections and assumptions;
- Length of Stay based on Trust target of 80th percentile of peer mean length of stay by specialty;
- Percentage occupancy rates of 90% for general inpatients, and 80% for paediatrics and maternity;
- Theatre Utilisation 85%, 15 sessions per week;
- British Association of Day Surgery (BADs) Guidance on potential delivery options for elective and day case activity;
- Avoidable admissions focusing on a proportion of Ambulatory Care Sensitive Cases;
- Stepdown care based on a proportion of bed days above trim point for long stay elderly.

A high-level analysis of the impact of key assumptions was also undertaken. The results of this analysis showed:

- In episode terms, the significant upward pressure in demand driven by demographic and epidemiological change (+18%) outweighs the anticipated reductions in activity related to improved throughput and changes to models of care (-9%);
- In terms of projected bed days, the demographic and epidemiological demand increases (+25%) are effectively counterbalanced by the target reductions in length of stay and admissions avoidance (-27%); step down to intermediate care (-7%) reduces the requirement for acute beds further, though clearly increased provision will need to be made in primary and community care.

The activity analysis has been modelled into capacity requirements for each of the four options for each site in terms of Beds, Theatres, Out-patient clinic rooms, Diagnostic facilities, and other specific clinical facilities such as delivery rooms, renal dialysis stations and cardiac catheterisation labs.

These outputs were then used to inform the specification of the functional content requirements for each option.

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1.5 Physical Solutions to Options

In order to assess the feasibility of the options, it was necessary to define an illustrative physical solution. This entailed the development of baseline Schedules of Accommodation, which are summarised in the tables below.

Table 3 – Option 4 Schedule of Accommodation

Option 4	RSH as Non-Acute Site	PRH as Non-Acute Site	New Undefined Acute Site
Gross Departmental Area m^2	36,589	22,432	52,992

Table 4 – Option 2 and 3 Schedules of Accommodation

Option 2	RSH as Acute Site	PRH as Non-Acute Site
Gross Departmental Area m^2	78,566	22,432

Option 3	RSH as Non-Acute Site	PRH as Acute Site
Gross Departmental Area m^2	36,589	69,845

Assumptions were agreed in respect of space standards, bed mix, percentage singles, etc. Key clinical adjacencies were also taken into consideration. A formulaic approach has been adopted for on-costs and abnormals, including demolitions. The current physical condition of the existing estate was also factored into the reconfiguration design and the way in which cost categories have been allocated. These together with the SOA were used to generate high level capital cost estimates.

1.5.1. Site Area Calculation

The Whole Hospital Schedule of Accommodation was used to inform the likely building footprint and calculation of overall land take for each option.

The Site Area Calculation in summary is shown below:

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Table 5 - Site Area Calculations

	RSH as Acute Site	PRH as Acute Site	RSH as Non-Acute Site	PRH as Non-Acute Site	New Undefined Acute Site
Building footprint required m^2	69,065	61,399	31,439	19,275	46,584
No. of car park spaces	2,764	2,776	792	789	2,386
Illustrative Site Area m^2	116,955	109,563	49,266	37,027	85,973
Total including Infrastructure m^2	170,755	161,058	71,436	54,060	125,521
Hectares	**17.1**	**16.1**	**7.1**	**5.4**	**12.6**
Acres	42.2	39.8	17.7	13.4	31.0

TOTAL by Option	m^2	Hectares	Acres
Option 2	224,814	**22.5**	55.5
Option 3	232,493	**23.3**	57.4
Option 4	251,016	**25.1**	62.0

Existing Sites	Hectares	Acres
Royal Shrewsbury Hospital	**18.978**	46.895
Princess Royal Hospital	**14.751**	36.450

1.6 Illustrative Solutions

The shape and permutation of each option has been determined by combining components for each site, for example:

- **Option Two** requires consideration of two components, namely the West Acute and the East Non-Acute;
- **Option Three** requires consideration of two components, namely the East Acute and the West Non-Acute, and;
- **Option Four** requires consideration of three components, namely the New Site and the West Non-Acute and East Non-Acute sites.

As noted in section 1.2 above, Option One remains undefined in detail and shape as it is anticipated that further feedback from the separate 2012/13 work stream will inform this option.

Illustrative drawn solutions are shown in the full report. The key changes to the sites for each of the options are summarised below:

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1.6.1. West Site Acute (RSH)

	Zone / Activity	Key Points
West Site Acute	Generic Inpatients	Major new build element to the west of the site, including critical care and paediatric inpatients. Replacement Catering, Receipt & Distribution and Pharmacy facilities required as enabling works.
	Theatres / Treatment	Additional theatres provided within the west side new build works linked to existing retained theatres and Treatment Centre.
	Obstetrics	Existing refurbishment plans rolled out and enhanced. No physical integration of Women and Children services, albeit the facilities are relatively close together.
	Paediatrics	Paediatric Assessment co-located with A&E, Paediatric inpatients located within the generic new build bed base accommodation.
	A&E	Rationalisation of existing A&E, Head and Neck, Fracture Clinic and T&O Clinic to create enhanced A&E. Short stay medicine / MAU located adjacent on levels 2 & 3 in the existing ward block.
	Support	Imaging largely as existing. Therapies utilise level 1 refurbished core area. Pathology extends into adjacent OPD zone. Clinical Admin dispersed, majority of Education remains at RSH as existing.

1.6.2. East Site Acute (PRH)

	Zone / Activity	Key Points
East Site Acute	Generic Inpatients	Major new build element to the west of the site, predominantly inpatient accommodation including new Women's Children entrance and facilities.
	Theatres / Treatment	Additional theatres provided to the west of the existing retained theatres over new MAU below.
	Obstetrics	Physically integrated Women and Children services within new build works.
	Paediatrics	Paediatric Assessment as currently located opposite A&E across hospital street. Paediatric inpatients located within the generic new build accommodation.
	A&E	Expansion of the existing ED into adjacent Day Case template to create new integrated A&E. Short stay medicine / MAU located immediately opposite.
	Support	Imaging as existing with additional satellite facility. Replacement Catering facilities required. Therapies as existing plus Cardio Respiratory. Existing Pathology extended. Assume majority of Education remains at RSH as existing. Existing Clinical Admin expanded at level 2. Education as existing.

1.6.3. West Site Non-Acute (RSH)

The following applies to Options 3 and 4.

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	Zone / Activity	Key Points
West Site Non-Acute	Generic Inpatients	Existing ward block Levels 3 and 4 plus Day Surgery ward refurbished to provide improved standards
	Theatres / Treatment	Original 4 theatres converted for Catheter Lab and Hot Lab, more recent theatre accommodation including Treatment Centre retained.
	Obstetrics	Existing OPD converted to provide Ante natal Clinic and MLU, co-located with Paediatric OPD
	Paediatrics	Paediatric OPD within upgraded existing OPD, with Assessment co-located with MIU
	A&E	Rationalisation of existing ED to provide MIU
	Support	Imaging as existing. Catering as existing. RDC rationalised. Pharmacy and Pathology relocated as satellite units. Assume majority of Education remains at RSH as existing. Clinical Admin generally within the ward block at Level 5. Balance of existing OPD used for Corporate Admin

1.6.4. East Site Non-Acute (PRH)

The following applies to Options 3 and 4.

	Zone / Activity	Key Points
East Site Non-Acute	Generic Inpatients	Three existing ward templates refurbished to provide improved standards
	Theatres / Treatment	Existing theatres retained. Existing Endoscopy rationalised to incorporate Catheter Lab
	Obstetrics	Existing MLU retained and rationalised
	Paediatrics	Paediatric Assessment and OPD retained and rationalised
	A&E	Rationalisation of existing ED to provide MIU
	Support	Imaging retained. Catering retained, RDC retained. Pharmacy retained. Therapies retained. Pathology rationalised. Assume majority of Education remains at RSH as existing. Clinical Admin retained and rationalised to include Corporate Admin

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1.6.5. New Undefined Acute Site

The following applies to Option 4.

	Zone / Activity	Key Points
New Site Acute	Generic Inpatients	New build
	Theatres / Treatment	New build
	Obstetrics	New build
	Paediatrics	New build
	A&E	New build
	Support	Majority of support services new build. Assume majority of Education remains at RSH as existing. Limited Corporate Admin on this site in this scenario

The following assumptions have been made in respect of the new site:

- The location is somewhere between Shrewsbury and Telford;
- The site is rural in character;
- The topography is flat;
- Town Planners are likely to limit the height to two floors of occupied accommodation;
- The site plan ratio is likely to be rectangular rather than square;
- Typical existing physical features on the site boundaries might include:
  - Existing buildings, with a degree of sensitivity;
  - Embankment or other rising land mass or protected woodland;
  - Highway;
  - Watercourse.

1.7 Conclusion - Physical Solution of Options

For Options 2 and 3, the reconfigured services are considered deliverable from a physical solution perspective with no 'showstoppers' identified that would prevent the development(s) from taking place.

Under Option 4, because the new site has not yet been identified, and therefore not technically appraised, the recommendation can only indicate that the reconfigured acute hospital would be deliverable given the circumstances and assumptions as stated. It is also important to note that the Environmental Group has initiated discussions with the 2 Local Authorities regarding sites, and a number of potential sites have been identified. Further work will be required at the next stages of the programme to undertaken a formal site appraisal to identify the most suitable site for Option 4. The associated non-acute solutions for Option 4 are considered deliverable.

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1.8 Non-Financial Analysis

In accordance with the brief for this Feasibility Study, a detailed non-financial appraisal of the options has not been undertaken. Rather, such an appraisal will be required as part of the development of options at the next stage of the programme.

In the meantime, an initial commentary against the evaluation criteria is set out below:

Table 6 - Characteristics of Options

	Option 2 RSH Acute Site	Option 3 PRH Acute Site	Option 4 New Acute Site
Maximising access to services	Under all options, access to services for those patients not requiring the services to be located on the hospital site for the seriously ill and injured (the acute hospital) will be maintained or improved. Access to the services on the acute site will vary dependent upon the home address of the patient. Initial work has already been undertaken on travel times and distances by the Programme, and details of this analysis are available separately.		
Maximising access to services	For those patients who need the services of the acute hospital, this option increases access times for patients in the east of the area.	For those patients who need the services of the acute hospital, this option increases access times for patients in the west of the area and Wales.	For those patients who need the services of the acute hospital, this option marginally increases access times for most patients.
Improving the clinical quality of services	Each option resolves the viability issues of acute sub-specialties, and organises services closer together.		
Optimising the environmental quality of services	All options reflect the same standards in terms of space for both patient environment and staff areas. These are considerable improvements on current facilities; Capital costings have also been prepared on the basis of dealing with backlog maintenance and statutory standards where required.		
Optimising the environmental quality of services	This option has a slightly lower level of new build in comparison to Option 3 and therefore retains more of the existing estate.	This option has a slightly higher level of new build in comparison to Option 2, and therefore retains less of the existing estate.	Under this option, all of the acute hospital facilities are new build, and the bulk of the services on the RSH and PRH site are accommodated in existing or refurbished buildings.
Developing existing services and/or provision of new services	Each option has been developed on the basis of providing 20% expansion capacity in calculating the site requirements.		

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	Option 2 RSH Acute Site	Option 3 PRH Acute Site	Option 4 New Acute Site
Improved strategic fit of services	Each option provides long term service sustainability.		
Meeting staffing agendas	Each Option eases long term recruitment and retention issues; Introduces some short term challenges for the relocation of staff.		
Making more effective use of resources	Enables Improvements in productivity through the co-location of services and better clinical linkages; Creates surplus estate resource at PRH.	Enables Improvements in productivity through the co-location of services and better clinical linkages; Creates surplus estate resource at RSH.	Enables Improvements in productivity through the co-location of services and better clinical linkages; Creates surplus estate resource at RSH and PRH.
Providing flexibility for the future	Whilst the services are deliverable on the RSH site, this option will restrict future flexibility on that site.	Whilst the services are deliverable on the extended PRH site, this option will restrict future flexibility on that site.	Maximises future flexibility on both PRH and RSH sites, dependent upon decisions to release land for sale.
Practicality and timeliness of implementation	Deliverable with minimal external impact; Unlikely to create major clinical service disruption, but requires enabling phases of work, thereby marginally extending the timescale to deliver the project in comparison to other options.	Deliverable with minimal external impact; Unlikely to create major clinical service disruption.	Significant land acquisition and planning consent implications in order to acquire a new site, but this will be offset by a shorter build period; Unlikely to create significant clinical service disruption during the more limited construction work required on the existing sites.

1.9 Financial and Economic Analysis

A high level review of the financial impact of the options has been undertaken to assess whether it would be possible, through future more detailed work, to ensure that the options could be made to be financially viable.

This has been undertaken at a summary level on a Trust wide basis and covers the following areas:

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- Impact of income on commissioners and the Trust;
- Impact capital costs on revenue affordability;
- Impact of activity changes on revenue costs;
- A sensitivity analysis to show the potential impact of individual assumptions.

1.9.1. Income Impact of Activity Assumptions

1.9.1.1. Inpatients and Out Patients

An assessment of the total investment required by PCT to meet changing population impacts and the amount of income that would then be allocated to the Acute Trust has been undertaken.

This is summarised in the table below:

Table 7 - Movements in Income – All PCTs

Reason for Movement	APC £000's	OP £000's	Total £000's
Impact of Demography	20,423	4,969	**25,392**
Impact of Epidemiology	3,457		**3,457**
Investment by PCTs	**23,880**	**4,969**	**28,849**
BADS Day Cases	(3,308)		**(3,308)**
Avoidable Admissions	(2,836)		**(2,836)**
LOS Target Reduction			**0**
Transfer Out of Hospital		(3,285)	**(3,285)**
Total Trust Income Change	**17,736**	**1,684**	**19,420**
Trust income Including MFF	**18,654**	**1771**	**20,425**
Out of Hospital	**(6,144)**	**(3,285)**	**(9,429)**

1.9.1.2. Other Income Streams

Other more specialist areas where additional capacity has been built into the scheme are estimated below.

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Table 8 - Other Income Streams

Specialised Services	Estimated Costs £000's
Critical Care Beds	1,500
Cath. Lab	3,000
Renal Dialysis Stations	1,000
Liner Accelerators	750
Total Other Services	**6,250**

1.9.2. PCT Impact

This gives an overall assessment of £36m for all PCTs of which £26.6m would flow to the acute Trust. Having completed the exercise PCTs have noted that in their view it is likely that this level of investment is not sustainable given current economic conditions and that further work will be required within the development of their strategic plans to assess how this additional demand can be addressed with alternative services and taking into account alternative preventive strategies.

1.9.3. Capital Costs

The capital costs of the options are summarised below based on the following key assumptions

- Costs have been estimated at current MIPS levels 530;
- 65% allowance for new equipment purchase;
- Land is assumed to be cost neutral across all options;
- Optimism bias has been included;
- Vat is calculated at 17.5%.

Table 9 - Capital Costs of options

Capital	Option 2 £000's	Option 3 £000's	Option 4 £000's
Works	173,632	179,164	212,149
Fees	26,045	26,875	31,822
Non Works Costs	5,889	5,889	8,833
Equipment	15,090	17,066	18,729
Contingency/Optimism Bias	85,865	88,862	90,199
VAT	47,308	49,095	55,892
Total	**353,830**	**366,950**	**417,626**

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1.9.4. Revenue Impact of Capital Costs

An initial assessment of the impact of the increased capital charges has been undertaken and is summarised in the table below:

Table 10 - Summary of Capital Charges Movements

Capital	Option 2 £000's	Option 3 £000's	Option 4 £000's
Baseline	9,827	9,827	9,827
Demolitions	(662)	(764)	(836)
Areas Assumed refurbished	(1,948)	(1,735)	(1,202)
Light Touch	410	557	444
Major Refurbishment	2,598	2,232	1,536
New Build	5,684	6,167	8,269
Equipment	701	1,288	1,588
2020 Planned Total	**16,610**	**17,573**	**19,626**
Variance to Baseline	**6,783**	**7,746**	**9,799**

The table shows that Option 4 would add the highest capital charges to the cost base. This is largely due to the level of new build and the spread across three sites.

1.9.5. Write Down of Assets

Based on the capital charges assumptions there will be a write down of asset values for each option. The potential value is summarised in the table below and excludes empty estate.

Table 11 - Potential Write Down of Assets

Capital	Option 2 £000's	Option 3 £000's	Option 4 £000's
RSH	(38,167)	(27,943)	(27,943)
PRH	(10,478)	(20,621)	(10,478)
Total	**(48,645)**	**(48,564)**	**(38,421)**

1.9.6. Financing Costs

Significant further work will be required at the next stage to assess this but for the purpose of feasibility it has been assumed that the whole cost of the scheme will be financed through borrowing

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at 5% interest. The table below summarises the revenue impact at Year 1. This will reduce through the years as the loan outstanding diminishes.

Table 12 - Capital Borrowing

Capital	Option 2 £000's	Option 3 £000's	Option 4 £000's
Borrowing Requirement	353,830	366,950	417,626
Interest Payable – Year 1	17,691	18,348	20,881

1.9.7. Revenue Costs

The impact of the cost drivers is detailed in the table below.

Table 13 - Impact of Cost Drivers

	Baseline £000's	Option 2 £000's	Option 3 £000's	Option 4 £000's
Medical Costs	62,778	69,443	69,443	69,443
Direct Service Costs	78,697	81,916	81,916	81,916
Clinical Support & Diagnostics	38,200	42,256	42,256	42,256
Facility Management Costs	33,613	37,181	37,181	37,181
Admin & Other	22,319	27,764	29,294	31,041
Total	**235,608**	**258,561**	**260,090**	**261,837**
Variance	-	**22,953**	**24,482**	**26,229**

1.9.8. Summary of Impacts

Based on the assumptions above and assuming the Trust is in financial balance the impact on revenue affordability is detailed in ***Appendix N*** and can be summarised as below.

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Table 14 - Impact Summary by Option

Capital	Option 2 £000's	Option 3 £000's	Option 4 £000's
Income	**26,675**	**26,675**	**26,675**
Revenue Costs	22,953	24,482	26,229
Capital Charges	6,783	7,746	9,799
Financing	17,691	18,348	20,881
Total Costs	**47,427**	**50,577**	**56,909**
Affordability	(20,752)	(23,902)	(30,234)
% Gap	(7%)	(9%)	(11%)

As can be seen from the above the feasibility has identified a gap for each option which is largely driven by the additional cost of capital and area offset by the efficiency savings made through more effective delivery of activity.

1.9.9. Sensitivity

The Project team has identified a number of areas where different assumptions could be made which would affect the affordability envelope by reviewing in terms of:

- How much facility is required to deliver the activity (utilisation and occupancy levels);
- How much space is required to deliver the facility (space standards, etc.);
- How the space is delivered by the physical solution (New Build; Extensive Refurbishment; Minimal Refurbishment; Existing unchanged; Demolished estate);
- How much it costs to deliver the solution (capital costs per m^2; optimism bias; etc).

The various sensitivity assumptions can be summarised as follows:

Table 15 – Sensitivity Assumptions

Ref.	Sensitivity	Impact
	Utilisation Assumptions	
1	Amend Theatre utilisation to 19 Sessions per week form 15 sessions per week	Reduce capital requirement for wards & reduced loan requirement, FM & capital charges
2	Amend OP throughput from 3000 Sessions per room to 4,500 sessions per room (850M2)	Reduce capital requirements for clinics and loan requirement, FM & capital charges
3	Amend LoS downwards by a further 50 beds (1,730m^2)	Reduce capital costs and revenue impact of two less wards and loan requirement, FM & capital charges & direct Revenue Costs

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Ref.	Sensitivity	Impact
4	Ward Standards (option 2 – 1,240m² less new build & 300m² less refurb), Option 3 (1,329m² less new Build, 660m² less Major refurb), Option 4 (960m² less major refurb)	Reduce capital costs and revenue impact of two less wards and loan requirement, FM & capital charges
5	Delivery Suite (400m²)	Reduce capital costs and revenue impact of two less wards and loan requirement, FM & capital charges
6	Review assumptions on provision of office accommodation.	Reduce capital requirement for office accommodation and loan requirement, FM & capital charges
	Capital Cost Assumptions	
5	Impact of 5% adjustment on Optimism Bias. Squeezing Cost Envelope 2.5% Location/MIPS On-costs	Reduced capital costs
	Revenue Cost Assumptions	
6	Amend assumptions on management costs to stay flat	Assume management cost are restrained at current levels
7	Amend medical assumptions to be 50% of income change	Assume medical costs only increase by 50% of income rather than 100%
8	Amend clinical support assumptions to be 50% of income change	Assume medical costs only increase by 50% of income rather than 100%
	Income	
9	Assume that empty estate attracts income	
	Financial and Financing	
10	Amend Interest rate by 1%	Impact of reducing from 5% to 4%
11	Assume £50m capital contribution from internally generated income.	Impact of Trust financing from internally generated funds which in turn reduces loan requirements. Arguably a reduction as well in depreciation & PDC but this has not been factored in
12	Assume impairment of new build of 10%	Assume that new build is impaired on completion by 10% and there is a reduction in capital charges
13	Reduction in circulation space	Including all of above sensitivities

Clearly, a change in one assumption will have a cumulative impact on another (for example, reducing capital build costs will reduce the impact of financing changes as a lower loan is required). Consequently, the assumptions have been run concurrently and the cumulative impact of all assumptions as summarised below.

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Table 16 - Cumulative Impact of Sensitivities

Capital	Option 2 £000's	Option 3 £000's	Option 4 £000's
Cumulative Impact	(24,659)	(23,641)	(26,285)
Revised I&E	3,907	(260)	(3950)
Percentage Variability	**1%**	**0%**	**(1%)**

Once the cumulative impact has been run, the financial feasibility becomes much closer and for each option is within a 1% range.

1.9.10. Future Funding Impacts

The base case has been based upon the range of assumptions agreed across the health community in relation to the potential level of activity for hospital services in the future. All members of the Options Development Group have recognised that there a significant number of uncertainties in making such predictions, including a number of external and national influences that could affect this further. It is not possible to accurately predict the impact of this at this stage, but in all cases it would point to a reduced size of acute hospital being required in comparison to the "base case". A high level estimate of the impact of demographic changes has therefore been reviewed to include only the impact of population growth, as summarised in the table below.

Table 17 - Impacts of Revised Activity Assumptions

	Net Change
Total Income	(£14,180)
Beds	(117)
Ops	(4%)

The PCTs would expect over a 12 year period that changes in populations would also attract additional funding. The balance required therefore is £12.5m to flow to the Acute Trust reduced from £26.6m.

The impact of this on the financial viability has been estimated at a high level is summarised in the table below.

Table 18 - Revised Financial Viability

	Option 2 £000's	Option 3 £000's	Option 4 £000's
Feasibility Gap	(18,954)	(22,129)	(28,350)

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Variance	(1,798)	(1,773)	(1,885)

As can be seen from the above all options based on the agreed assumptions and sensitivities have potential to become financially viable options.

1.10 Conclusion

The report analyses future activity and capacity requirements and performance assumptions. It defines the future functional requirements (beds, theatres etc.) and schedules of accommodation.

Based on these requirements and studies of the available sites it can be confirmed that the physical development of the options is feasible subject to satisfactory land acquisition.

The financial feasibility has been explored covering the impact of income on commissioners and the Trust; the impact of capital costs on revenue affordability; the impact of activity changes on revenue costs; and a sensitivity analysis to show the potential impact of individual assumptions.

In summary, the conclusion can be drawn at this stage is that all options would appear on the basis of the agreed assumptions and sensitivities to have potential to become viable options from a financial perspective. Based on all of the above it is recommended that all options should be moved forward to the next stage for more detailed development. The next stages of work, following Public Consultation, will need to include:

- Identification of the most suitable site to accommodate Option 4 through a detailed and formal site appraisal;
- Further refinement and development with clinicians of the service models underpinning the strategy;
- Detailed activity and capacity forecasts, consistent with the refined service models and PCT forecasts;
- Development of the options to the level of detail that would support an Outline Business Case;
- Formal evaluation of options including non-financial and economic analysis;
- Updated affordability analysis, from both a commissioner and provider perspective.

Question 2

Keeping it in the County

Securing the future of hospital services in Shropshire, Telford and Wrekin

3) Details of the costings for the building work options to develop the sites at RSH and PRH. What documents were used to support the calculations for the facilities needed and the cost for this work? Have these been applied equally to both sites?

Briefing Note:
Costings

SUMMARY: Costings have been developed in line with national guidance for the NHS. Whilst the costed option for reproviding the services in the women and children's building at RSH was developed as part of the Developing Health and Health Care work in 2009, refreshing this against the latest assumptions used for the PRH scheme (e.g. reduced MIPS and increased VAT) still leaves a scheme that is not affordable in the current economic climate. Significant reductions would be needed in the RSH scheme in order to deliver comparable capital and revenue consequences.

Costings guidance

Costings for major NHS capital programmes are developed in accordance with guidance from NHS Estates based on providing services to modern healthcare buildings and space standards (rather than simply reproviding the current standards of service). The costs include appropriate contingencies for factors such as site condition, infrastructure costs, on-costs and other contingencies.

Guidance for NHS Trusts on costing for major NHS capital programmes is available from various sources, but the following documents will be useful if you are keen to understand how costings are developed:

- NHS Estates Healthcare Capital Investment Manual
- How To Cost A Hospital

Both documents are available from the FAQs section of the consultation website at www.ournhsinshropshireandtelford.nhs.uk

PRH and RSH Schemes

Page 12 of the consultation document states that "the cost of rebuilding the maternity unit at the Royal Shrewsbury Hospital is estimated to be close to £60m". These costings were developed as part of the Developing Health and Health Care programme and can be found in the background documentation from that work. The site plans and outline costings for the £60m new build option at RSH are attached.

Page 12 of the consultation document states that "The Princess Royal Hospital has space that can be made available to relocate services from Shrewsbury. Some additional new facilities could also be built at the Princess Royal Hospital. The cost of this scheme ... is estimated to be £28million". Information about these costings and an indicative build option is attached. During consultation ongoing discussions with clinicians and other stakeholders have identified alternatives which may present better clinical adjacencies and are expected to be deliverable within the proposed financial envelope. Alternative build options have been discussed at PRH site visits with HOSC representatives (e.g. building adjacent to the current children's services near the A&E department and main theatres).

The costings for the £60m new build option at RSH were developed in 2009 and in some aspects they use different assumptions to the more recent costings for PRH – for example, the MIPS index used to estimate the costs of building work has reduced, whilst VAT has increased. Refreshing the costs of the scheme against the latest assumptions used for the PRH building and refurbishment option still leaves a scheme that is not affordable in the current economic climate.

Revenue Consequences

The Finance Director summarised the financial consequences of the PRH and RSH schemes to the Local Assurance Panel on 28 February 2011 as follows:

Forecast Income & Expenditure

	PRH Scheme	*RSH Scheme*
	£28m	*£62m*
Additional Costs		
Running Costs	**355**	*828*
Annual Depreciation Charge	**1,141**	*2,480*
Loan Interest & PDC	**601**	*1,314*
Total Costs Year 1	**2,097**	*4,622*
Potential Savings		
Efficiency improvements from single site services	**560**	*560*
Reduction in Occupancy Costs	**1,891**	*1,891*
Total Potential Savings	**2,451**	*2,451*
Less Inter site Transport	**400**	*0*
Net Savings	**2,051**	*2,171*
Financial Loss / (Surplus)	**46**	*2,171*

Year on year the Trust needs to make 4% efficiency savings to live within the contract from our commissioners, and in addition needs to address the cost pressures we face (e.g. rising fuel prices). We need to ensure that the revenue consequences of major capital schemes are affordable within this context.

Considering the £28M option in the consultation document, we estimate that this will still cost in the region of £1.7M per year to pay back (annual depreciation charge plus loan interest & public dividend capital). When taking into account (a) the reduced costs by moving from the women and children's building at RSH and through avoiding duplication from single site services, and (b) the additional costs from improving inter-site transport (an allowance of £400k per year, although we will continue to review operating models as some options that incorporate increased transport of staff and/or supplies may approach revenue neutrality) then this scheme is approaching revenue neutral.

The higher capital costs of the scheme at RSH mean that this will cost around £3.7M to pay back. When we take into account potential net savings this has overall revenue consequences in the region of £2M a year, which would need to be found from savings in existing Trust services.

The view of the Trust is that £28M capital loan is therefore at the limit of affordability in the current economic climate. The scale of reduction in the costs of the RSH scheme that would need to be found

in order to achieve comparable capital borrowing and revenue consequences would not be deliverable.

The development of the Outline Business Case (OBC) and Full Business Case (FBC) will provide further opportunities to develop and test the capital and revenue affordability and options appraisal. Updates on the development of the OBC and FBC will be brought to future meetings of the Health Overview and Scrutiny Committees.

Challenges facing the Women and Children's Building

To provide further background to the costs, it is relevant to summarise the last major survey of the women and children's building, which took place in 2007 by Faithfull+Gould, a firm of surveyors, and I have attached a copy. This report makes it clear that four years ago the building was in a very poor state of repair.

The elements below were described in the report as being 'operationally unsound and in imminent danger of breakdown':

- Roofs - there is a significant risk to the operation and service delivery of patient care to the Maternity Department for those roofs identified…[these] roofs are directly above patient care areas and the potential consequences and severity of impact would be major'
- Energy distribution/insulation – 'without further refurbishment there would be a high consequential risk of systems failure and subsequent departmental closures'.
- Cold water storage – 'at present the service poses a high risk of non-conformance of water hygiene regulations'.
- Ventilation – 'the installations are life expired, energy inefficient, costly to repair and maintain and presents a high risk of failure'.
- Lifts and hoists – 'without further refurbishment there would be a high consequential risk of system failure'.
- Electrical systems –sub distribution, wiring, distribution boards, lighting – 'evidence exists of poor and overloaded circuits and circuit protection devices…which presents a significant high risk of failure. The consequence of failure would dictate department closure'.
- Alarms and detection systems – 'the existing fire alarm system... does not meet with current HTM 81 fire precautions guide...therefore [is] categorised with a high risk of failure. Consequence of failure would result in a possible fire resulting in injury or death together with structural damage'.
- Nurse call systems – 'non-availability of suitable spare parts, which currently and will continue to contribute to system failures...without the proposed refurbishment there would be a high consequential risk of system failure compromising medical patient support'.

At that time, the survey estimated that it would cost £2.8M to address the immediate backlog and urgent impending maintenance in the building. We have undertaken only the most urgent work to ensure the building is currently safe albeit in a precarious position. This is partly because for the last four to five years the local NHS has been pursuing longer term options for moving services from this building. The Developing Health and Health Care work, undertaken between 2007 and 2009, proposed that by 2020 we should establish a new acute hospital for the county which would have included obstetric maternity and inpatient children's services, allowing us to move services from the deteriorating building.

The Faithfull+Gould survey estimated the refurbishment costs to remedy the worst aspects of the condition would be £13M. This figure excludes the very substantial costs that dealing with the asbestos would incur which would add to the £13M. The £13M also excludes the cost of providing alternative accommodation for the services in the building whilst the work takes place. In any event,

such a scheme when completed would do nothing at all to address the space constraints that exist and would leave the building therefore still functionally unfit for purpose and there would be no guarantees about the building's future even with such a large taxpayer investment.

The building was constructed in an era when asbestos was regularly used as a building material which complicates and raises the costs of any remedial work. The asbestos in the building was re-encapsulated in 2008 at a cost of £130,000. Wholesale removal of the asbestos is not considered an option given firstly the risks that this would pose to patients during the works – in addition to the operational costs and challenges of finding alternative accommodation for patient services whilst the work takes place – and also given that this would require significant investment in a building does not have a long term future. Advice from the Health and Safety Executive is that asbestos can be managed safely if it is effectively contained. The work undertaken in 2008 ensures that it does not pose an immediate health risk, but this work would need to be repeated so that this continues to be the case.

Changing Financial Regime for the NHS

Since consultation started the government has laid the Health and Social Care Bill before Parliament. Attached is a review of the financial failure regime written by Capsticks a national firm of solicitors working in the health field.

The Trust is currently scheduled to present to Monitor during the later part of 2013. The deadline set by the Bill is that all NHS Trusts must be authorised by April 1st 2014. When the Trust makes its application, an external firm of accountants will carry out a process called 'historical due diligence'. This is an opinion about our financial health and will include a review of our liabilities.

One of the Trust's biggest liabilities is the women and children's building at RSH. The connection between the issues described above and the Trust's future is that Monitor will require the Trust to demonstrate that it has a clear plan that is both affordable and deliverable to deal with these liabilities before the Trust can be authorised.

If the Trust is not authorised then it – and the patients it services - faces the risks outlined in the Capsticks paper.

Briefing provided by:

David Gilburt, Finance Director, The Shrewsbury and Telford Hospital NHS Trust

Chris Needham, Head of Estates, The Shrewsbury and Telford Hospital NHS Trust

7 March 2011

Aedas

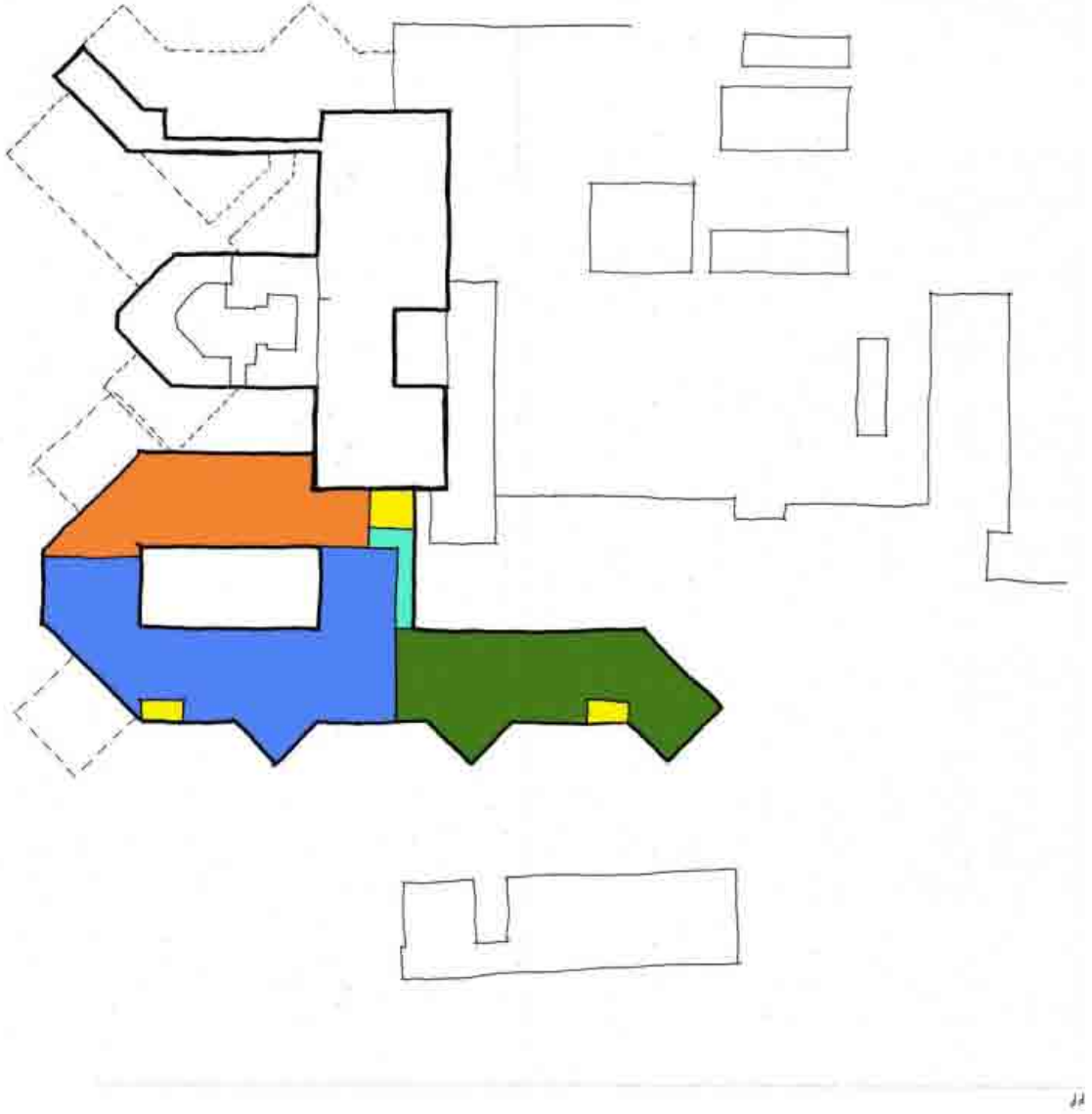
Proposed Ground Floor

- Vertical Circulation
- Primary Circulation
- Maternity Outpatients
- Paediatrics Inpatients
- Paediatrics Oncology Inpatients
- Paediatrics Assessment
- Paediatrics Outpatients
- Relatives
- Plant
- In Patient Theatre Entrance
- Blue Light Entrance

Question 3

RSH New Build Option 2009

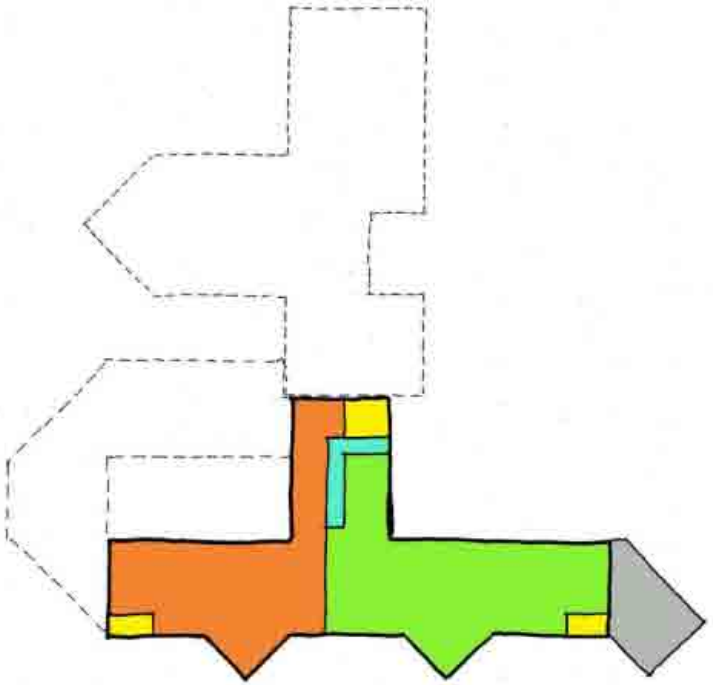
Proposed First Floor



- Vertical Circulation
- Primary Circulation
- Midwifery Led Unit
- Delivery Suite
- Neo Natal Unit

Question 3

Proposed Second Floor



- Vertical Circulation
- Primary Circulation
- Post Natal Inpatients
- Offices
- Plant

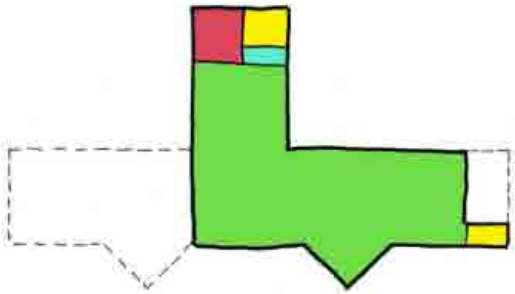
Question 3

Aedas

Proposed Third Floor

Question 3

- Vertical Circulation
- Primary Circulation
- Anti Natal Inpatients
- On Call



INFORMATION ON THIS SHEET IS RECORDED IN ORDER TO POPULATE CELLS THROUGHOUT THE ENTIRE WORKBOOK

ITEM	VALUE 1	VALUE 2
Client Name	Shrewsbury & Telford Hospitals NHS Trust	
Scheme Title	Women & Children's Services	
Scheme Designation (Option No. etc.)	Option 5	
MIPS		
- Base Calculation Indices	360	(FP)
- Reporting Level Indices	530	(FP)
- Projected Level indices	583	(FP)
On - Cost percentage	80%	
Location Adjustment	-5	
F&E percentage	100	
Design Fees	15	
Optimism Bias	17.00	
Planning Contingency	6.00	
Total Optimism Bias/Planning Contingency	23.00	
VAT	17.5	
NHS Quarterly Briefing	Volume 16, Nr 4	
MIPS Forecast to	3rd Quarter 2009	
APSAB Indices Forecast to		
Equipment Indices Forecast to	2nd Quarter 2011	

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
Option 5

	BLOCK NR/ LOCATION	SERVICE ELEMENT	MIPS	TARGET DEPARTMENT AREA (M²)	DCA DEPARTMENT AREA (M²)	DCA	ON COSTS 80%	LOCATION ADJUSTMENT -5.00%	TOTAL WORKS COST	F&E 100% New	DESIGN TEAM FEES 15.00%	NON WORKS COST	OPTIMISM BIAS/ PLANNING CONTINGENCY 23.00%	TOTAL EXCLUSIVE OF VAT	VAT (EXCL. DESIGN FEES) 17.50%	TOTAL INCLUDING VAT	NOTES
1.		Entrance		128	128	226,766	181,413	(20,409)	387,770	2,500	58,165	0	103,140	551,575	84,006	635,581	
2		Maternity Outpatients		770	770	1,001,345	801,076	(90,121)	1,712,300	344,721	256,845	0	532,189	2,846,055	442,774	3,288,829	
3		Post Natal Inpatient		1058	1,058	1,563,925	1,251,140	(140,753)	2,674,312	132,307	401,147	0	737,786	3,945,552	604,125	4,549,676	
4		Neo Natal Unit		915	915	1,211,460	969,168	(109,031)	2,071,597	550,562	310,739	0	674,567	3,607,465	564,420	4,171,884	
5		Relatives Overnight Stay		172	172	192,368	153,894	(17,313)	328,949	6,923	49,342	0	88,599	473,814	72,297	546,111	
6		On-call		56	56	61,520	49,216	(5,537)	105,199	3,000	15,780	0	28,515	152,494	23,290	175,784	
7		Paediatrics Outpatients		390	390	463,320	370,656	(41,699)	792,277	20,000	118,842	0	214,157	1,145,276	174,843	1,320,119	
8		Paediatrics Assessment		224	224	272,384	217,907	(24,515)	465,777	20,756	69,866	0	127,972	684,371	104,726	789,097	
9		Paediatrics Inpatient		1311	1,311	1,570,886	1,256,709	(141,380)	2,686,215	132,307	402,932	0	740,934	3,962,389	606,687	4,569,076	
10		Paediatrics Oncology		339	339	511,280	409,024	(46,015)	874,289	37,307	131,143	0	239,830	1,282,569	196,221	1,478,790	
11		Offices		996	996	721,400	577,120	(64,926)	1,233,594	404,516	185,039	0	419,324	2,242,473	352,603	2,595,077	
12		Midwifery Led Unit		855	855	1,172,205	937,764	(105,498)	2,004,471	539,748	300,671	0	654,325	3,499,214	547,643	4,046,857	
13		Delivery Suite		1482	1,482	2,060,526	1,648,421	(185,447)	3,523,499	734,727	528,525	0	1,100,953	5,887,704	916,583	6,804,287	
14		Ante Natal Inpatient		1189	1,189	1,784,680	1,427,744	(160,621)	3,051,803	162,307	457,770	0	844,532	4,516,413	691,837	5,208,250	
		Non Works Cost										219,121	50,398	269,518	47,166	316,684	
		MIPS INDICES BASE CALCULATION	**360 (FP)**	**9885**	**9885**	**12,814,065**	**10,251,252**	**(1,153,266)**	**21,912,051**	**3,091,681**	**3,286,808**	**219,121**	**6,557,222**	**35,066,882**	**5,429,219**	**40,496,101**	
		MIPS INDICES CALCULATION (CURRENT REPORTING LEVEL)	**530 (FP)**	**9,885**	**9,885**	**18,865,151**	**15,092,121**	**(1,697,864)**	**32,259,409**	**3,091,681**	**4,838,911**	**322,594**	**9,317,897**	**49,830,492**	**7,678,760**	**57,509,252**	
		MIPS INDICES CALCULATION (PROJECTED TO START ON SITE) 3rd Quarter 2009	**583 (FP)**	**9,885**	**9,885**	**20,751,666**	**16,601,333**	**(1,867,650)**	**35,485,350**	**3,091,681**	**5,322,802**	**354,853**	**10,178,578**	**54,433,264**	**8,380,088**	**62,813,352**	

Question 3

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
Option 5

PHASE 1 - SUMMARY

	BLOCK NR/ LOCATION	SERVICE ELEMENT	MIPS	TARGET DEPARTMENT AREA (M²)	DCA DEPARTMENT AREA (M²)	DCA	ON COSTS 121.46%	LOCATION ADJUSTMENT -5.00%	TOTAL WORKS COST	F&E 100% New	DESIGN TEAM FEES 15.00%	NON WORKS COST	OPTIMISM BIAS/ PLANNING CONTINGENCY 23.00%	TOTAL EXCLUSIVE OF VAT	VAT (EXCL. DESIGN FEES) 17.50%	TOTAL INCLUDING VAT	NOTES
1.		Entrance		128	128	226,766	275,432	(25,110)	477,088	2,500	71,563	0	126,765	677,916	103,231	781,148	
2		Maternity Outpatients		770	770	1,001,345	1,216,244	(110,879)	2,106,709	344,721	316,006	0	636,510	3,403,947	527,670	3,931,617	
5		Relatives Overnight Stay		172	172	192,368	233,652	(21,301)	404,719	6,923	60,708	0	108,640	580,990	88,606	669,596	
6		On-call		56	56	61,520	74,723	(6,812)	129,431	3,000	19,415	0	34,924	186,770	28,506	215,275	
12		Midwifery Led Unit		855	855	1,172,205	1,423,772	(129,799)	2,466,178	539,748	369,927	0	776,446	4,152,299	647,026	4,799,325	
		Non Works Cost										55,841	12,843	68,685	12,020	80,705	
		MIPS INDICES BASE CALCULATION	**360 (FP)**	**1981**	**1981**	**2,654,204**	**3,223,823**	**(293,901)**	**5,584,125**	**896,892**	**837,619**	**55,841**	**1,696,130**	**9,070,607**	**1,407,059**	**10,477,666**	
		MIPS INDICES CALCULATION (CURRENT REPORTING LEVEL)	**530 (FP)**	**1,981**	**1,981**	**3,907,578**	**4,746,183**	**(432,688)**	**8,221,073**	**896,892**	**1,233,161**	**82,211**	**2,399,668**	**12,833,005**	**1,980,338**	**14,813,343**	
		MIPS INDICES CALCULATION (PROJECTED TO START ON SITE) 3rd Quarter 2009	**583 (FP)**	**1,981**	**1,981**	**4,298,336**	**5,220,802**	**(475,957)**	**9,043,181**	**896,892**	**1,356,477**	**90,432**	**2,619,006**	**14,005,988**	**2,159,066**	**16,165,054**	

Question 3

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
Option 5

PHASE 2 - SUMMARY

	BLOCK NR/ LOCATION	SERVICE ELEMENT	MIPS	TARGET DEPARTMENT AREA (M²)	DCA DEPARTMENT AREA (M²)	DCA	ON COSTS 70%	LOCATION ADJUSTMENT -5.00%	TOTAL WORKS COST	F&E 100% New	DESIGN TEAM FEES 15.00%	NON WORKS COST	OPTIMISM BIAS/ PLANNING CONTINGENCY 23.00%	TOTAL EXCLUSIVE OF VAT	VAT (EXCL. DESIGN FEES) 17.50%	TOTAL INCLUDING VAT	NOTES
3		Post Natal Inpatient		1058	1,058	1,563,925	1,094,748	(132,934)	2,525,739	132,307	378,861	0	698,489	3,735,395	572,144	4,307,540	
4		Neo Natal Unit		915	915	1,211,460	848,022	(102,974)	1,956,508	550,562	293,476	0	644,126	3,444,672	539,647	3,984,318	
7		Paediatrics Outpatients		390	390	185,328 (40%)	129,730	(15,753)	299,305	0	44,896	0	79,166	423,367	64,425	487,792	Shell Only
8		Paediatrics Assessment		224	224	108,954 (40%)	76,268	(9,261)	175,960	0	26,394	0	46,541	248,896	37,875	286,771	Shell Only
9		Paediatrics Inpatient		1311	1,311	628,354 (40%)	439,848	(53,410)	1,014,792	0	152,219	0	268,413	1,435,424	218,434	1,653,858	Shell Only
10		Paediatrics Oncology		339	339	204,512 (40%)	143,158	(17,384)	330,287	0	49,543	0	87,361	467,191	71,094	538,285	Shell Only
11		Offices		996	996	721,400	504,980	(61,319)	1,165,061	404,516	174,759	0	401,197	2,145,533	337,851	2,483,385	
13		Delivery Suite		1482	1,482	2,060,526	1,442,368	(175,145)	3,327,749	734,727	499,162	0	1,049,177	5,610,816	874,448	6,485,264	
14		Ante Natal Inpatient		1189	1,189	1,784,680	1,249,276	(151,698)	2,882,258	162,307	432,339	0	799,688	4,276,592	655,343	4,931,934	
		Non Works Cost										136,777	31,459	168,235	29,441	197,676	
		MIPS INDICES BASE CALCULATION	**360 (FP)**	**7904**	**7904**	**8,469,141**	**5,928,397**	**(719,877)**	**13,677,659**	**1,984,419**	**2,051,649**	**136,777**	**4,105,616**	**21,956,120**	**3,400,704**	**25,356,823**	
		MIPS INDICES CALCULATION (CURRENT REPORTING LEVEL)	**530 (FP)**	**7,904**	**7,904**	**12,468,457**	**8,727,918**	**(1,059,819)**	**20,136,556**	**1,984,419**	**3,020,483**	**201,366**	**5,828,850**	**31,171,674**	**4,804,884**	**35,976,558**	
		MIPS INDICES CALCULATION (PROJECTED TO START ON SITE) 3rd Quarter 2009	**583 (FP)**	**7,904**	**7,904**	**13,715,303**	**9,600,710**	**(1,165,801)**	**22,150,212**	**1,984,419**	**3,322,532**	**221,502**	**6,366,093**	**34,044,758**	**5,242,658**	**39,287,416**	

Question 3

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
Option 5

PHASE 3 - SUMMARY

	BLOCK NR/ LOCATION	SERVICE ELEMENT	MIPS	TARGET DEPARTMENT AREA (M²)	DCA DEPARTMENT AREA (M²)	DCA	ON COSTS 65%	LOCATION ADJUSTMENT -5.00%	TOTAL WORKS COST	F&E 100% New	DESIGN TEAM FEES 15.00%	NON WORKS COST	OPTIMISM BIAS/ PLANNING CONTINGENCY 23.00%	TOTAL EXCLUSIVE OF VAT	VAT (EXCL. DESIGN FEES) 17.50%	TOTAL INCLUDING VAT	NOTES
7		Paediatrics Outpatients		390	390	277,992 (60%)	180,695	(22,934)	435,752	20,000	65,363	0	119,857	640,972	98,101	739,073	Fit Out Only
8		Paediatrics Assessment		224	224	163,430 (60%)	106,230	(13,483)	256,177	20,756	38,427	0	72,533	387,892	59,610	447,502	Fit Out Only
9		Paediatrics Inpatient		1311	1,311	942,532 (60%)	612,646	(77,759)	1,477,418	132,307	221,613	0	421,208	2,252,546	346,493	2,599,039	Fit Out Only
10		Paediatrics Oncology		339	339	306,768 (60%)	199,399	(25,308)	480,859	37,307	72,129	0	135,768	726,062	111,535	837,598	Fit Out Only
		Non Works Cost										26,502	6,095	32,598	5,705	38,302	
		MIPS INDICES BASE CALCULATION	**360 (FP)**	**2264**	**2264**	**1,690,724**	**1,098,969**	**(139,485)**	**2,650,207**	**210,370**	**397,531**	**26,502**	**755,460**	**4,040,070**	**621,444**	**4,661,514**	
		MIPS INDICES CALCULATION (CURRENT REPORTING LEVEL)	**530 (FP)**	**2,264**	**2,264**	**2,489,122**	**1,617,927**	**(205,352)**	**3,901,697**	**210,370**	**585,254**	**39,017**	**1,089,358**	**5,825,696**	**893,521**	**6,719,217**	
		MIPS INDICES CALCULATION (PROJECTED TO START ON SITE) 3rd Quarter 2009	**583 (FP)**	**2,264**	**2,264**	**2,738,034**	**1,779,720**	**(225,888)**	**4,291,866**	**210,370**	**643,780**	**42,919**	**1,193,455**	**6,382,390**	**978,345**	**7,360,734**	

Question 3

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
Option 5

LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT
New Build	Outpatients	Maternity	Entrance		£1,733 /m2	21	102	176,766	2,500	71	23	6
			Shop				26	50,000 [assessed]				
					Target Area: 128 m2							
					Entrance		128	226,766	2,500			

Question 3

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
Option 5

LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT
New Build	Outpatients	Maternity	Ante/Post Natal Clinic Facilities	9 C/E Rooms	£1,195 /m2	21	540	645,300	69,072	71	23	6
			Treatment Room	1 Room	£886 /m2	21	23	20,378	1,101	78	16	6
			Ultra Sound	4 Rooms	£846 /m2	21	100	84,600	269,548	71	23	6
			Entrance/Reception	1 Entrance	£1,733 /m2	21	229	396,857	5,000	71	23	6
			Adjustment for areas not provided in accordance with HBN's		£1,195 /m2		-122	-145,790	0			
					Target Area: 770 m2							
					Maternity Outpatient's		770	1,001,345	344,721			

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Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
Option 5

LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT
New Build	Outpatients	Midwiftery Unit	Delivery Suite	12 LDRP	£1,371 /m2	21	855	1,172,205	539,748	51	43	6
					Target Area: 855 m2							
					Midwifery Led Unit		855	1,172,205	539,748			

Question 3

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
Option 5

LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT
New Build	Inpatients	Maternity	Delivery Suite	13 LDRP	£1,371 /m2	21	1,183	1,621,893	584,727	51	43	6
				2nd Theatre	£1,467 /m2	26	299	438,633	150,000 [assessed]	51	43	6
					Target Area: 1,482 m2							
					Delivery Suite		1,482	2,060,526	734,727			

Question 3

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
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LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT
New Build	Inpatients	Maternity	Ante Natal	28 beds	£1,505 /m2	21	1,075	1,617,875	150,000 [assessed]	57	37	6
			Entrance/Reception	1 Entrance	£1,733 /m2	21	71	123,043	432	71	23	6
			Offices	1 Person Office	£1,261 /m2	21	10	12,610	2,863	63	31	6
			Offices	4 Person Office	£944 /m2	35	33	31,152	9,012	77	17	6
					Target Area: 1,189 m2							
					Ante-Natal Inpatient's		1,189	1,784,680	162,307			

Question 3

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
Option 5

LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT
New Build	Inpatients	Maternity	Post Natal	24 Beds	£1,480 /m2	4	944	1,397,120	120,000 [assessed]	57	37	6
			Entrance/Reception	1 Entrance	£1,733 /m2	21	71	123,043	432	71	23	6
			Offices	1 Person Office	£1,261 /m2	21	10	12,610	2,863	63	31	6
			Offices	4 Person Office	£944 /m2	35	33	31,152	9,012	77	17	6
					Target Area: 1,058 m2							
					Post Natal		1,058	1,563,925	132,307			

Question 3

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
Option 5

LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT
New Build	Outpatients	Paediatrics	Paediatric Outpatients	8 C/E Rooms	£1,188 /m2	23	553	656,964	20,000	61	33	6
			Adjustment for areas not being provided in accordance with HBN's		£1,188 /m2		-163	-193,644				
					Target Area: 390 m2							
					Paediatric Outpatients		390	463,320	20,000			

Question 3

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
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LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT
New Build	Inpatients	Paediatrics	Paediatric Assessment	8 Beds	£1,216 /m2	23	329	400,064	20,756			
			Adjustment for areas not being provided in accordance with HBN's		£1,216 /m2		-105	-127,680				
					Target Area: 224 m2							
					Paediatric Assessment		224	272,384	20,756			

Question 3

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
Option 5

LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT
New Build	Inpatients	Paediatrics	Ward Unit	24 Beds	£1,173 /m2	23	1,197	1,404,081	120,000 [assessed]	62	32	6
			Entrance/Reception	1 Entrance	£1,733 /m2	21	71	123,043	432	71	23	6
			Offices	1 Person Office	£1,261 /m2	21	10	12,610	2,863	63	31	6
			Offices	4 Person Office	£944 /m2	35	33	31,152	9,012	77	17	6
					Target Area: 1,311 m2							
					Paediatric Inpatient		1,311	1,570,886	132,307			

Question 3

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
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LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT
New Build	Inpatients	Paediatric Oncology	4 Beds	225	£1,531 /m2	4	225	344,475	25,000	56	38	6
			Entrance/Reception	1 Entrance	£1,733 /m2	21	71	123,043	432	71	23	6
			Offices	1 Person Office	£1,261 /m2	21	10	12,610	2,863	63	31	6
			Offices	4 Person Office	£944 /m2	35	33	31,152	9,012	77	17	6
					Target Area: 339 m2							
					Paediatrics Oncology		339	511,280	37,307			

Question 3

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
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Question 3

LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT
New Build	Inpatients	Maternity	Neo Natal Unit	26 Beds	£1,324 /m2	21	915	1,211,460	550,562	61	33	6
					Target area: 915 m2							
					Neo-Natal Unit		915	1,211,460	550,562			

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
Option 5

Question 3

LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT
New Build	Inpatients		Relatives Overight Stay	2 Rooms	£1,129 /m2		54	60,966	1,000	74	20	6
			Single Overnight Stay	4 Rooms	£1,145 /m2		85	97,325	3,000	73	21	6
			Beverage Bay	1 Room	£1,186 /m2		12	14,232	446	56	38	6
			Sitting Room	1 Room	£945 /m2		21	19,845	2,477	75	19	6
					Target Area: 172 m2							
					Relatives Overnight Stay		172	192,368	6,923			

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
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Question 3

LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT
New Build	Admin	Office Accom	Offices	100 Workstations	£702 /m2	18	940	659,880	401,516	71	23	6
			Single Overnight Stay	2 Rooms	£1,145 /m2		43	49,235	1,500	73	21	6
			Sitting Room	1 Room	£945 /m2		13	12,285	1,500	75	19	6
					Target Area: 996 m2							
					Offices		996	721,400	404,516			

Question 3

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services
Option 5

LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT
New Build	Admin											
			Single Overnight Stay	2 Rooms	£1,145 /m2		43	49,235	1,500	73	21	6
			Sitting Room	1 Room	£945 /m2		13	12,285	1,500	75	19	6
					Target Area: 56 m2							
					On Call		56	61,520	3,000			

Shrewsbury & Telford Hospitals NHS Trust
Women & Children's Services

Option 5

PHASE:

PROJECT DIRECTOR:

CAPITAL COSTS SUMMARY

			Cost Excl. VAT £	VAT £	Cost Incl. VAT £
1.	Departmental Costs (from Form OB2)		12,814,065	2,242,461	15,056,526
2.	On-Costs (a) (% of Departmental Cost) as stated on Grand Summary		10,251,252	1,793,969	12,045,221
3.	Works Cost Total (1+2) at MIPS	360	23,065,317	4,036,430	27,101,747
	(Tender Price Index Level 1975=100 base) [Uplift to MIPS FP]	530	33,957,272	5,942,523	39,899,795
4.	Provisional Location Adjustment (if applicable)	-5%	(1,697,864)	(297,126)	(1,994,990)
5.	Sub Total (3 + 4)		32,259,409	5,645,397	37,904,805
6.	Fees (c) (% of sub-total 5)	15.0%	4,838,911	xxxxxxxxxx	4,838,911
7.	Non-Works Costs (to be met from Planning Contingency)		322,594	56,454	379,048
8.	Equipment Cost (from Form OB2) (28% of Departmental Cost)		3,091,681	541,044	3,632,725
9.	Planning Contingencies / Optimism Bias	23.00%	9,317,897	1,435,866	10,753,763
10.	TOTAL (for approval purposes)		49,830,492	7,678,760	57,509,252
11.	Inflation Adjustments (f)				5,304,100
12.	FORECAST OUT-TURN BUSINESS CASE TOTAL				62,813,352

Proposed start on-site - Oct 2008
Proposed completion date - June 2009

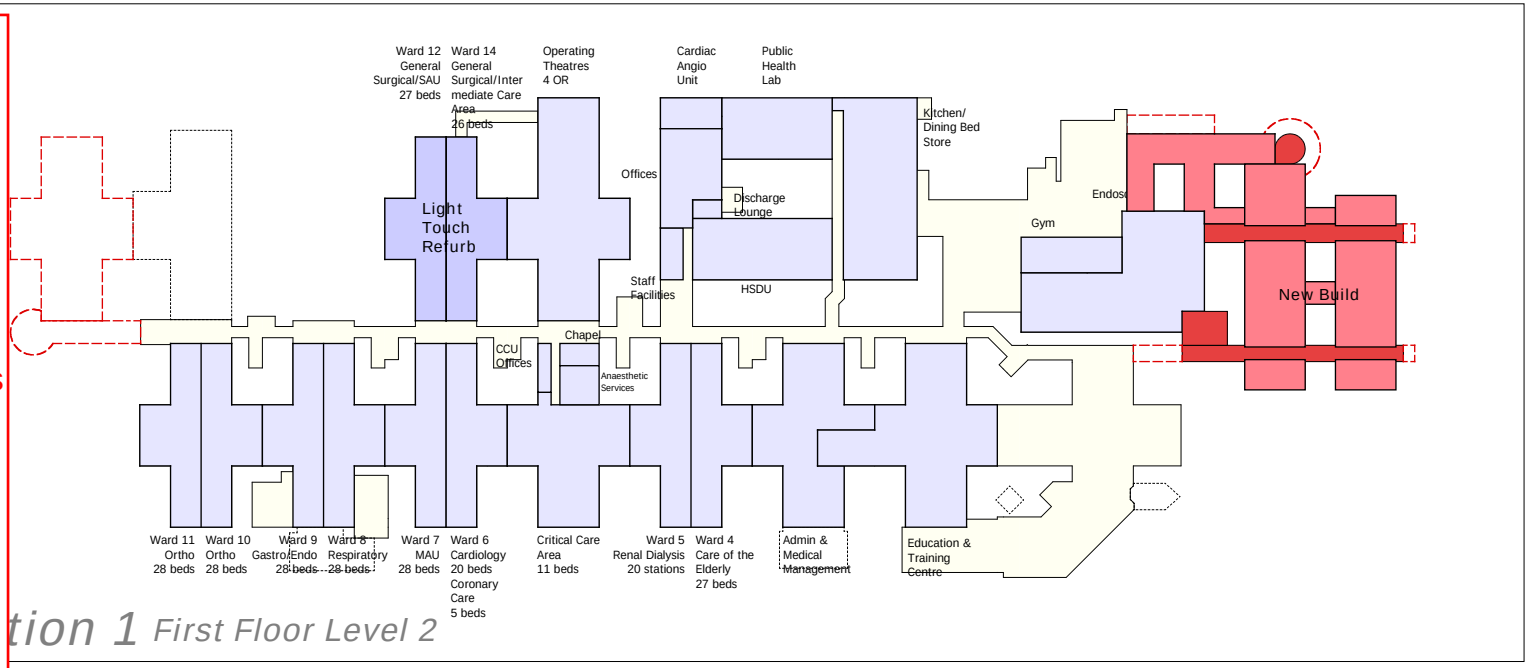
Cash flow:		**Source**			**£'000's**
Year	**Ending**	**EFL**	**OTHER GOVRNMNT.**	**PRIVATE**	
03/2009					
03/2010					
03/2011					
			Total Cost (as 10 above)		

This form completed by: HOLBROW BROOKES
Telephone Nr: 0121 423 4000
Date: 6 Aug 2008

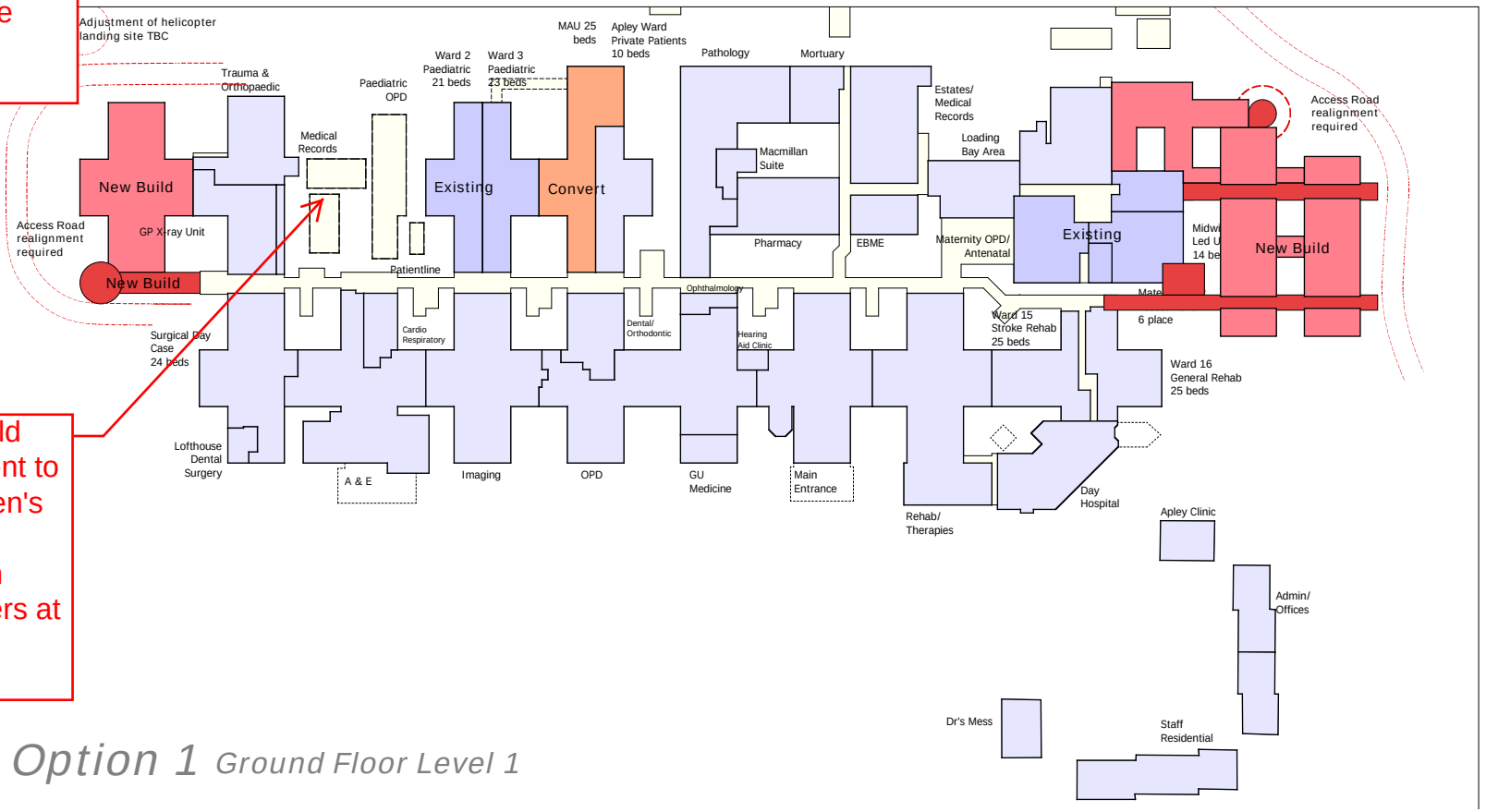
a) On-costs should be supported by a breakdown of the percentage or a brief description of their scope (from form OB3 may be used if appropriate).
b) Adjustment of national average DCA price levels and on-costs for local market conditions.
c) Fees include all resource costs associated with the scheme eg project sponsorship, clerk of works etc
d) Not applicable to professional fees - VAT reclaimable EL(90) P64 refers.
e) Non-works costs should be supported by a breakdown and include such items as contributions to statutory and local authorities; building regulations and planning fees; land costs and associated legal fees.
f) Estimate of tender price inflation upto proposed tender date (plus contract fluctuations for VOP contracts only)
g) Overall timescale including any preliminary works.

Question 3

PRH Indicative Redevelopment:
This drawing sets out the initial indicative build option at the outset of consultation. During consultation, ongoing discussions with clinicians and other stakeholders have identified alternatives which may present better clinical adjacencies and are expected to be deliverable within the proposed financial envelope. Alternative build options have been discussed at PRH site visits with HOSC representatives.



tion 1 *First Floor Level 2*



Alternative build options adjacent to existing children's ward were discussed with HOSC members at a visit on 17 February

Option 1 Ground Floor Level 1

HOLBROW · BROOKES
CONSTRUCTION CONSULTANTS
Regulated by RICS

Question 3

THE SHREWSBURY AND TELFORD HOSPITALS NHS TRUST

SERVICE RECONFIGURATION
PRINCESS ROYAL HOSPITAL, TELFORD

OPTION 1B
(Reduced on-costs, Optimism Bias and no F&E)
(Area reduction for MAU)

10th November 2010

HOLBROW · BROOKES
CONSTRUCTION CONSULTANTS
Regulated by RICS

INFORMATION ON THIS SHEET IS RECORDED IN ORDER TO POPULATE CELLS THROUGHOUT THE ENTIRE WORKBOOK

ITEM	VALUE 1	VALUE 2
Client Name	ne Shrewsbury and Telford Hospitals NHS Trust	
Scheme Title	e Reconfigurtation - Princess Royal Hospital, Telford	
Scheme Designation (Option No. etc.)	d on-costs, Optimism Bias and no F&E) (Area reduction for MAU)	
MIPS		
- Base Calculation Indices	360	(FP)
- Reporting Level Indices	480	(FP)
- Projected Level indices	491	(FP)
On - Cost percentage	70	
Location Adjustment	-6	
F&E percentage	0	
Design Fees	15	
Optimism Bias	10.08	
Planning Contingency	5.92	
Total Optimism Bias/Planning Contingency	16.00	
VAT	20	
NHS Quarterly Briefing	Volume 19.1	
MIPS Forecast to	1st Quarter 2014	
APSAB Indices Forecast to	4th Quarter 2017	
Equipment Indices Forecast to	No longer issued	

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The Shrewsbury and Telford Hospitals NHS Trust
Service Reconfigurtation - Princess Royal Hospital, Telford
Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

BLOCK NR/ LOCATION	SERVICE ELEMENT	MIPS	TARGET DEPARTMENT AREA (M²)	DCA DEPARTMENT AREA (M²)	DCA	ON COSTS 70.00%	LOCATION ADJUSTMENT -6.00%	TOTAL WORKS COST	F&E 0% New	DESIGN TEAM FEES 15.00%	NON WORKS COST	OPTIMISM BIAS/ PLANNING CONTINGENCY 16.00%	TOTAL EXCLUSIVE OF VAT	VAT (EXCL. DESIGN FEES) 20.00%	TOTAL INCLUDING VAT	NOTES
	Paediatrics		1,350	1,350	598,125	418,688	(61,009)	955,804	0	143,371	0	175,868	1,275,042	221,746	1,496,789	
	Obstetrics		4,500	4,500	6,390,033	4,473,023	(651,783)	10,211,273	0	1,531,691	0	1,878,874	13,621,838	2,369,015	15,990,853	
	Medical Assessment Unit		650	650	943,150	660,205	(96,201)	1,507,154	0	226,073	0	277,316	2,010,543	349,660	2,360,203	
	Decanting existing MAU from Ward 3		0	0	0	0	0	0	0	0	50,000	8,000	58,000	11,600	69,600	
	Part L (+ 2%)		0	0	158,626	111,038	(16,180)	253,485	0	38,023	0	46,641	338,148	58,808	396,957	
	BREEAM (+ 3%)		0	0	242,698	169,889	(24,755)	387,831	0	58,175	0	71,361	517,367	89,977	607,344	
	MIPS INDICES BASE CALCULATION	**360 (FP)**	**6,500**	**6,500**	**8,332,632**	**5,832,843**	**(849,928)**	**13,315,546**	**0**	**1,997,332**	**50,000**	**2,458,061**	**17,820,939**	**3,100,807**	**20,921,745**	
	MIPS INDICES CALCULATION (CURRENT REPORTING LEVEL)	**480 (FP)**	**6,500**	**6,500**	**11,110,176**	**7,777,123**	**(1,133,238)**	**17,754,062**	**0**	**2,663,109**	**66,667**	**3,277,414**	**23,761,252**	**4,134,409**	**27,895,661**	
	MIPS INDICES CALCULATION (PROJECTED TO START ON SITE 4TH QUARTER 2012)	**491 (FP)**	**6,500**	**6,500**	**11,364,784**	**7,955,349**	**(1,159,208)**	**18,160,926**	**0**	**2,724,139**	**68,194**	**3,352,521**	**24,305,780**	**4,229,156**	**28,534,936**	

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The Shrewsbury and Telford Hospitals NHS Trust
Service Reconfigurtation - Princess Royal Hospital, Telford
Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

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LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT	REMARKS
PAEDIATRICS													
New Build	**In-Patient Services**	Children	In-Patients Ward (8 Bed Assessment Area)	300 m2	Works = £1,173/m2 Equipment = £82/m2	23	300	351,900	24,600	62	32	6	P.R. 01.02.04
Light Refurb Ward 3			In-Patients Ward (17 beds)	525 m2	Works = £1,173/m2 at 40% refurb = £469 Equipment = £82/m2	23	525	246,225	43,050	62	32	6	P.R. 01.02.04
Existing Ward Retained			In-Patients Ward (21 beds)	525 m2	Works = £1,173/m2 at 40% refurb = £469 Equipment = £82/m2	23	525	incl	incl	62	32	6	P.R. 01.02.04 No costs as ward is retained as existing
					Target Area: 1,350 m2								
					Paediatrics		1,350	598,125	67,650				

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The Shrewsbury and Telford Hospitals NHS Trust
Service Reconfigurtation - Princess Royal Hospital, Telford
Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

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LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT	REMARKS
OBSTETRICS													
New Build	**In-Patient Services**	Maternity (1996 version)	Maternity Wards (50 Beds, 26 singles) delivery	50 Beds	Works = £1,429/m2 Equipment = £738/m2	21	3,513	5,020,077	2,592,594	58	36	6	P.R. 01.01B.05 Equip P.R. 01.04B.01
			Neo- Natal - NICU (6 cots)	326 m2	Works = £1,388/m2 Equipment = £35,000/cot	21	326	452,488	210,000	60	34	6	P.R. 01.04B.26 Equipment assessed
			Neo- Natal - SCBU (16 cots)	661 m2	Works = £1,388/m2 Equipment = £35,000/cot	21	661	917,468	560,000	60	34	6	P.R. 01.04B.26 Equipment assessed
					Target Area: 4,500 m2								
					Obstetrics		4,500	6,390,033	3,362,594				

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The Shrewsbury and Telford Hospitals NHS Trust
Service Reconfigurtation - Princess Royal Hospital, Telford
Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

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LOCATION	SERVICE	DEPT	ACCOMMODATION	FUNCTIONAL SIZE	UNIT COST	BN	DEPT M²	WORKS COST	COST OF EQUIPMENT	B%	E%	FLOAT	REMARKS
MEDICAL ASSESSMENT UNIT (MAU)													
New Build	**Out-Patient Services**	Accident and Emergency	MAU Facility	650 m2	Works = £1,451/m2	4	650	943,150	70,000	57	37	6	P.R. 01.01B.02 Equipment assessed
					Target Area: 650 m2								
					Medical Assessment Unit		650	943,150	70,000				

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The Shrewsbury and Telford Hospitals NHS Trust
Service Reconfigurtation - Princess Royal Hospital, Telford
Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

CASHFLOW FORECAST FOR OBC

Costs are at MIPS Index **480**
Less location factor of **-6%**

Question 3

COST CENTRE	Y/E 31.3.10 £'000's	Y/E 31.3.11 £'000's	Y/E 31.3.12 £'000's	Y/E 31.03.13 £'000's	Y/E 31.3.14 £'000's	Y/E 31.3.15 £'000's	Y/E 31.3.16 £'000's	Y/E 31.3.17 £'000's	Y/E 31.3.18 £'000's	TOTAL £'000's
WORKS COST	0	0	0	3,551	10,209	3,551	444	0	0	17,754
F & E	0	0	0	0	0	0	0	0	0	0
DESIGN FEES	0	0	639	959	639	213	107	107	0	2,663
NON WORKS COSTS	0	0	0	17	17	17	17	0	0	67
PLANNING CONTINGENCY	0	0	102	724	1,738	605	91	17	0	3,277
TOTALS (EXCLUDING VAT)	0	0	741	5,250	12,603	4,385	658	124	0	23,761
IRRECOVERABLE VAT	0	0	0	828	2,372	828	107	0	0	4,134
TOTAL INCLUDING VAT	0	0	741	6,078	14,975	5,213	765	124	0	27,896

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The Shrewsbury and Telford Hospitals NHS Trust
Service Reconfigurtation - Princess Royal Hospital, Telford
Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

EQUIPMENT - Included in HCI Version 2.00 at equipment index of 100

Equipment Inflation has been based upon NHS Estates forecast of Equipment Price Index as published in NHS Estates Quarterly Briefing Volume 19.1 These indices are forecast to No longer issued Forecast indices after this date have been projected on a straight line basis.

Year Ending	Baseline Equipment Index	Forecast Index for 12 months ending March (average)		Cashflow for year at Index 100 inclusive of VAT	Inflation Allowance for year
31 March 2010	100	134.00	*	0	0
31 March 2011	100	139.00	*	0	0
31 March 2012	100	144.00	*	0	0
31 March 2013	100	149.00	*	0	0
31 March 2014	100	154.00	*	0	0
31 March 2015	100	159.00	*	0	0
31 March 2016	100	164.00	*	0	0
31 March 2017	100	169.00	*	0	0
31 March 2017	100	174.00	*	0	0
		TOTAL			**0**

*** Straight Line Projection**

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The Shrewsbury and Telford Hospitals NHS Trust
Service Reconfigurtation - Princess Royal Hospital, Telford
Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

LIFE CYCLE COST PROJECTIONS

Capital Costs at MIPS Index	**480**			
Less Location Factor of	**-6%**			
				£'000's
Anticipated Works Cost for:	New Build	18,160.93		£18,161
				£0
				£0
Add for demolitions		2.5%		£454
Works Cost - Replacement				£18,615
Building/Engineering Split		65%	35%	
Building				£10,125
Engineering		£5,665		
BWIC @ 7% of Engineering		£397		£6,062
				£16,187
Prelims @ 15%				£2,428
Construction				£18,615
Optimism Bias/Planning Contingency		16.00%		£2,978
Non-Works Costs - to be met from Planning Contingency				£0
Replacement Works Cost				£21,593
Fees		15.00%		£3,239
TOTAL REPLACEMENT COST OF BUILDINGS FOR LIFE CYCLE COSTING PURPOSES AT MIPS	**480**			**£24,832**
LESS LOCATION FACTOR OF	**-6%**			

Exclusions:-
i) VAT
ii) Groups 2 and 3 equipment

The Shrewsbury and Telford Hospitals NHS Trust
Service Reconfigurtation - Princess Royal Hospital, Telford
Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

40.12

Building Element	Main General Hospital - Total expressed as a percentage of building cost	Conceptual Capital Costs for Total Hospital	Repair		Replace		Yearly Costs All at Current Prices MIPS Index 480 Less a Location Factor of -6%											Notes
			Year	%	Year	%	5 (2010-2015)	10 (2015-2020)	15 (2020-2025)	20 (2025-2030)	25 (2030-2035)	30 (2035-2040)	35 (2040-2045)	40 (2045-2050)	45 (2050-2055)	50 (2055-2060)	55 (2060-2065)	
1A Substructure	8.87%	898	-	0.00%	60	100.00%												Total replacement at Year 60 (2060-2065)
2A Frame	2.24%	227	-	0.00%	60	100.00%												
2B Upper Floors	8.03%	813	-	0.00%	60	100.00%												
2C Roof:		-																
- Structure	2.89%	293	-	0.00%	60	100.00%												
- Standing seam roofing	0.75%	76	-	0.00%	20	100.00%				76				76				
- Flat roof coverings - Asphalt	1.00%	101	10	25.00%	20	100.00%		25		101		25		101		25		
- Flat roof coverings - Felt	0.67%	68	-	0.00%	15	100.00%			68			68			68			
- Tile roofing	2.87%	291	-	0.00%	60	100.00%												
- RWG's (cast alum.)&Flashings	0.60%	61	25	5.00%	60	100.00%					3					3		
- Canopy	0.47%	48	-	0.00%	20	100.00%				48				48				
2D Stairs:																		
- Structure	0.82%	83	-	0.00%	60	100.00%												
- Balustrading	2.89%	293	-	0.00%	60	100.00%												
2E External Walls:		-																
- Cladding	0.77%	78	-	0.00%	20	100.00%				78				78				
- Render (on Blockwork)	0.20%	20	-	0.00%	20	100.00%				20				20				
- Pointing (on Redland block walls or facework)	3.46%	- 351	25	5.00%	60	100.00%					18					18		
- Glazed curtain wall & doors	3.51%	356	30	15.00%	60	100.00%						53						
2F Windows & External Doors:		-																
- Aluminium glazed windows & doors	7.33%	- 742	20	15.00%	60	100.00%				111				111				
2G Internal Walls		-																
- Blockwork partitions	2.24%	227	-	0.00%	60	100.00%												
- Plasterboard partitions	4.61%	467	-	0.00%	60	100.00%												
2H Internal Doors:		-																
- Ironmongery	1.42%	144	20	50.00%	60	50.00%				72				72				
- Doors	5.68%	575	20	15.00%	60	100.00%				86				86				
3A Wall Finishes:		-																
- Plaster	1.50%	151	-	0.00%	60	100.00%												
- Drylining	0.60%	61	-	0.00%	60	100.00%												
- Finishes generally (paper/ paint)	1.45%	- 147	5	30.00%	10	100.00%	44	147	44	147	44	147	44	147	44	147	44	
- Seamless Wall Finishes	0.45%	45			10	100.00%		45		45		45		45		45		
- Ceramic Tiles	0.55%	56			60	100.00%												
3B Floor Finishes:																		
- Screeds	1.15%	116	-	0.00%	60	100.00%												
- Granolithic	0.10%	10	-	0.00%	60	100.00%												
- Carpet Tiles	2.92%	295	10	20.00%	20	100.00%		59		295		59		295		59		
- Seamless Flooring	0.50%	50	10	20.00%	20	100.00%		10		50		10		50		10		
- Ceramic Tiling	0.07%	8	-	0.00%	60	100.00%												
- Skirtings	1.17%	119	20	20.00%	60	100.00%				24				24				
Carried Forward	71.79%	7,269	-	-	-	-	44	287	112	1,154	65	408	44	1,154	112	307	44	

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The Shrewsbury and Telford Hospitals NHS Trust
Service Reconfigurtation - Princess Royal Hospital, Telford
Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

Question 3

Building Element	Main General Hospital - Total expressed as a percentage of building cost	Conceptual Capital Costs for Total Hospital	Repair		Replace		Yearly Costs All at Current Prices MIPS Index 480 Less a Location Factor of -6%											Notes
			Year	%	Year	%	5 (2010-2015)	10 (2015-2020)	15 (2020-2025)	20 (2025-2030)	25 (2030-2035)	30 (2035-2040)	35 (2040-2045)	40 (2045-2050)	45 (2050-2055)	50 (2055-2060)	55 (2060-2065)	
Brought Forward	71.79%	7,269					44	287	112	1,154	65	408	44	1,154	112	307	44	Total replacement at Year 60 (2060-2065)
3C Ceiling Finishings:		-																
- Mineral Fibre Tile suspended ceilings	2.64%	268	20	10.00%	60	100.00%				27				27				
- Seamless ceiling finish	0.57%	58	-	0.00%	10	100.00%		58		58		58		58		58		
- Kitchen ceilings	0.10%	10	-	0.00%	10	100.00%		10		10		10		10		10		
- Plasterboard lining & Paint	0.02%	3	10	20.00%	60	100.00%		1		1		1		1		1		
4A Fixed fittings and furniture	5.53%	560	20	50.00%	60	100.00%				280				280				
5A Sanitary appliances:		-																
- Parts of appliances	0.85%	86	-	0.00%	20	100.00%				86				86				
- Appliances generally	3.36%	341	-	0.00%	60	100.00%												
- Sinks, washbasins & similar	1.30%	131	-	0.00%	60	100.00%												
6A Below slab drainage	4.40%	445	-	0.00%	60	100.00%												
6B External works	9.43%	955	20	10.00%	60	100.00%				95				95				
Sub-total-Building	100.00%	10,125	-	-	-	-	44	355	112	1,711	65	477	44	1,711	112	376	44	
Sub-total-Engineering		5,665	-	-	-	-	-	405	419	1,269	818	1,831	77	1,301	424	1,186	-	
BWIC	7.00%	397	-	-	-	-	-	28	29	89	57	128	5	91	30	83	-	
NET TOTAL (B/E)		16,187					44	789	560	3,069	940	2,436	126	3,104	566	1,645	44	
Preliminary costs	15.00%	2,428	-	-	-	-	7	118	84	460	141	365	19	466	85	247	7	
SUB-TOTAL		18,615					51	907	644	3,530	1,081	2,801	145	3,569	651	1,892	51	
Optimism Bias/Contingencies	16.00%	2,978					8	145	103	565	173	448	23	571	104	303	8	
WORKS COST - TOTAL		21,593					59	1,052	747	4,095	1,254	3,250	169	4,140	755	2,195	59	
Design Team Fees	15.00%	3,239					9	158	112	614	188	487	25	621	113	329	9	
TOTAL WORKS COST INCLUSIVE OF DESIGN FEES		**24,832**	INTERMITTENT REPAIR & REPLACEMENT WORKS BUDGET COSTS				**68**	**1,210**	**859**	**4,709**	**1,442**	**3,737**	**194**	**4,761**	**868**	**2,524**	**68**	

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Service Reconfigurtation - Princess Royal Hospital, Telford
Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

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Engineering Element	Main General Hospital - Total as percentage of M & E Costs	Conceptual Capital Costs for Total Hospital	Repair		Replace		Yearly Costs All at Current Prices MIPS Index 480 Less a Location Factor of -6%											Notes
			Year	%	Year	%	5	10	15	20	25	30	35	40	45	50	55	
1 LTHW HEATING																		
1A Boiler Plant																		
-Boilers	1.86%	105	-	0.00%	25	100.00%					105					105		
-Burners	0.24%	14	15	25.00%	25	100.00%			3		14			3		14		
-Pressurisation Unit	0.03%	2	15	25.00%	25	100.00%			0		2			0		2		
-Chimney	0.39%	22	-	0.00%	60	100.00%												
1B Pumps		-																
-End Suction	0.12%	7	-	0.00%	20	100.00%				7				7				
-In-Line	0.26%	15	-	0.00%	20	100.00%				15				15				
1C Emitters		-																
-Radiators	4.60%	261	-	0.00%	30	100.00%						261						
-Convectors/Radiants	0.13%	7	-	0.00%	20	100.00%				7				7				
1D Pipework and Valves		-																
-Pipework	4.98%	282	-	0.00%	30	100.00%						282						
-Cast Iron Valves	0.49%	28	-	0.00%	20	100.00%				28				28				
-Bronze Valves	0.60%	34	-	0.00%	20	100.00%				34				34				
-Thermostatic Rad Valves	0.18%	10	-	0.00%	10	100.00%		10		10		10		10		10		
-Lockshield Rad Valves	0.13%	7	-	0.00%	15	100.00%			7			7			7			
1E Thermal Insulation	2.25%	127	-	0.00%	30	100.00%						127						
		-																
2 CHILLED WATER		-																
		-																
2A Water Chiller Plant		-																
-Water Chillers	0.87%	49	10	25.00%	20	100.00%		12		49		12		49		12		
-Pressurisation Unit	0.02%	1	10	25.00%	25	100.00%		0		0	1		0		0	1		
-Buffer Storage Unit	0.10%	6	-	0.00%	30	100.00%						6						
2B Pumps		-																
-End Suction	0.11%	6	-	0.00%	20	100.00%				6				6				
-In-Line	0.10%	6	-	0.00%	20	100.00%				6				6				
2C Pipework and Valves																		
-Pipework	1.50%	85	-	0.00%	30	100.00%						85						
-Cast Iron Valves	0.18%	10	-	0.00%	20	100.00%				10				10				
-Bronze Valves	0.12%	7	-	0.00%	20	100.00%				7				7				
2D Thermal Insulation	0.75%	42	-	0.00%	30	100.00%						42						
		-																
3A VENTILATION		-																
-Air Handling Plant	3.22%	182	10	20.00%	25	100.00%		36		36	182		36		36	182		
-Ductwork	11.75%	666	-	0.00%	60	100.00%												
-Volume Control Dampers	4.75%	269	-	0.00%	60	100.00%												
-Fire Dampers	1.00%	57	10	5.00%	60	95.00%		3		3		3		3		3		
-Smoke Dampers	2.00%	113	15	9.00%	60	91.00%			10			10			10			
-Grilles and Diffusers	2.25%	127	10	12.50%	60	87.50%		16		16		16		16		16		
-Attenuators	3.75%	212	-	0.00%	60	100.00%												
-Fan Coil Units	4.70%	266	10	20.00%	20	100.00%		53		266		53		266		53		
-Thermal Insulation	2.25%	127	-	0.00%	60	100.00%												
		-																
4A WATER SERVICES		-																
-HWS Calorifiers	0.52%	29	15	25.00%	30	100.00%			7			29			7			
-Storage Tanks	1.00%	57	-	0.00%	60	100.00%												
-Pumps	0.02%	1	-	0.00%	20	100.00%				1				1				
-Valves	1.17%	66	-	0.00%	20	100.00%				66				66				
-HWS Thermostatic Valves	0.51%	29	-	50.00%	20	100.00%				29				29				
-Booster Plant	0.06%	3	-	0.00%	20	100.00%				3				3				
-Softener Plant	0.09%	5	-	0.00%	20	100.00%				5				5				
-Pipework	1.75%	99	-	0.00%	30	100.00%						99						

Question 3

-Thermal Insulation	1.00%	57	-	0.00%	30	100.00%					57							
		-																
5A CONTROLS		-																
-Control Panels	0.97%	55	15	50.00%	25	100.00%		27		55			27			55		
-BMS Hardware	0.66%	37	10	50.00%	20	100.00%	19		37		19		37			19		
-Valves and Actuators	0.44%	25	-	0.00%	10	100.00%	25		25		25		25			25		
-Loose Controls	0.22%	12	-	0.00%	10	100.00%	12		12		12		12			12		
-Engineering/Commissioning	0.39%	22	-	0.00%	20	100.00%			22				22					
		-																
6A MEDICAL GASES		-																
-Pipework and Valves	1.46%	83	-	0.00%	60	100.00%												
-Outlets	0.23%	13	-	0.00%	20	100.00%			13				13					
-Pendants	0.30%	17	-	0.00%	20	100.00%			17				17					
-Manifolds	0.03%	2	-	0.00%	20	100.00%			2				2					
-Compressed Air Plant	0.18%	10	-	0.00%	15	100.00%		10			10				10			
-Vacuum Plant	0.10%	6	-	0.00%	15	100.00%		6			6				6			
-AGSS System	0.06%	3	-	0.00%	15	100.00%		3			3				3			
-Alarms	0.08%	5	-	0.00%	25	100.00%				5						5		
		-																
7A OIL STORAGE		-																
-Oil Storage Tanks	0.14%	8	-	0.00%	30	100.00%					8							
-Pumps and Valves	0.005%	0	-	0.00%	20	100.00%			0				0					
-Pipework	0.55%	31	-	0.00%	30	100.00%					31							
		-																
8A EXTERNAL SERVICES		-																
-Gas	0.125%	7	-	0.00%	10	100.00%	7		7		7		7			7		
-Water	0.25%	14	-	0.00%	10	100.00%	14		14		14		14			14		
		-																
9A MISCELLANEOUS		-																
-Path Cat 3 Systems	0.12%	7	-	0.00%	20	100.00%			7				7					
-Path Water Treatment	0.02%	1	-	0.00%	20	100.00%			1				1					
Group 1 Equipment	2.50%	142	-	0.00%	10	100.00%	142		142		142		142			142		
		-																
10 ELECTRICAL EXTERNALS		-																
Lighting - Plant areas	0.28%	16	-	0.00%	15	100.00%		16			16				16			
Power- Plant areas	0.23%	13	-	0.00%	25	100.00%				13						13		
Lifts	3.33%	189	-	0.00%	25	100.00%				189						189		
Medical Gas Plant Wiring	0.16%	9	-	0.00%	25	100.00%				9						9		
Hosp Street/Atrium Lighting	0.19%	11	-	0.00%	15	100.00%		11			11				11			
Atrium Power	0.27%	15	-	0.00%	25	100.00%				15						15		
H.V. Switchgear	0.71%	40	-	0.00%	35	100.00%						40						
Transformers	0.66%	37	-	0.00%	40	100.00%							37					
H.V. Cabling	2.35%	133	-	0.00%	60	100.00%												
L.V. Switchpanels	0.88%	50	-	0.00%	30	100.00%					50							
L.V. Cabling.	4.00%	227	-	0.00%	60	100.00%												
Generators	0.63%	36	-	0.00%	15	100.00%		36			36				36			
Plant Control Wiring	0.33%	19	-	0.00%	25	100.00%				19						19		
Lightning Protection	0.03%	2	-	0.00%	25	100.00%				2						2		
External Lighting	0.70%	40	20	75.00%	60	100.00%			30				30					
Fire alarm system - Panels	0.32%	18	-	0.00%	15	100.00%		18			18				18			
Fire alarm system - Comms wiring	0.09%	5	-	0.00%	30	100.00%					5							
Fire Detection - Plant areas	0.19%	11	-	0.00%	15	100.00%		11			11				11			
Fire detection - Atrium	0.04%	2	-	0.00%	15	100.00%		2			2				2			
Staff Location	0.63%	36	-	0.00%	15	100.00%		36			36				36			
Data distribution hubs	0.38%	22	-	0.00%	20	100.00%			22				22					
Data distribution - site wiring	0.25%	14	-	0.00%	20	100.00%			14				14					
TV/Radio Sound Distribution.	0.10%	6	-	0.00%	15	100.00%		6			6				6			
Telephone Equipment	0.62%	35	10	20.00%	20	100.00%	7		35		7		35			7		
Telephone Wiring	0.25%	14	-	0.00%	20	100.00%			14				14					
Security Equipment	0.87%	49	10	35.00%	20	100.00%	17		49		17		49			17		

Question 3

Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

		-															
11 ELECTRICAL DEPTL.		-															
Lighting Fittings	3.68%	208	-	0.00%	15	100.00%			208			208				208		
Lighting -Wiring system	1.57%	89	-	0.00%	25	100.00%					89						89	
Utility Power	2.10%	119	-	0.00%	25	100.00%					119						119	
Fire Alarm system	1.90%	108	-	0.00%	20	100.00%				108				108				
Telephone Wiring	0.37%	21	-	0.00%	20	100.00%				21				21				
Telephone Instruments	0.30%	17	-	0.00%	10	100.00%		17		17		17		17			17	
Nurse Call System	0.96%	54	10	25.00%	20	100.00%		14		54		14		54			14	
YEARLY WORKS COSTS	100.00%	5,665					-	405	419	1,269	818	1,831	77	1,301	424	1,186	0	

OUTLINE BUSINESS CASE FOR NEW BUILD OPTION **COST FORM OB1**

The Shrewsbury and Telford Hospitals NHS Trust
Service Reconfigurtation - Princess Royal Hospital, Telford
Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

PHASE:

PROJECT DIRECTOR:

CAPITAL COSTS SUMMARY

			Cost Excl. VAT £	VAT £	Cost Incl. VAT £
1.	Departmental Costs (from Form OB2) inclusive of first cut cost savings		8,332,632	1,666,526	9,999,159
2.	On-Costs (a) (% of Departmental Cost) as stated on Grand Summary		5,832,843	1,166,569	6,999,411
3.	Works Cost Total (1+2) at MIPS	360	14,165,475	2,833,095	16,998,570
	(Tender Price Index Level 1975=100 base) [Uplift to MIPS VOP]	480	18,887,300	3,777,460	22,664,760
4.	Provisional Location Adjustment (if applicable)	-6%	(1,133,238)	(226,648)	(1,359,886)
5.	Sub Total (3 + 4)		17,754,062	3,550,812	21,304,874
6.	Fees (c) (% of sub-total 5)	15.0%	2,663,109	xxxxxxxxxx	2,663,109
7.	Non-Works Costs (to be met from Planning Contingency)		66,667	13,333	80,000
8.	Equipment Cost (from Form OB2) (% of Departmental Cost)		-	-	-
9.	Planning Contingencies / Optimism Bias	16.00%	3,277,414	570,263	3,847,677
10.	TOTAL (for approval purposes)		23,761,252	4,134,409	27,895,661
11.	Inflation Adjustments (f)		544,529	94,747	639,276
12.	FORECAST OUT-TURN BUSINESS CASE TOTAL		24,305,780	4,229,156	28,534,936

Proposed start on-site (M/Y) -
Proposed completion date (M/Y) -

Cash flow:	**Source**			**£'000's**
Year Ending	**EFL**	**OTHER GOVRNMNT.**	**PRIVATE**	
03/2010				-
03/2011				-
03/2012				741
03/2013				6,078
03/2014				14,975
03/2015				5,213
03/2016				765
03/2017				124
03/2018				-
		Total Cost (as 10 above)		27,896

This form completed by: **HOLBROW BROOKES CONSTRUCTION CONSULTANTS**
Telephone Nr: **0121 423 4000**
Date: **1 August 2009**

a) On-costs should be supported by a breakdown of the percentage or a brief description of their scope (from form OB3 may be used if appropriate).
b) Adjustment of national average DCA price levels and on-costs for local market conditions.
c) Fees include all resource costs associated with the scheme eg project sponsorship, clerk of works etc
d) Not applicable to professional fees - VAT reclaimable EL(90) P64 refers.
e) Non-works costs should be supported by a breakdown and include such items as contributions to statutory and local authorities; building regulations and planning fees; land costs and associated legal fees.
f) Estimate of tender price inflation upto proposed tender date (plus contract fluctuations for VOP contracts only)
g) Overall timescale including any preliminary works.

The Shrewsbury and Telford Hospitals NHS Trust
Service Reconfigurtation - Princess Royal Hospital, Telford
Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

Question 3

Optimism Bias - Upper Bound Calculation for Build

Lowest % Upper Bound	**13%**
Mid %	**40%**
Upper %	**80%**
Actual % Upper Bound for this project	**16%**

63% **Unmitigated %**

10.08% **Net Optimism Bias %**

Gross

Build complexity

Choose 1 category		X		
Length of Build	< 2 years	X	0.50%	0.50%
	2 to 4 years		2.00%	0
	Over 4 years		5.00%	0

Choose 1 category				
Number of phases	1 or 2 Phases		0.50%	0
	3 or 4 Phases	X	2.00%	2.00%
	More than 4 Phases		5.00%	0

Choose 1 Category				
Number of sites involved	Single site*	X	2.00%	2.00%
(i.e. before and after	2 Site		2.00%	0
change)	More than 2 site		5.00%	0

* Single site means new build is on same site as existing facilities

Location

Choose 1 Category				
New site - Green field	New build		3%	0
New site - Brown Field	New Build		8%	0
Existing site	New Build	X	5%	5.00%
	or			
Existing site	Less than 15% refurb		6%	0
Existing site	15% - 50% refurb		10%	0
Existing site	Over 50% refurb		16%	0

9.50%

Scope of scheme

Choose 1 category		X		
Facilities Management	Hard FM only or no FM	X	0.00%	0.00%
	Hard and soft FM		2.00%	
				0

Choose 1 category				
Equipment	Group 1 & 2 only	X	0.50%	0.50%
	major Medical equipment		1.50%	0
	All equipment included		5.00%	0

Choose 1 category				
IT	No IT implications	X	0.00%	0.00%
	Infrastructure		1.50%	0
	Infrastructure & systems		5.00%	0

Choose more than 1 category if applicable				
External Stakeholders	1 or 2 local NHS organisations	X	1.00%	1.00%
	3 or more NHS organisations		4.00%	0
	Universities/Private/Voluntary sector/Local government		8.00%	0

Service changes - relates to service delivery e.g NSF's

Choose 1 category				
Stable environment, i.e. no change to service		X	5%	5.00%
Identified changes not quantified			10%	0
Longer time frame service changes			20%	0

Gateway

Choose 1 category				
RPA Score	Low	X	0%	0.00%
	Medium		2%	0
	High		5%	0

6.50%

The Shrewsbury and Telford Hospitals NHS Trust
Service Reconfigurtation - Princess Royal Hospital, Telford
Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

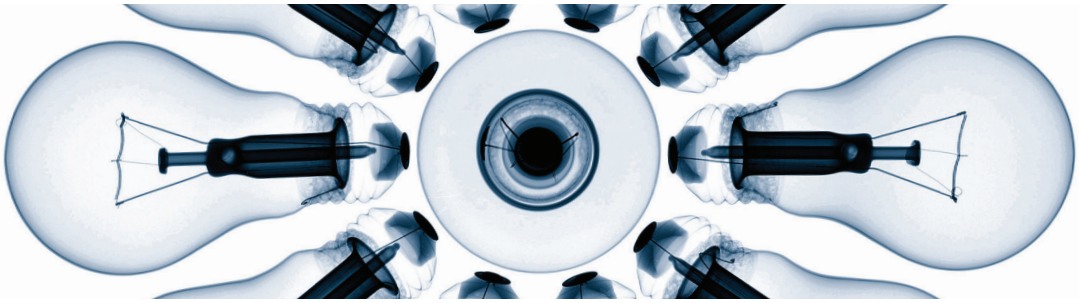
Contributory Factor to Upper Bound	% Factor Contributes	% Factor Contributes after mitigation	Explanation for rate of mitigation
Progress with Planning Approval	4	4	
Other Regulatory	4	4	
Depth of surveying of site/ground information	3	3	
Detail of design	4	4	
Innovative project/design (i.e. has this type of project/design been undertaken before)	3	2	
Design complexity	4	3	
Likely variations from Standard Contract	2	1	
Design Team capabilities	3	2	
Contractors' capabilities (excluding design team covered above)	2	1	
Contractor Involvement	2	2	
Client capability and capacity (NB do not double count with design team capabilities)	6	2	
Robustness of Output Specification	25	15	
Involvement of Stakeholders, including Public and Patient Involvement	5	4	
Agreement to output specification by stakeholders	5	5	
New service or traditional	3	1	
Local community consent	3	3	
Stable policy environment	20	6	
Likely competition in the market for the project	2	1	
TOTAL	**100**	**63**	

Note: Across all contributory factors, mitigation would be expected to be greater the greater the extent of risk quantification and risk management.

Question 3

The Shrewsbury and Telford Hospitals NHS Trust
Service Reconfigurtation - Princess Royal Hospital, Telford
Option 1B (Reduced on-costs, Optimism Bias and no F&E) (Area reduction for MAU)

	Planning Contingency/Risk Assessment	%
1	**Design Risks/Design Team**	
	Risk to be met from the 6% price and design risk/float included within the Departmental Cost Allowances (DCAG's). See also Optimism Bias mitigation.	0%
2	**Estimating Risks**	
	Pricing risk to be met from 6% price and design risk/float and with strict cost control throughout design development of the proposed phased programme of works	0%
	Inflation risks will be met from inflation allowance on Cost Form OB1/FB1 as above and cost controlled over programme works.	0%
3	**Site Risks**	
	Abnormal ground conditions and other site abnormals encountered during new buils and alterations to exisitng buildings and service diversions are generally all covered within the element of the on-cost percentage under "Abnormals" on Cost Form FB3.	0%
	The nature of the scheme development to date has not allowed detailed site investigations to be undertaken such as soil reports etc.	1%
4	**Construction Risks/Client Risks**	
	Historic data from NHS organisations has reported average cost overruns on projects, in previous years, upwards of 11%. However in recent years the NHS Executive (Midlands Region) have advised that there has been a noticeable drop (to single figure percentages), due to increased levels of cost control, cost reporting and project management. We now feel that 5% is an appropriate risk level to cover construction/client risks given the Client's declared intention to implement strict cost control throughout the project life.	5%
5	**Other Risks**	
	Departmental Cost Allowances have not be re-evaluated to take account of the introduction of the Building Regulations Part L. A 2% addition to the DCAG's has been made. See Cost Form OB2/FB2	0%
	Departmental Cost Allowances do not take account of the sustainability agenda and mandatory BREEAM excellent requirement. A 3% addition to the DCAG's has been made however the nature of this element is very site and design solution specific and a 3% norm is not necessarily viable or proven.	2%
	It is believed that the inclusion of the 6% price/design risk in all departmental costs and on-costs, a reasonable estimate of new equipment, and a further 6% planning contingency on all elements should provide a commercially realistic safeguard and thereby contain the financial impact of other possible risk elements.	0%
	Planning Contingency (estimated risk factor)	**8%**
	Abated Planning Contingency for inclusion in OB1/FB1	**6%**



Capsticks
The Healthcare Business Inside Out

Financial failure: what will it mean for NHS providers

The Health and Social Care Bill sets out sweeping changes to the failure regime for NHS providers.

All of the old (and unused) failure regime provisions are removed. Importantly, the new insolvency provisions will mean that NHS and private providers will be treated in the same way if they fail.

NHS foundation trusts will no longer have a "soft landing" and the Secretary of State's ability to give "free" loans and financial protection to NHS foundation trusts is removed. This will mean that there is a level playing field between the NHS and private providers.

The new failure regime is a 2 tier system. The distinction between the 2 tiers is based on whether or not the failing provider provides "designated services" or not. Those that do provide "designated services" will fall into a more protective health service administration.

Those that do not provide "designated services" will be treated like any other failing private provider.

The crucial question for any provider is whether or not Monitor will decide (upon application of a commissioner) that their services are "designated".

No designated services – insolvency rules apply

The first tier of the failure regime will apply to those providers that don't provide "designated services". These providers will be subject to the usual insolvency rules (under the Insolvency Act) that apply, at the moment, to private providers.

This means that a NHS provider (including a NHS foundation trust) which doesn't provide designated services and is in financial difficulty could:

- reach a compromise with its creditors through a voluntary arrangement;
- go into administration with the aim of rescuing the business – if an administrator can't rescue the business, the most likely outcome is that the business would be sold;

or

- be wound up by directors, court, creditors or the Secretary of State; on a winding up, the business and assets would be sold to meet the demands of creditors.

Directors of NHS foundation trusts will need to understand the personal obligations that are imposed on them under these rules. For example, a director can commit an offence of wrongful trading and be liable personally for contributions where he or she "knew or ought to have concluded that there was no reasonable prospect that the company would avoid going into insolvent liquidation".

Under this regime, the Department of Health (and taxpayers) will no longer support unviable providers. However, the Secretary of State will continue to be the guarantor of PFI schemes. This means that if a PFI facility is unsustainable, the Government will be on the hook.

The impact assessment suggests that there is likely to be a market for PFI assets, meaning that PFI facilities could be sold to meet debts with the Secretary of State paying any shortfall from sale proceeds.

What is interesting is the fact that in many cases, the Secretary of State may be the biggest creditor of the failing NHS provider (through loans or public dividend capital). In these cases, it will be interesting to see whether the Secretary of State allows an organisation to be administered or wound up under the insolvency provisions.

Designated services – the health service administration

The Bill recognises the importance of making sure that some "designated" services are provided even if a provider fails financially.

But, at the moment, it isn't clear what these "designated" services will be. Under the current rules, most services provided by NHS foundation trusts are "mandated" – will the same tests be used for "designation" of services? If yes, then NHS foundation trusts will all, more than likely, fall into the health service administration.

The impact assessments suggest that likely focus will be whether a provider is the "only provider or one of very few providers" in a local area. This test is based loosely on the level of competition between services and looks at whether patients will suffer if services were no longer provided. If this test is adopted, then providers in bigger cities may find that their services are not "designated" because there are other providers within a reasonably close distance.

There is also no distinction between a provider that only provides many "designated" services and those that provide only very few. In theory, a provider could fall within the health service administration regime (and outside the pure insolvency rules) if it provided only one "designated" service.

Where a "designated service" provider (whether private or NHS foundation trust) fails, Monitor will be able to apply to court for a health special administration order. The triggers for this application are not yet known.

If an order is granted by a court, then the administrator (who must be a qualified insolvency practitioner) must try to 'rescue' the entity as a going concern. The administrator will also have access to the "bail-out" fund. This fund will be run by FSMA regulated managers for Monitor.

Importantly, Monitor will only be able to provide financial assistance to NHS providers if they are in health service administration (and not before). This means that intra NHS "soft" loans will be a feature of the past. The fund will be paid for out of the charges imposed on commissioners and levies imposed on providers.

If the administrator isn't able to rescue the NHS provider as a whole, then the administrator must transfer either the whole or parts of the business to other NHS providers (private or NHS foundation trust). It's not at all clear how the estate would be dealt with if a failed organisation is sold off to different providers. The administrator must only make these transfers of those parts of the business so as to meet the object of the administration (saving designated services) – this will mean that non designated services could be closed down.

It is more than likely that there will be greater numbers of NHS providers that fail financially. This stark fact is acknowledged by the Bill's Impact Assessment, which states that the outcome will be better managed organisations with the incentive to address structural weaknesses and debt.

What is clear is that the new regime will herald a new era in the financial management and failure of NHS providers.

However, the Bill raises many questions which will still need to be answered. The triggers for health service administration and the tests for "designated services" are just two key questions that will be important for providers to understand. In theory, the new system will be free from political intervention but it will be interesting to see whether local politicians will have the appetite to allow closures if there is widespread public opposition.

For further information, please contact Sharon Lamb.

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Partner
020 8780 4874
sharon.lamb@capsticks.com

Question 3

Keeping it in the County

Securing the future of hospital services in Shropshire, Telford and Wrekin

4) Ensuring that the role of primary and community services are taken into account in the proposed reconfiguration - e.g. the development of hospital at home for children.

Briefing Note:
The role of primary and community services

SUMMARY: We will continue to build on the working arrangements developed before and during this consultation to ensure that the role of primary and community services are taken into account in the proposed reconfiguration. This will include engaging with patients, communities and partner organisations to continue to develop the shape of person-centred services in Shropshire, Telford & Wrekin.

1. Commissioning primary and community services: response from the PCTs

GPs and hospital consultants have worked together to develop the new pathways for the proposed reconfigured specialties, helping to ensure that the appropriate roles of, and implications for, primary and community services are taken into account. The draft pathways are included in response to Question 10 in this briefing pack. Subject to the outcome of consultation, GPs and hospital consultants will continue to work together to develop these pathways in more detail and implement them for the benefit of local patients.

Commissioners' plans for next and future years include investment for services providing care closer to home, allowing scope for impact from any implementation. The pace of development of hospital at home services for children was slowed down by commissioners pending decisions following the consultation, but will be reinvigorated subject to the outcome of consultation.

2. Providing community services: response from the Community Trust

Community-based children's services are already a key part of the Community Trust, and once established the Trust would be keen to work with commissioners and SaTH to develop hospital at home services for children as part of an integrated pathway, with community children's nursing teams providing care for more dependent children.

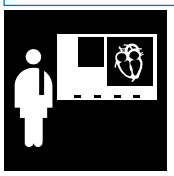
3. Working in partnership

Clinical leadership is being transformed within commissioning, community care and hospital care with the establishment of GP commissioning, the proposed Community Trust and the new clinical leadership arrangements in The Shrewsbury and Telford Hospital NHS Trust. One of the priorities for the local NHS will be to establish strong working relationships between clinical leaders across the local NHS to develop and deliver challenging programmes to transform care for the benefit of patients.

For example, in The Shrewsbury and Telford Hospital NHS Trust, new Clinical Chiefs have been appointed to lead and manage the clinical services in their area (e.g. Head & Neck, Women & Children's, Medicine, Emergency & Critical Care, Scheduled Care, Unscheduled Care, Telehealthcare). Early meetings are being established between the Clinical Chiefs and shadow GP Commissioners.

The new clinical leadership arrangements in The Shrewsbury and Telford Hospital NHS Trust are summarised as follows:

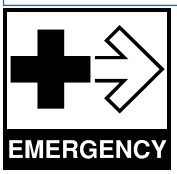
The Shrewsbury and Telford Diagnostics Centre



TBC

Radiology
Pathology
Neurophysiological measurement

The Shrewsbury and Telford Emergency and Critical Care Centre

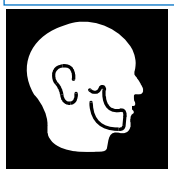


Dr Rob Law

ITU
HDU
A&E
MAU / Acute admissions

Hospital@Night
Clinical Site Managers
Major Incident & Emergency Planning

The Shrewsbury and Telford Head and Neck Centre



Mr Andrew Prichard

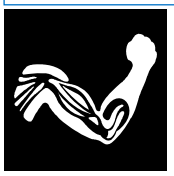
ENT
Maxillo-facial surgery
Oral surgery/orthodontics
Restorative and community dentistry
Audiology

The Shrewsbury and Telford Medicine Centre

Recruitment Underway

Respiratory Medicine
Stroke Medicine
Cardiology, CCU, Cardio Respiratory, Cardiac Rehab
Renal medicine
General Internal Medicine
Diabetes and Endocrinology
Neurology
Care of the elderly
Cohort Ward
Dermatology

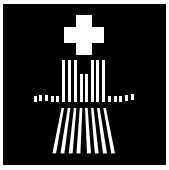
The Shrewsbury and Telford Musculoskeletal Centre



Mr Piers Moreau

Orthopaedics and trauma surgery
Rheumatology
Osteoporosis
Pain Management

The Shrewsbury and Telford Oncology Centre



Recruitment Underway

Clinical and medical oncology
Palliative Care
Clinical haematology
Cancer Tracking

The Shrewsbury and Telford Ophthalmology Centre

Mr Ewan Craig

Ophthalmology
Orthoptics

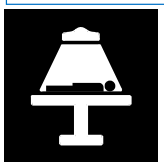
Outpatients
Booking / Scheduling

The Shrewsbury and Telford Pharmacy Centre

Mr Bruce McElroy

Dispensing
Medicines Management
Aseptic Suite

The Shrewsbury and Telford Surgical Centre

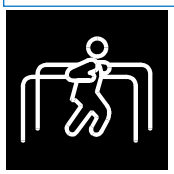


Mr Tony Fox

Urology
Colorectal and upper GI surgery
General surgery
Day case surgery
Gastroenterology

Vascular surgery
Anaesthesia
Theatres
Endoscopy

The Shrewsbury and Telford Therapy Centre



TBC

Physiotherapy
Occupational Therapy
Speech and Language Therapy
Dietetics

The Shrewsbury and Telford Women and Children's Centre

Mr Andrew Tapp

Obstetrics
Paediatrics
Breast surgery
Fertility services

Midwifery
Neonatology
Gynaecology

Value Stream: Cancer Care **Dr Narayanan Srihari**

Value Stream: Scheduled Care **Mr Mark Cheetham**

Value Stream: Tele Health Care **Mr Mark Prescott / Dr Darren Warner**

Value Stream: Unscheduled Care **Dr Kevin Eardley**

Briefing provided by Julie Thornby, Director of Public Affairs and Governance on behalf of NHS Telford & Wrekin and Shropshire County PCT, 5 March 2011 (Sections 1 and 2) and Adrian Osborne, Head of Communications and Business Development, The Shrewsbury and Telford Hospital NHS Trust, 5 March 2011 (Section 3)

Keeping it in the County

Securing the future of hospital services in Shropshire, Telford and Wrekin

5) If agreed, how will the implementation of this proposal support ongoing work to support PCTs and GP commissioners to avoid unnecessary hospital admissions?

Briefing Note:
Ongoing Work with GPs and PCTs to Avoid Unnecessary Hospital Admissions

SUMMARY: Whilst the reconfiguration proposals aim to improve safety and sustainability, rather than specifically focusing on reducing avoidable hospital admissions, the working arrangements that have been put in the place, including the development of clinical pathways for current and future services, provide opportunities for hospital and primary care clinicians to work together to continue to redesign services for the benefit of patients.

The proposal for the reconfiguration of hospital services is focussed on safety and sustainability of services within the county.

However, the importance of working as one system for the benefit of patients has been emphasised and echoed in all the clinical discussions and associated forums within the Future Configuration of Hospital Service Programme. The opportunities to improve joint working in specialities that are not included within the reconfiguration have also been acknowledged.

Specifically, the three clinical working groups and the Clinical Assurance Groups have included Trust clinicians, GPs, paramedics and other partners. These have provided an opportunity to develop a more detailed and shared understanding across the NHS community of current and future patient pathways. This in turn creates opportunities to identify the potential to reduce inappropriate admissions.

Subject to the outcome of consultation, we will build on the clinical working groups and the Clinical Assurance Groups to develop a programme across GP Commissioners, the Trusts Centre Chiefs and lead clinicians to redesign and develop services that reduce the number of avoidable hospital admissions.

Children's Services – Hospital at Home

As mentioned in response to Question 4, the development of Hospital at Home services remains an aspiration of the Trust, the PCT community service provider and GPs. Much of the analysis and development work for this service has been undertaken and discussions on how to progress and implement this much wanted service will be reinvigorated subject to the outcome of consultation.

Some Hospital at Home is already provided. One part-time nurse provides treatment for children at home, predominantly with rheumatology and endocrinology needs, who would otherwise be admitted as a day case. In addition, there is an outreach palliative care service provided by the Trust. Here the

hospital consultant and specialist nurse work with the community nurses in a child's home to allow them to remain at home at the end of life. They provide the specialist support and treatment that the community paediatric nurses could not do alone and where a child would otherwise need to be admitted.

The commitment to have a Paediatric Assessment Unit on both sites will support children accessing specialist assessment, diagnosis and treatment and returning home as soon as possible.

Surgical Pathways

Moving to a local system of 'assess to admit' rather than 'admit to assess' is key to the reduction in avoidable hospital admissions. One example of this is the joint work that has been undertaken by clinicians from primary and secondary care on a redesigned pathway for abdominal pain. Plans for the implementation of this pathway now need to be developed and will be led by the new Innovations Group on behalf of the Shropshire Commissioning Groups.

There are around 6,000 deaths each year in the UK from ruptured Abdominal Aortic Aneurysms. Many of these deaths could be prevented if the aneurysm is spotted early enough. Abdominal Aortic Aneurysm (AAA) Screening is a life-saving screening programme which offers a way to identify an aneurysm early and provide treatment or ongoing monitoring. The Trust will only become a screening centre if inpatient vascular surgery is on one site.

Gynaecology

The members of the maternity/gynaecology and neonatology clinical working group have agreed that there is much more that can be done in the community prior to a referral into the secondary care system. The GP members of the group endorse the development of a series of investigations requested and managed within primary care with advice and support from clinicians within the hospital.

New Technologies

It is also recognised that new technologies can be far better utilised within the county and mid-Wales enabling patients to receive advice, care and treatment without travelling to Shrewsbury or Telford. This is explored further in the paper outlining the direction of travel for telemedicine.

Maternity

The Midwifery Led Units in Telford, Shropshire and Mid-Wales are all important elements of the maternity care pathway. The units in rural Shropshire and Wales provide a community based service that is planned to be enhanced within the reconfiguration by increasing day assessment services, scanning facilities and support for mothers throughout their pregnancy and beyond. In addition, midwives are outreaching into local children and family centres to make early contact with women who have been traditionally more hard to reach.

Briefing provided by:

Kate Shaw, FCHS Programme Manager, The Shrewsbury and Telford Hospital NHS Trust with additional comments from NHS Telford & Wrekin and Shropshire County PCT

4 March 2011

Keeping it in the County

Securing the future of hospital services in Shropshire, Telford and Wrekin

6) Can the PCT, SaTH and Community Trust assure the Committee that the proposed reconfiguration of services will be sustainable at both sites if more patients are treated in the community? Does the calculations take account of demographic changes?

Briefing Note:
Sustainability of Services

SUMMARY: The main aspects of services directly affected by the proposed reconfiguration are largely those which need to be based at acute hospital sites and are therefore not affected if more patients are treated in the community. The planned shift of some aspects of services (e.g. outpatient appointments and some diagnostics) to community settings, and the impact of demographic trends, is already account for within the strategic plans for the local health economy co-ordinated by the local Primary Care Trusts. Both SaTH and the Community Trust are party to those plans. Please also refer to the report from the Local Assurance Panel on 28 February 2011.

It is recognised nationally and locally, that the challenge of providing high quality, sustainable health services within an increasingly difficult financial climate requires joint working, agreement and coordinated effort across a health and social care economy. The health and care organisations within Shropshire, Telford and Wrekin have therefore been working together to develop the county's Whole System Plan which details the local response to this sustainability challenge.

The plan will need to recognise the issues that the system as a whole must address, including developing a strategic approach to ensuring sustainability of major providers:

- Overcoming difficulties associated with distance, remoteness, travelling for patients
- Single providers serving a large geographical area and issues associated with developing choice and competition
- Raising service quality, improving patient experience and service responsiveness in the absence of a plurality of providers
- Improving vertical integration of services across a dispersed rural population and large geographical area
- Developing more effective links between health and social care at an organisational and service level in practice

- Developing strategic approach to ensuring sustainability of major providers facing financial challenges whilst maintaining commitment to market rules and choice

The delivery plan therefore needs to be a genuine whole systems plan, which has been jointly developed and owned by all stakeholders and partners within the health care sector and beyond. It will be based on what the key strategic challenges are in terms of the health of the population, the shape of provision and quality of care that we agree should underpin our plans. It will describe the local assessment of the size of the challenges for Quality, Productivity, Innovation and Prevention (QIPP), for commissioners and providers and how the healthcare system is made sustainable into the future.

It will therefore describe the initiatives that make up the plan that all partners have agreed, what they will deliver in terms of improved quality and value, how and by when. This will include shifts of activity currently performed in the acute setting, into the community setting and what that means for changing patterns of commissioner spend; provider income; activity levels; key components of capacity (such as beds); workforce requirements. The System Plan to 2014/15 once finalised will need to demonstrate sustainability both financially and clinically into the future and will be signed off by all Boards. A briefing will also be presented to the Health Overview and Scrutiny Committees.

The issue of sustainability of services within the reconfiguration proposals was tested by the panel at the Local Assurance Process on 28 February 2011. Much of the discussion around sustainability focuses on the levels of activity within the Trust now and in the future and the availability of skilled and competent staff and in particular the medical workforce The Trust has some confidence that the pathways it has developed within the clinical working groups can be supported by sustainable workforce models and has begun to develop these models.

Subject to the outcome of consultation, the next stage would be the development of an Outline Business Case (OBC). The OBC will be subjected to review by the Office of Government Commerce (OGC) prior to submission to the SaTH Trust Board in May or June 2011. It would also need to be approved by the PCTs and the West Midlands Strategic Health Authority. This timetable is also set out in response to Question 17.

Following this, more detailed analysis and planning will be included in the Full Business Case later in the year. Together these will examine the ‘options within the option’ (for example the length of time the Paediatric Assessment Units) would remain open and options around the detailed footprint for the capital development. It will therefore include detailed modelling on activity, capacity and demand, bed numbers and staffing requirements. This modelling will be undertaken within sub-groups of the clinical working groups to ensure clinical involvement and leadership.

Briefing provided by:

Kate Shaw, FCHS Programme Manager, The Shrewsbury and Telford Hospital NHS Trust

Debbie Vogler, Director of Strategy, The Shrewsbury and Telford Hospital NHS Trust

3 March 2011

Keeping it in the County

Securing the future of hospital services in Shropshire, Telford and Wrekin

7) What proportion of women who start their labour at a midwife led unit are transferred to a consultant led unit for the birth?

8) How many of the 326 births in the Consultant led unit to women in the Powys Health Board area were elective or emergency?

Briefing Note:
Maternity Services

SUMMARY: During the consultation, and as part of the ongoing development and implementation subject to the outcome of consultation, the Trust will continue to work with partner organisations and patients & communities to develop pathways for access to maternity services. Draft pathways have been developed (with the involvement of local women, clinicians and partners) and are included in response to Question 10. More information about the impact of travel time and how this could be addressed is also included in response to Question 10.

All women are invited to discuss the range of options available to them for the safe delivery of their child. In The Shrewsbury and Telford Hospital NHS Trust there is a well established model of care offering home birth, midwife-led delivery in satellite units, midwife-led delivery co-located with consultant-led care or consultant-led delivery. The Trust also works in partnership with neighbouring providers, particularly in mid Wales, to develop safe and timely pathways of care.

The current model of care provided by the Trust includes:

- Home birth
- Midwife-led delivery in Bridgnorth
- Midwife-led delivery in Ludlow
- Midwife-led delivery in Oswestry
- Midwife-led delivery in Telford
- Midwife-led delivery in Shrewsbury
- Consultant-led unit in Shrewsbury

Between April 2009 and March 2010 it is estimated that there were 1152 births in the Trust's midwife-led units:

- 55 in Bridgnorth
- 79 in Ludlow
- 68 in Oswestry
- 496 in Telford
- 454 in Shrewsbury

In addition there were 3861 births in the consultant-led maternity unit.

Of the births in the consultant-led unit:

- 1,455 births to women from Shropshire County PCT area
- 1,875 births to women from Telford & Wrekin PCT area
- 326 births to women from Powys Teaching Health Board area

An analysis of births by GP practice (data for Shropshire County PCT and Telford & Wrekin PCT) is included in response to Question 10.

During 2009 it is estimated that 22% of women who start their labour at a midwife-led unit are transferred to the consultant-led unit for the birth. In a large number of cases these relate to issues such as delays in labour rather than significant complications.

Maternity deliveries are not defined as elective or emergency in the same way as other hospital admissions, and therefore it is not possible to provide a simple classification of maternity episodes in this way. Providing an estimate of the number elective or emergency episodes from Powys would require a review of individual patient notes.

Some maternity episodes are booked as planned (e.g. elective caesarean sections) but other deliveries will be managed according to the care pathways that are in place. The overall caesarean section rate in the Trust is amongst the lowest in the country. Data published by the NHS Information Centre for 2009/10 reported a caesarean section rate of 15.8% for the Trust compared with a national average of 24.8%.

Draft pathways have been developed (with the involvement of local women, clinicians and partners) and are included in response to Question 10. More information about the impact of travel time and how this could be addressed is also included in response to Question 10.

Subject to the outcome of consultation, these pathways will continue to be developed with clinical and community involvement. These will be supported by local clinical protocols to assess the level of risk for individual mothers to support them to make decisions about the location for delivery. The preferred option in the consultation document would involve significant building work, which would take c. 3 years to plan, procure and complete. This will provide an extended period of time for ongoing discussion and development.

Briefing provided by:

Kate Shaw, FCHS Programme Manager, The Shrewsbury and Telford Hospital NHS Trust

Cathy Smith, Head of Midwifery, The Shrewsbury and Telford Hospital NHS Trust

7 March 2011

NHS

Keeping it in the County

Securing the future of hospital services in Shropshire, Telford and Wrekin

9) What discussions are taking place with other acute trusts outside Shropshire to develop care pathways to access services in emergency situations?

Briefing Note:
Working Together to Deliver Emergency Care Pathways

SUMMARY: Clinical pathways are already in place for the safe transfer of a significant number of patients who go out of county for emergency care. We intend to continue to build and strengthen these relationships in order to develop the shape of services agreed following consultation. For example, work is in progress with Shropdoc to extend their current role of co-ordinating hospital admissions inside the county so that it also applies to out of county admissions. The Shrewsbury and Telford Hospital NHS Trust continues to hold strategic forums with neighbouring Trusts, has undertaken visits to health systems elsewhere to consider similarities and differences in the model of care that could be applied locally, and has reviewed best practice and guidance from Royal Colleges.

The local NHS has a long history of working with other acute Trusts outside Shropshire to develop care pathways that ensure appropriate and timely access to specialist services in an emergency situation. These discussions take place at both a clinical/operational level and at a strategic/planning level.

Clinically, pathways are already in place for the safe transfer of patients to a specialist Trust within the region if the severity of their illness or trauma means they cannot be managed within a district general hospital. Patients requiring PCI (percutaneous coronary intervention) due to a heart attack are taken directly to Stoke or Wolverhampton. Children with major illness and trauma are taken directly to Birmingham. Patients with severe head injuries are also taken to Stoke or Birmingham.

Clinicians within The Shrewsbury and Telford Hospital NHS Trust are part of formal regional networks and so contribute to the future development and coordination of services within the region. Clinicians also work alongside their colleagues from individual Trusts to work through the detail, issues or demands on the pathways of care that they jointly provide. Numbers of patients who have required specialist hospital care and intervention often return to the Trust for their ongoing treatment and so, on a very practical level, clinical discussions are always taking place.

Strategically, these discussions also continue within specialty networks and between organisations on particular issues, such as stroke. For example, The Shrewsbury and Telford Hospital NHS Trust believes that the challenge of providing 24/7 thrombolysis at both hospital sites can be addressed through a regional telemedicine network of specialist stroke physicians providing remote support to

on-site clinicians. The Trust intends to commend this model of care to Primary Care Trusts in order to sustain 24-hour hyper-acute stroke services at both hospiatls

Work is in progress with Shropdoc, to extend their current role of co-ordinating hospital admissions inside the county, so that it also applies to out of county admissions. This will help ensure the smooth running of such pathways.

In terms of alignment with the NHS in Wales, a Strategic Forum was held on 28th February 2011. Here, Chief Executives and Directors from Betsi Cadwaladr NHS Trust, Powys teaching Local Health Board, Shropshire/Telford and Wrekin PCTs, The Shrewsbury and Telford Hospital NHS Trust, West Midlands Ambulance Service and the Welsh Ambulance Service shared their current challenges, proposals and context for improvement and change. They also agreed a basis for future discussions. All those present agreed it was useful and important to share these challenges and plans to ensure the system does not become fragmented for patients the organisations serve. The group will meet again in May 2011.

In a number of different discussions and forums, the issues and opportunities of providing high quality care, 24/7, over a large geographical area have been raised. It has been agreed a Rural Health Symposium could be a useful format to enable this to happen. This event is likely to take place in the summer.

Briefing provided by:

Kate Shaw, FCHS Programme Manager, The Shrewsbury and Telford Hospital NHS Trust

Dr Mark Prescott, Consultant in Emergency Medicine, The Shrewsbury and Telford Hospital NHS Trust

With additional material from Julie Thornby, Director of Public Affairs and Governance on behalf of NHS Telford & Wrekin and Shropshire County PCT

5 March 2011

Keeping it in the County

Securing the future of hospital services in Shropshire, Telford and Wrekin

10) Information on the care pathways and assurance of the clinical safety for maternity, acute surgery and paediatric services.

Briefing Note:
Care Pathways and the Assurance of Clinical Safety

SUMMARY: Draft Care Pathways have been developed by multi-disciplinary clinical working groups to address risks and issues identified before and during consultation. The draft pathways have been subject to a range of scrutiny and assurance, including a Clinical Assurance Group and the Local Assurance Panel, and will be developed further subject to the outcome of consultation.

The pathways and services for maternity, neonatology, gynaecology, paediatrics and surgery were discussed at the Local Assurance Process on 28 February 2011. The following pages set out the pathways and related assurances for:

- Maternity and neonatal
- Children's Services
- Surgery
- Additional / general issues and assurance

The draft papers presented to the Local Assurance Panel on the impact of travel time on neonates and paediatrics are also attached.

It has been recognised that as part of the detailed planning and implementation phase, a number of areas would require ongoing work and the external panel members offered their experiences and support in terms of sharing best practice. These areas include:

- Developing the long term workforce plan for each service
- 'Road testing' the pathways far in advance of the actual reconfiguration
- Undertaking a robust risk assessment of the pathways
- Understanding and determining the role, function and scope of the Royal Shrewsbury Paediatric Assessment Unit
- Sensitively planning the move of the Rainbow Unit from Royal Shrewsbury Hospital and ensuring an appropriate legacy remains

The clinical working groups would therefore continue to meet to work through the detail and operational requirements of the pathways that they have designed and agreed in terms of staff, training, estates, policies and procedures.

Briefing coordinated by:

Kate Shaw, Future Configuration of Hospital Services Programme Manager, The Shrewsbury and Telford Hospital NHS Trust

4 March 2011

Maternity and Neonatal Risks and Assurances

Issue/Risk	Raised by	Pathway Ref	Detail
The sick newborn presenting at RSH/other sites	NCAT	Neonatology 2 Midwifery 2b, 3b, 4	The midwifery pathways have been agreed. These pathways currently exist now for women and babies at the Telford, Oswestry, Ludlow and Bridgnorth, Newtown and Welshpool MLUs. Further training in advanced life support for midwives in the MLUs is planned irrespective of reconfiguration. Similar transfer incubator and equipment currently at PRH would also be available at RSH. WMAS have been part of all pathway discussions and support the proposed pathways. Both WMAS and WAS have identified the need for further discussions regarding the challenge on their resources should the NNU unit move to PRH due to an increased turn around time. Further training would be required for the Midwives in Powys with regards to anxieties over increased travel times . Discussions regarding the maternity service in Wales would need to reflect current work lead by the Welsh Assembly for maternity and neonatology care. Trust officers are in contact with Welsh colleagues to understand the links, interdependencies and issues as these pieces of work develop. Research and data on the impact of travel time on neonates is extremely limited however recent research from Holland has been reviewed and analysed with regards to the proposed local configuration of services.
The mother in labour and in difficulty at remote locations from the obstetric unit, including RSH (intrapartum transfers). It was agreed that obstetric flying squads are not a solution to be considered	NCAT	Midwifery 2a, 3a Neonatology 1, 2	
Safety and impact of additional travel time in an emergency for mother and baby	Public consultation	Midwifery 2a, 3a Neonatology 1, 2	
Women with undifferentiated lower abdominal pain	NCAT	Maternity/ gynae 6a, 6b	This pathway has been agreed and has the support of the Surgeons. Women will access services at both sites. A set sequence of investigations will determine the nature of their abdominal pain. Women with gynaecological pathology will be cared for and treated at PRH. Women with surgical pathology will be cared for and treated at RSH. GP triage and establishing whether a woman is pregnant or not have been identified as key elements to getting patients to the right hospital first time. Life saving interventions will be undertaken at both sites.
Distance and transport for some patients and their families especially for those from Wales and north and west Shropshire	Public consultation	Midwifery 1 - 4	Low risk pregnant women will still be able to have their babies at home or their nearest MLU. The elements of the pathway remain unchanged (except for location)in terms of what would happen if complications arose. For women who deliver at the consultant unit (due to being high risk or transferring in) being able to return to their nearest MLU for their postnatal care, as soon as they are able, would continue as now. The new Women's and Children's Unit at PRH would have improved, fit for purpose faculties for fathers and families with accommodation should this also be required.

The Future Configuration of Hospital Services

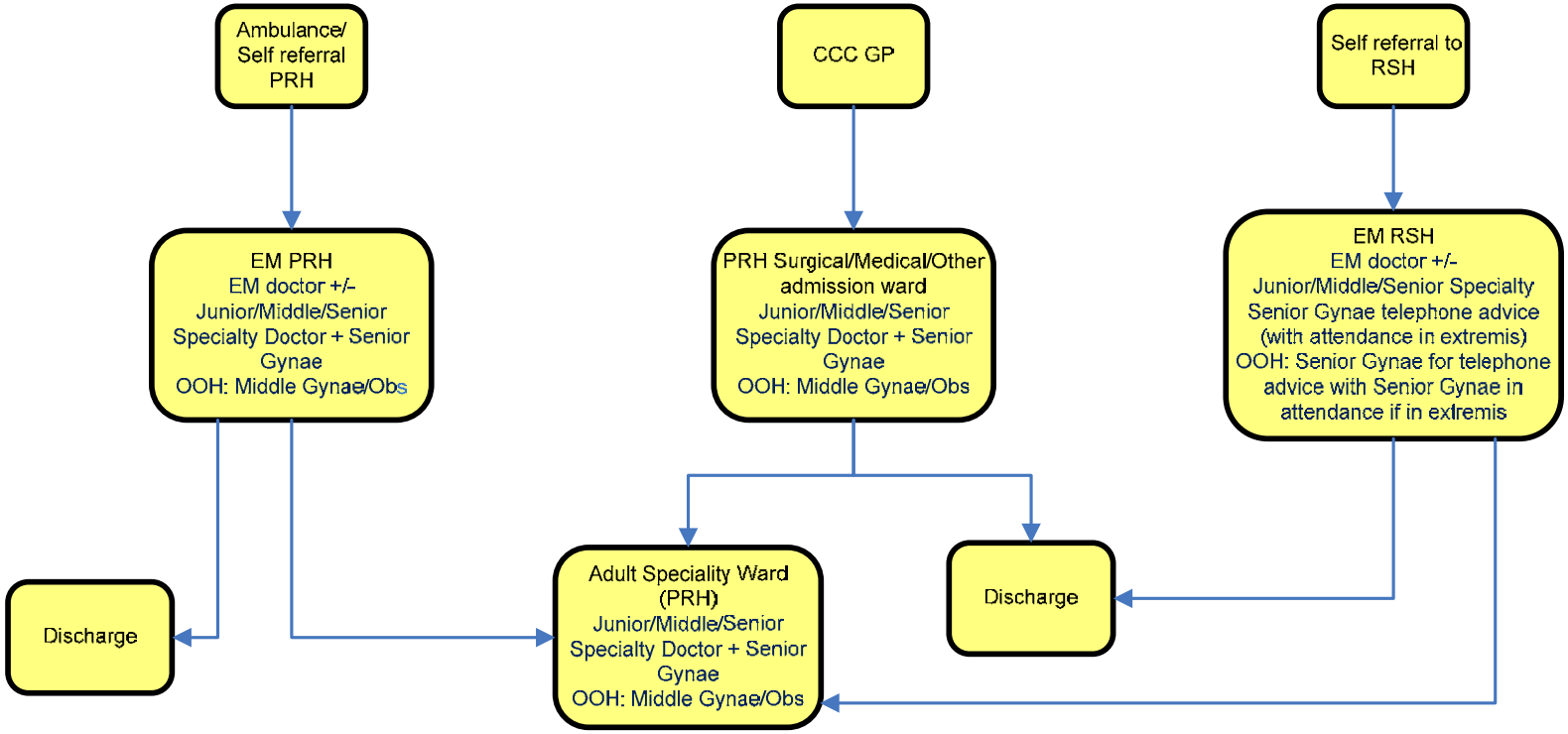
Question 10

Maternity and Gynaecology

The Shrewsbury and Telford Hospital NHS
NHS Trust

1. Known pregnant female with likely non-pregnancy related illness <16 weeks
Final draft

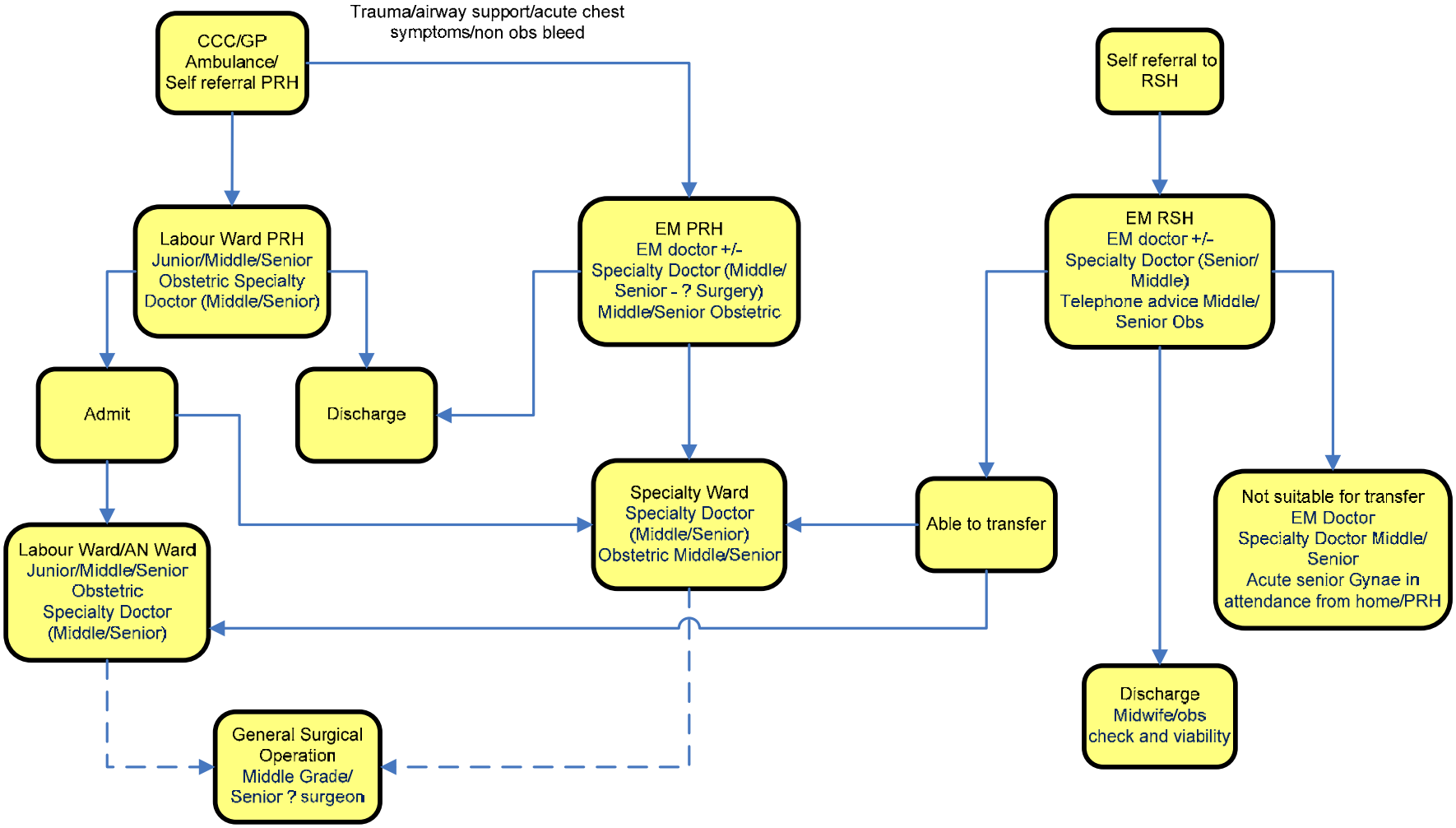
Question 10



The Shrewsbury and Telford Hospital NHS
NHS Trust

Question 10

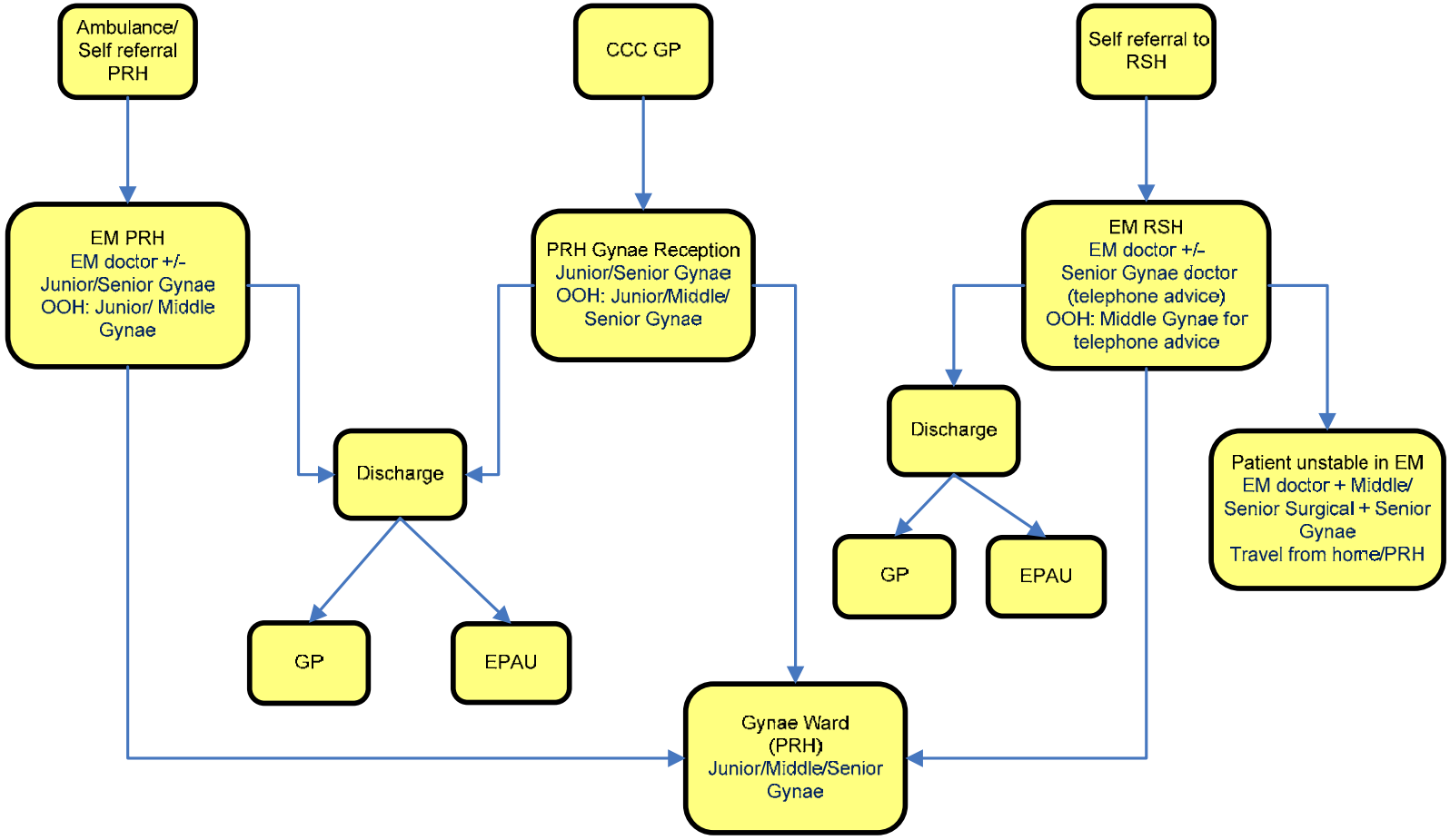
2. Known pregnant female with likely non-pregnancy related illness >16 weeks
Final draft



The Shrewsbury and Telford Hospital NHS
NHS Trust

3. Known pregnant female with likely pregnancy related illness <16 weeks
Final draft

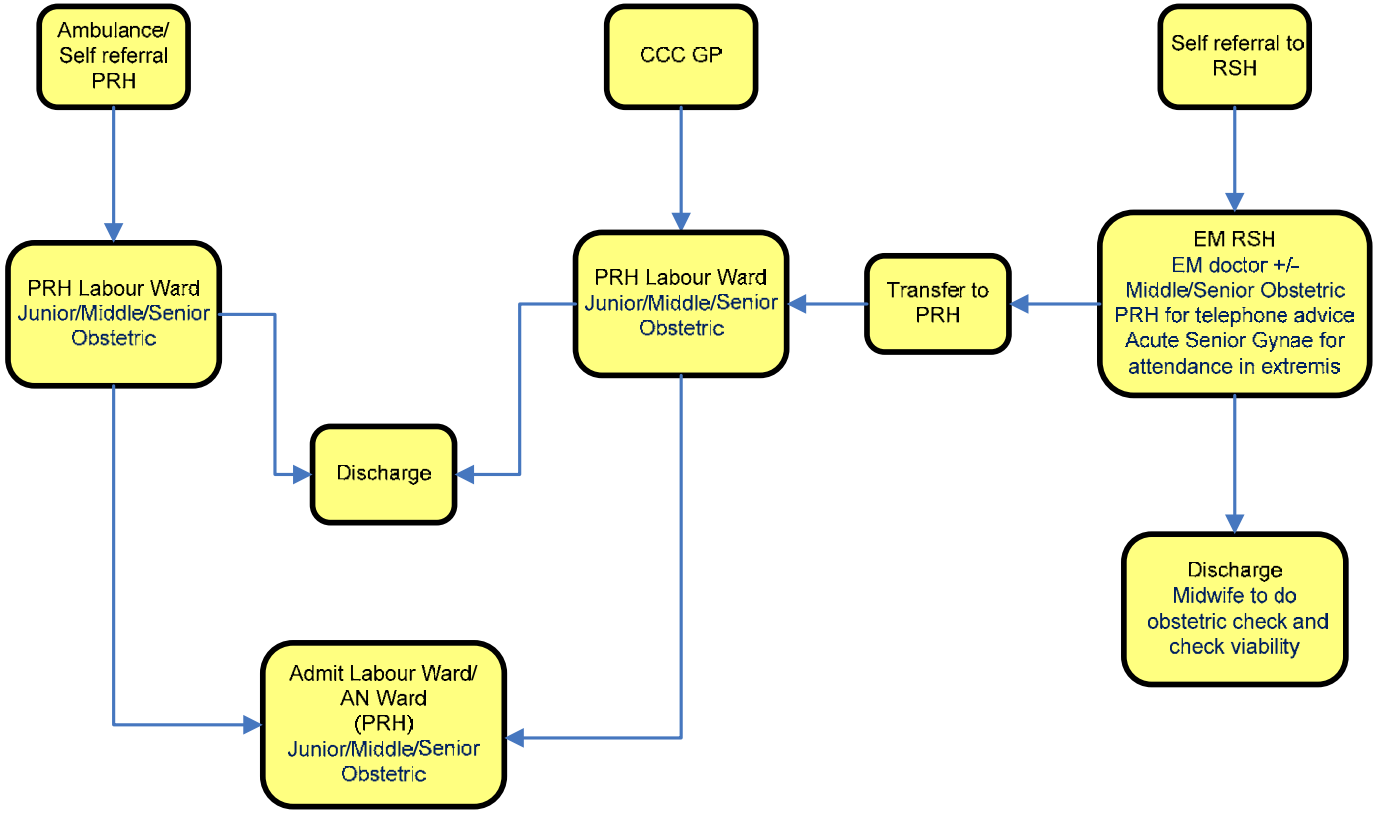
Question 10



The Shrewsbury and Telford Hospital NHS
NHS Trust

4. Known pregnant female with likely pregnancy related illness >16 weeks
Final draft

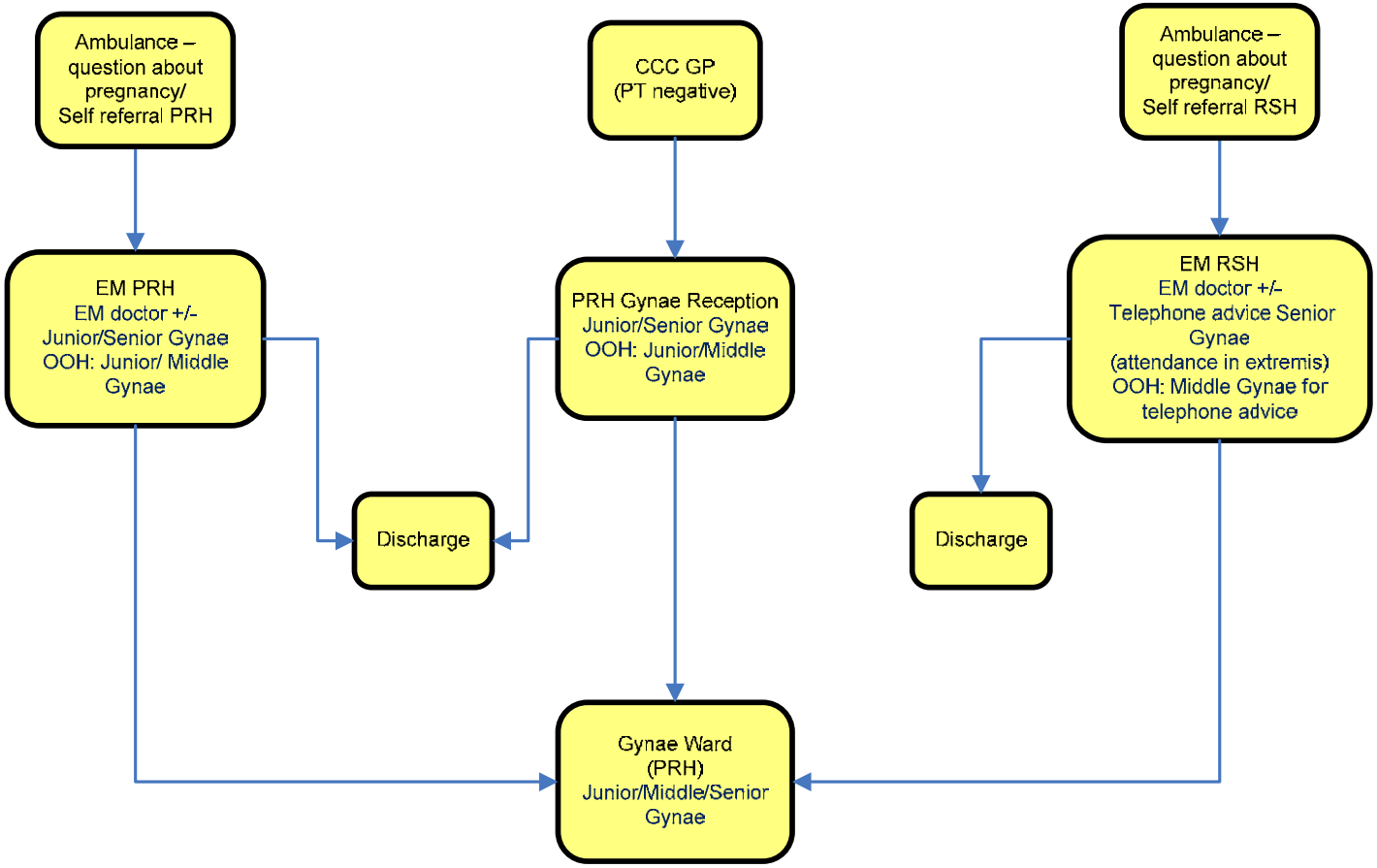
Question 10



The Shrewsbury and Telford Hospital NHS
NHS Trust

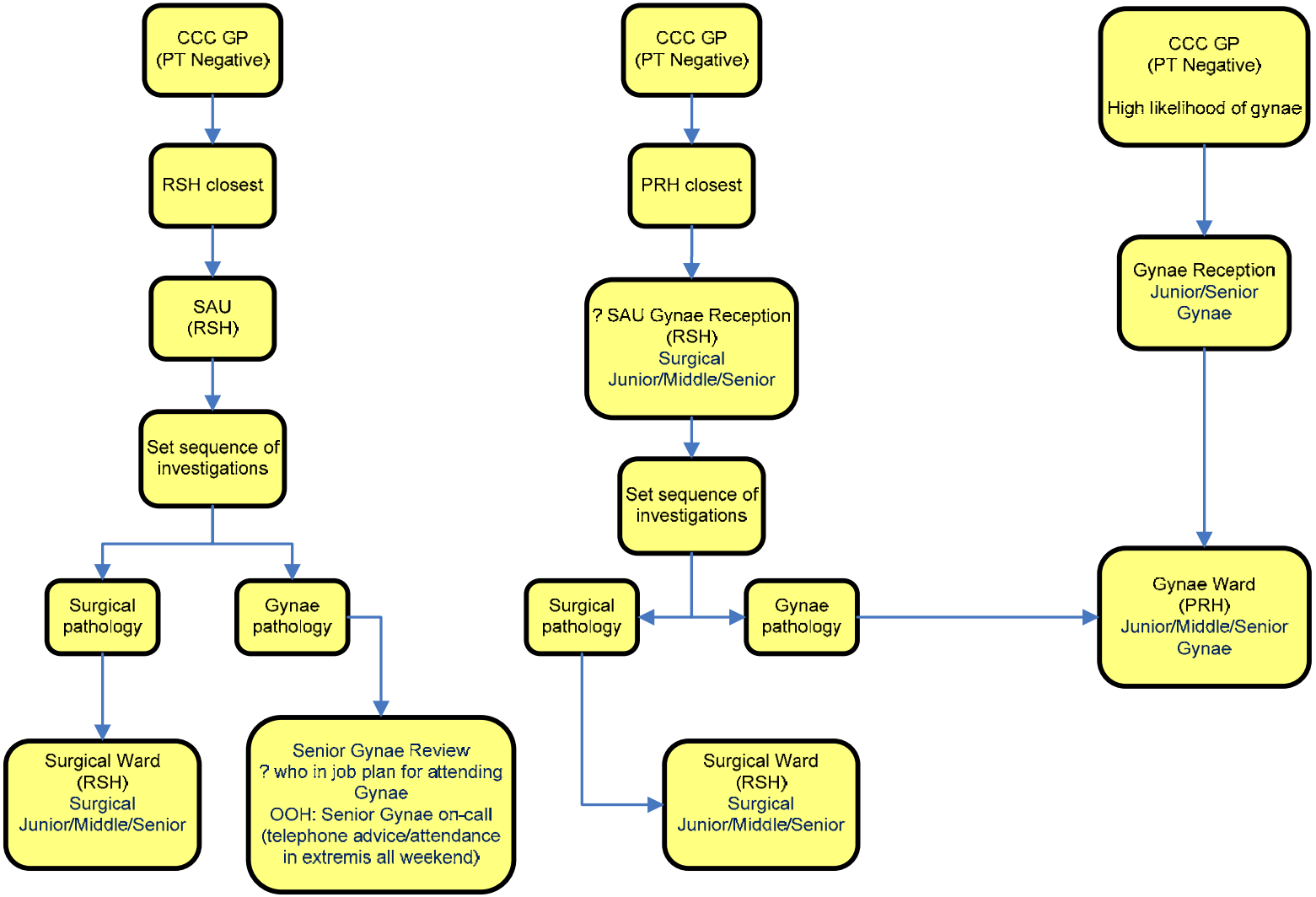
5. Non- pregnant female (adult) with likely gynae pathology (not pain)
Final draft

Question 10



6a. Non- pregnant female (adult) with low abdominal pain (part 1)
Final draft

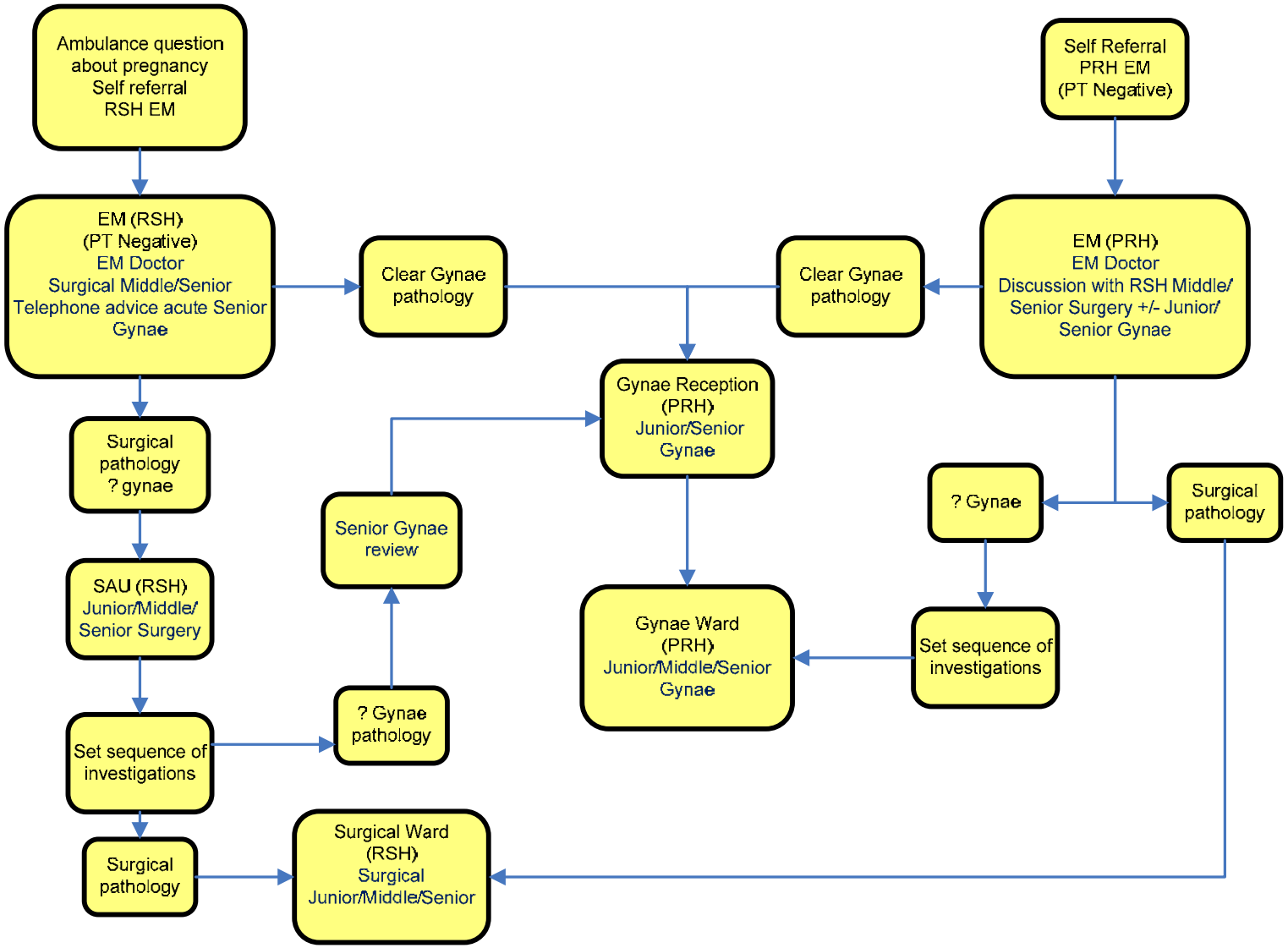
Question 10



The Shrewsbury and Telford Hospital NHS
NHS Trust

6b. Non- pregnant female (adult) with low abdominal pain (part 2)
Final draft

Question 10



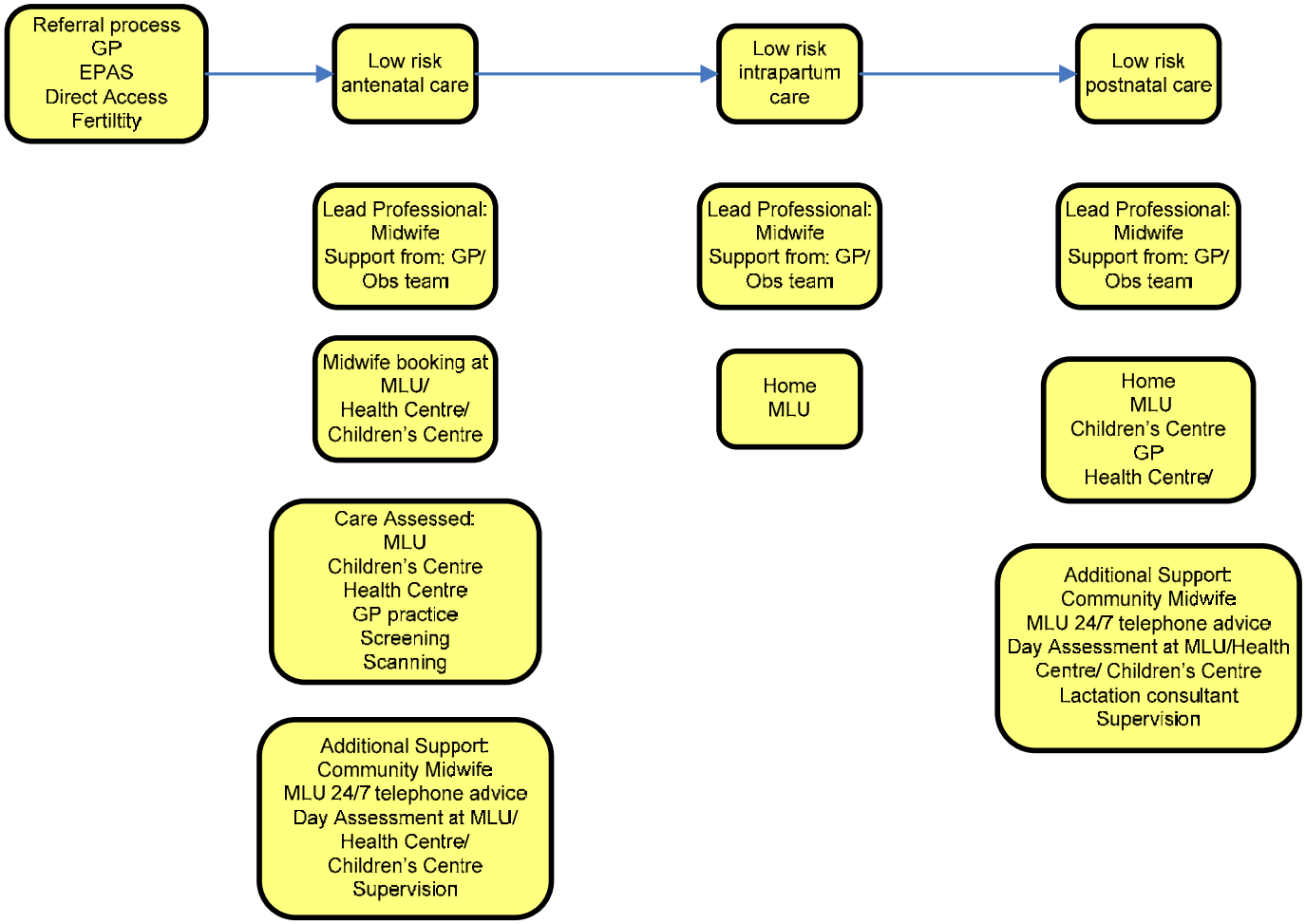
The Shrewsbury and Telford Hospital NHS
NHS Trust

The Future Configuration of Hospital Services

Question 10

Midwifery

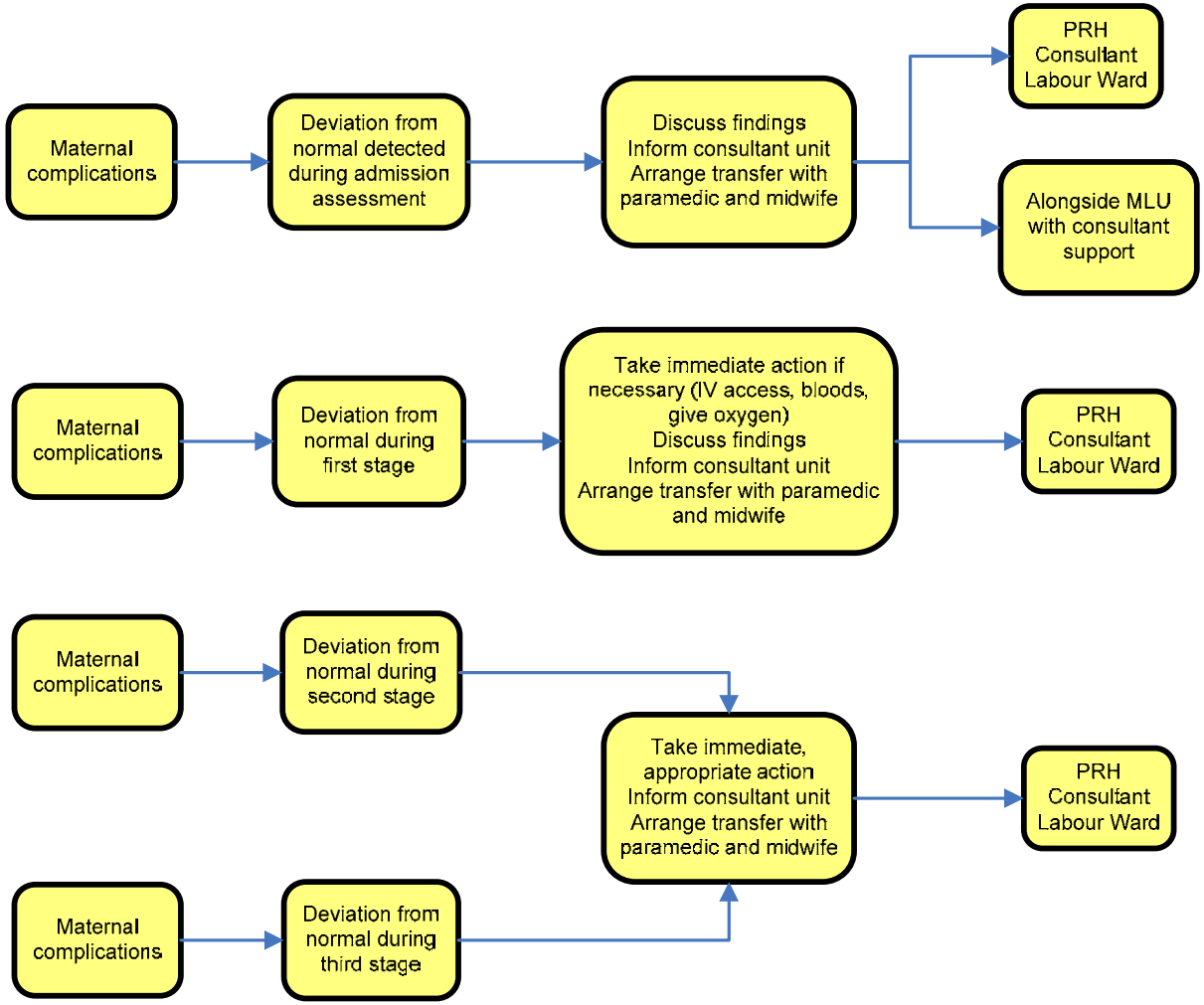
1. Pathway for pregnant woman – low risk
Final draft



Question 10

The Shrewsbury and Telford Hospital NHS
NHS Trust

2a. Pathway for labour related complications at MLU/home – maternal complications
Final draft

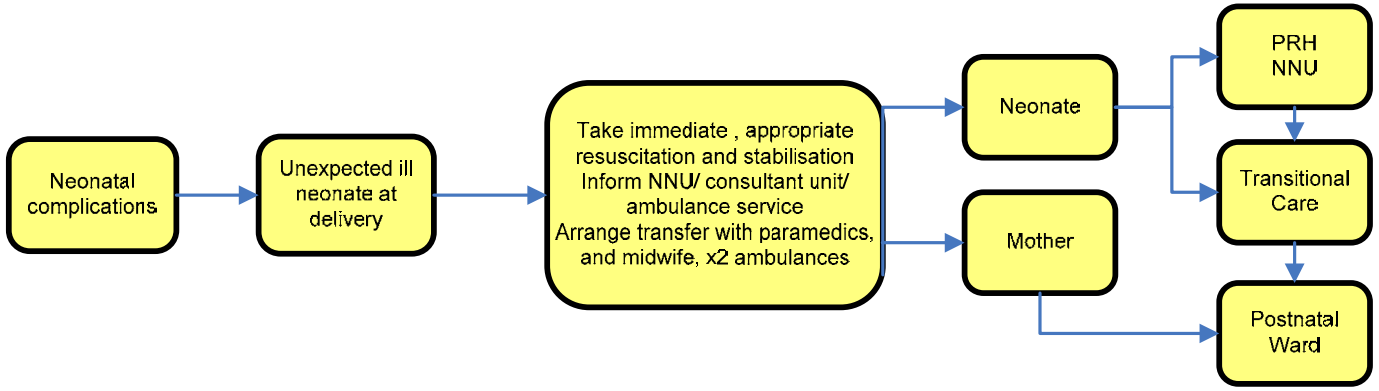


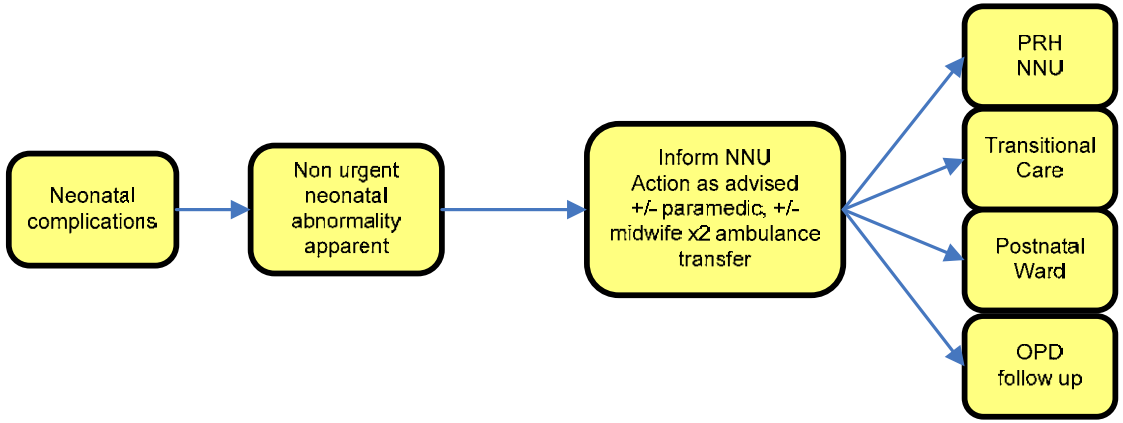
Question 10

The Shrewsbury and Telford Hospital NHS
NHS Trust

2b. Pathway for labour related complications at MLU/home – neonatal complications
Final draft

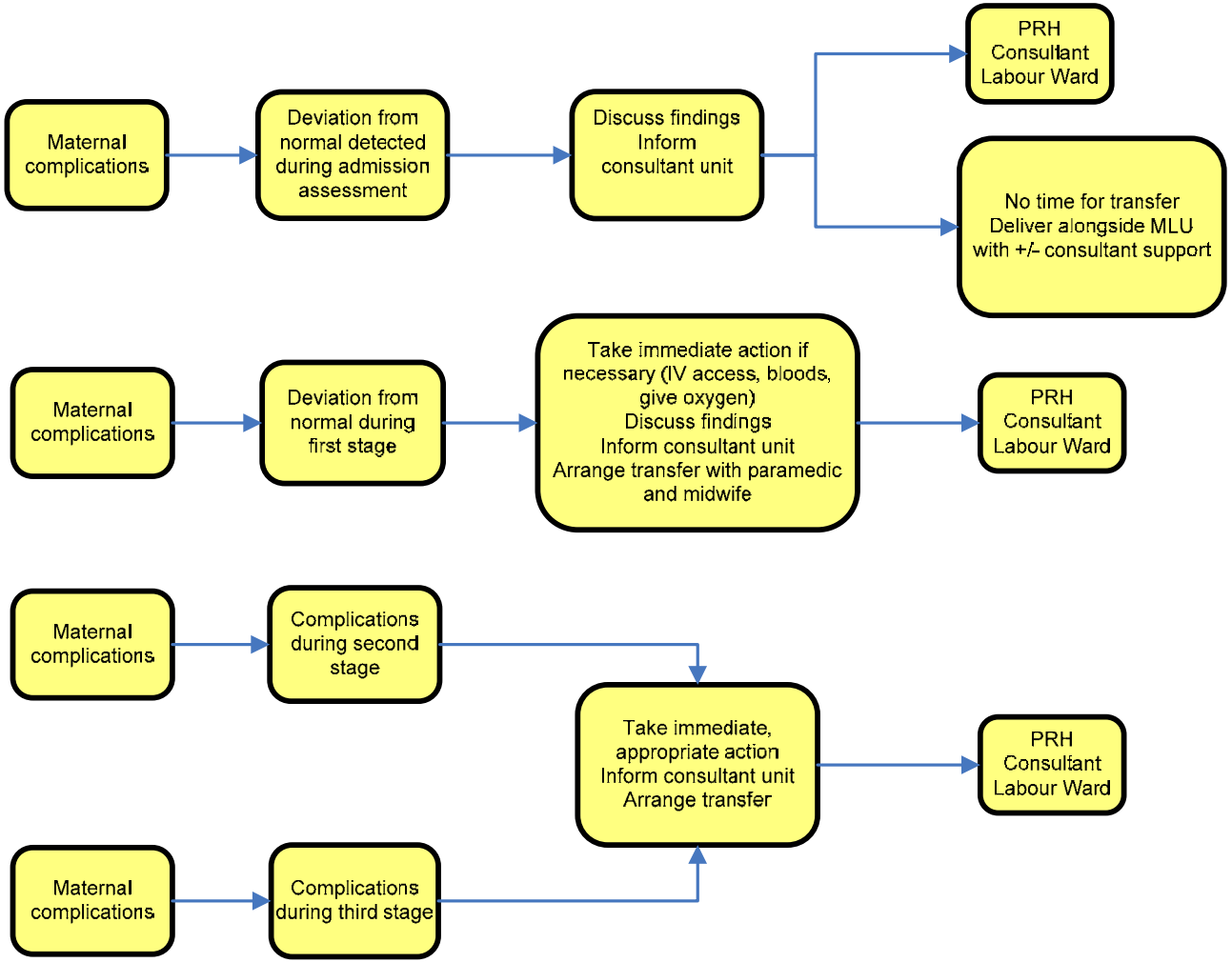
Question 10





The Shrewsbury and Telford Hospital NHS
NHS Trust

3a. Pathway for labour related complications at Wrekin MLU – maternal complications
Final draft

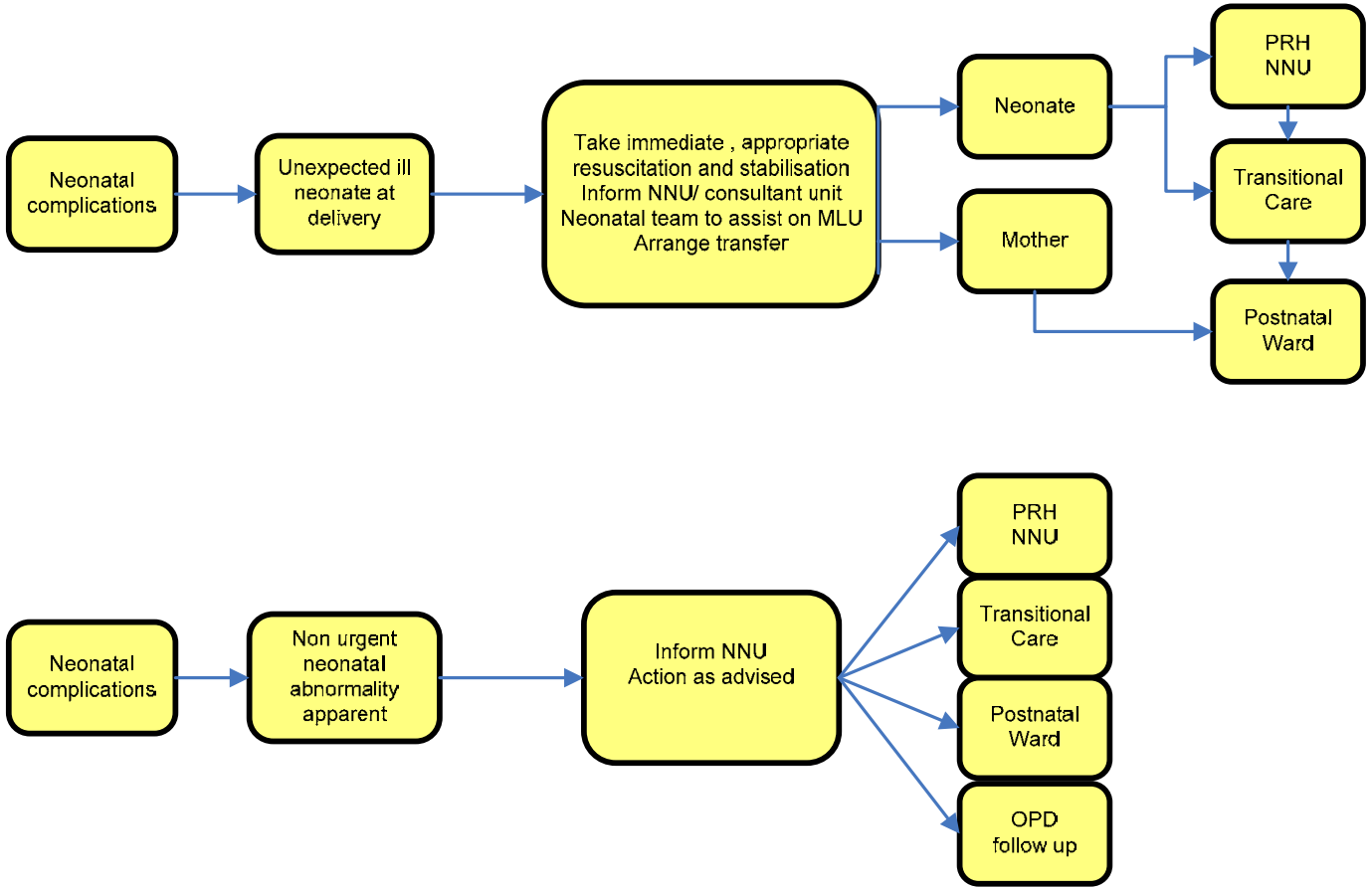


Question 10

The Shrewsbury and Telford Hospital NHS
NHS Trust

3b. Pathway for labour related complications at Wrekin MLU – neonatal complications
Final draft

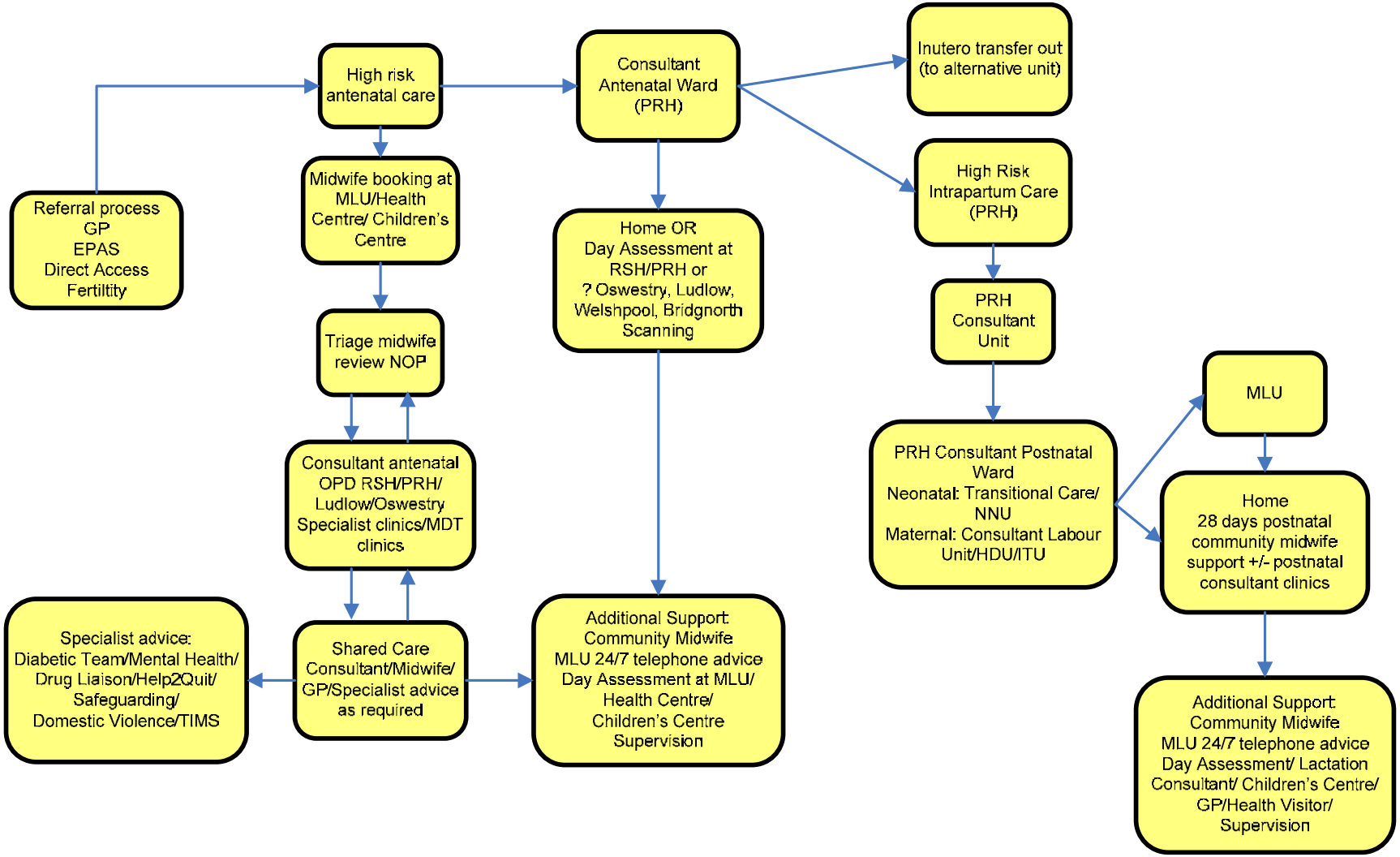
Question 10



The Shrewsbury and Telford Hospital NHS
NHS Trust

4. Pathway for pregnant woman – high risk
Final draft

Question 10



The Shrewsbury and Telford Hospital NHS
NHS Trust

The Future Configuration of Hospital Services

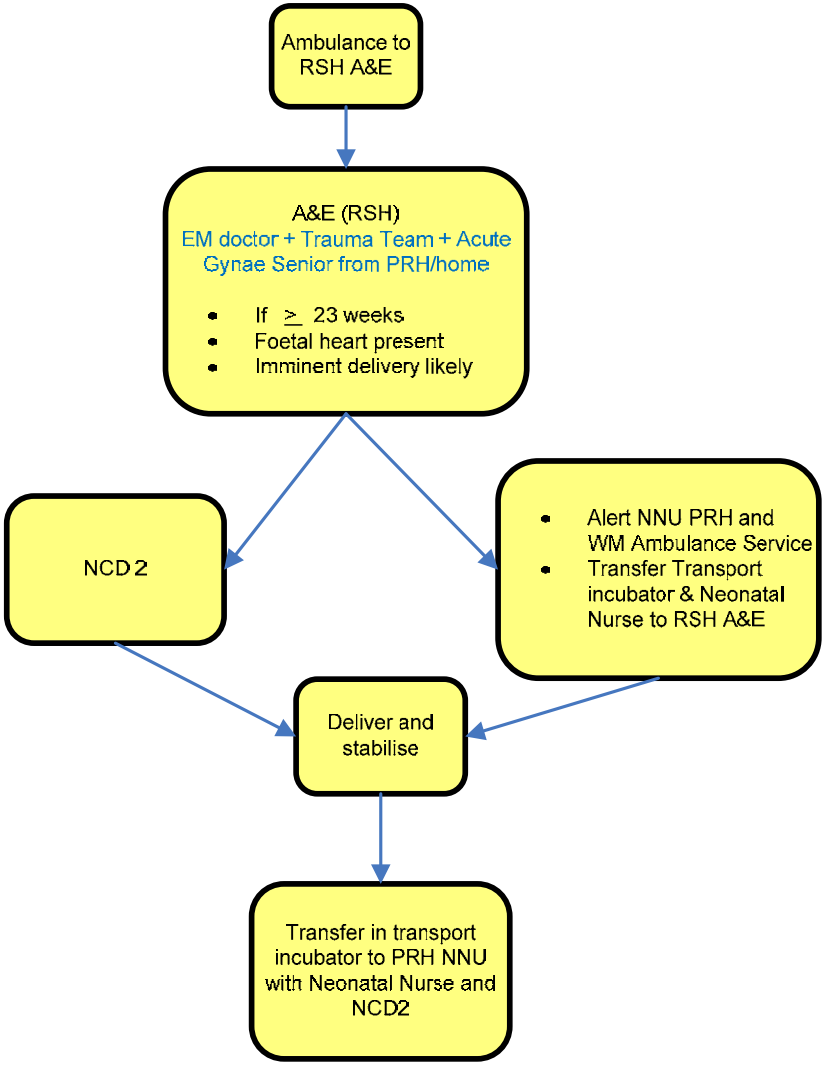
Question 10

Neonatology

The Shrewsbury and Telford Hospital NHS
NHS Trust

1. Known pregnant female with major trauma
DRAFT v1

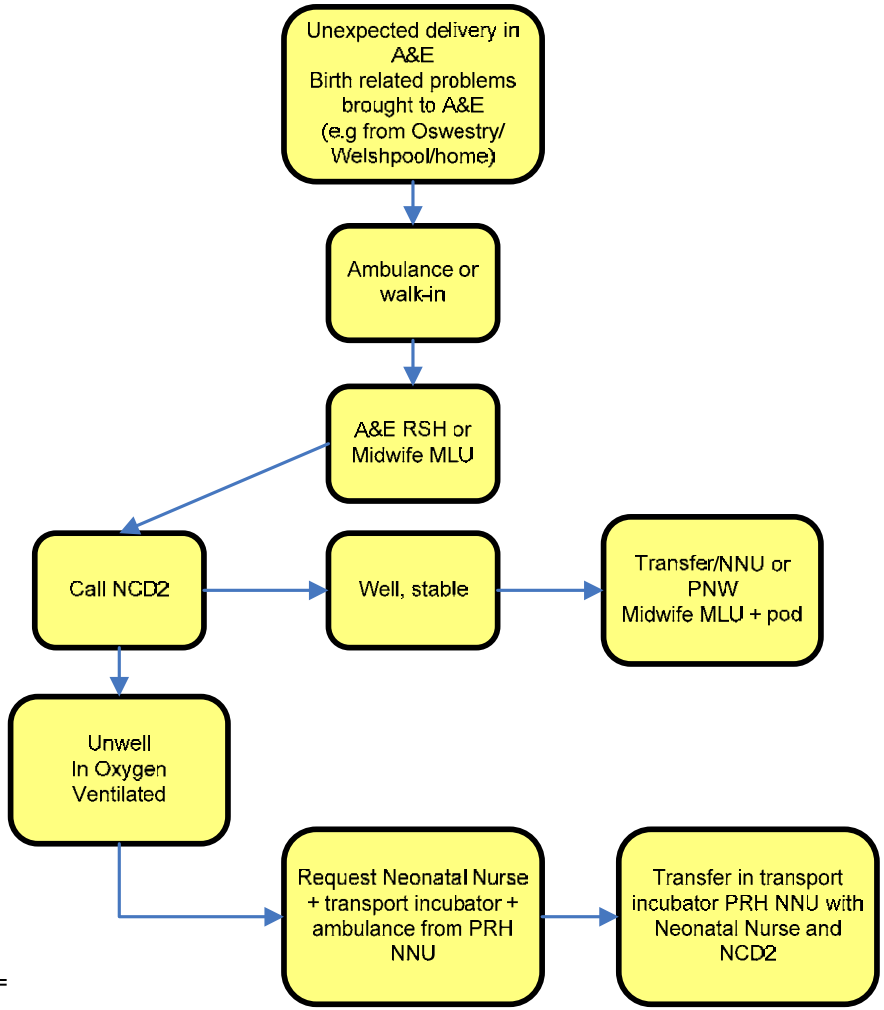
Question 10



The Shrewsbury and Telford Hospital NHS
NHS Trust

2. Unexpected delivery in A&E/birth related problems brought to A&E DRAFT v1

Question 10



NCD1 = Neonatally Competent Doctor 1 = Neonatal Consultant covering NNU PRH

The Shrewsbury and Telford Hospital NHS
NHS Trust

Children's Services Risks and Assurances

Issue/Risk	Raised by	Pathway Ref	Detail
The child with trauma and major trauma (the latter acknowledged as uncommon)	NCAT	Children 4,5,6	The pathway has been agreed. Children with trauma will attend A&E at either site and in the majority of cases, will be discharged home from A&E. If the child requires observation then they will be admitted to the same site PAU. If a child requires an inpatient stay they will be transferred to, or remain at, PRH. A child with major trauma will be taken to the RSH, as a designated Trauma Unit. Here they will be stabilised and then either transferred immediately to Birmingham Children's Hospital or transferred to the inpatient unit at PRH. If their trauma is life or limb threatening then they will have their operation at RSH and once stable, transfer to either BCH or PRH.
The child with critical illness presenting at any location including RSH	NCAT	Children 1a, 1b	This pathway has been agreed. However, it is based on the premise that the PAU at RSH will close overnight. Depending on the outcome of discussions regarding the opening times of the PAU this pathway may therefore change. Should the option be chosen around the 24/7 PAU this would mean that some children would stay at the PAU at RSH overnight rather than being transferred to the inpatient unit at PRH.
Safety and outcome for children in an emergency due to additional travel time	Public consultation		The pathways for critical illness and trauma have been agreed. Many of these children would continue to be taken out of county for the specialist care and treatment they require as they are now. The transport specification has been further defined. This paper and further information on travel has been submitted.
Transfer of paediatric oncology from RSH to PRH	Public consultation		We are incredibly grateful for the hard work by parents and members of the community to raise money to create this important unit. However, because it is attached to the maternity unit we need to plan to transfer this service from its current location. In addition, the oncology unit must be in the same location as the other inpatient children's services and so the move to PRH has been proposed. The new oncology unit would be provided to at least the same standards as now with the addition of a much needed filtration systemsand parents and families have been invited to help design the care environment and the legacy that will remain at the RSH site.
The child with an acute surgical problem	NCAT	Children 2, 3, 6	This pathway has been agreed. The outcome of the PAU discussions may also require some minor re-working of this pathway.
Ensuring that surgeons focusing on Children's surgery at Telford have sufficient training, skills and maintain experience	NCAT	Children 2, 3, 6	The vast majority of children will be transferred from the PAUs at both sites to the inpatient unit at PRH. Discussions are progressing well in terms of developing an increased number of paediatric surgeons at PRH who would also provide an on-call rota. Increasing number of surgeons in training are specialising in both breast and paediatric surgery and it is hoped that a reconfigured service would attract these specialists to Shropshire. The surgeons who currently focus on children's surgery do have the skills, training and experience to operate on children with good clinical outcomes and high quality care. In order to have a sustainable service, and to repatriate some surgery that currently goes out of county, the number of surgeons needs to increase.
Lack of specific care/support for children out of hours at RSH	Public consultation		The vast majority of children access hospital care in-hours and into the early evening. Activity within the Trust significantly reduces around 22.00. Work will continue with WMAS and WAS to ensure that patients are taken directly to the right hospital to be cared for by appropriate medical and nursing teams. For children who do access the RSH out of hours via the A&E department, staff have the necessary skills and competencies in caring for children and their families. An on-call paediatrician would be contacted for advice or to attend if required. The decisions made about the RSH PAU would impact on this with specific staff available 24/7.

Issue/Risk	Raised by	Pathway Ref	Detail
Distance and transport from Wales and north and west Shropshire for patients and their families	Public consultation		The majority of children accessing the Trust do not need to stay in hospital overnight. When they do need to stay in, about 40% do so for less than 24 hours. The additional stress and pressure of travelling an additional 17 miles on top of their current journey for some parents is acknowledged and all attempts will be made to make this as straight-forward and as short a stay as clinically appropriate. The support parents and families coming from outside of Shrewsbury and Telford receive now from the children's services teams would continue.
Added anxiety for parents if their child has to be admitted to PRH - travel; other children	Public consultation		

The Future Configuration of Hospital Services

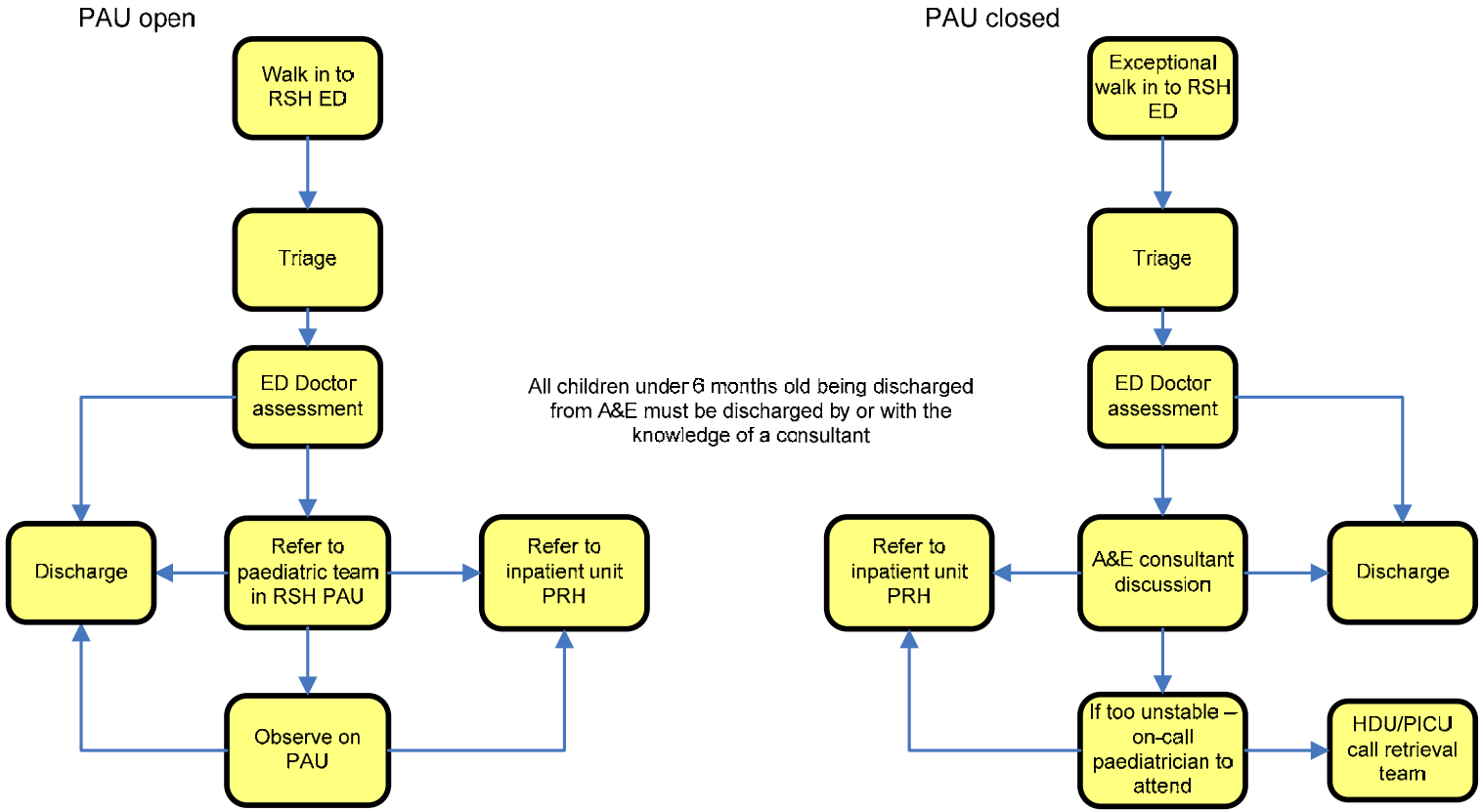
Question 10

Children's Services

The Shrewsbury and Telford Hospital NHS
NHS Trust

1a. Child with illness – RSH walk-in
Final draft

Question 10

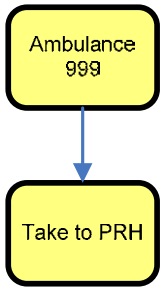


Public awareness re times when PAU is open and closed and advice on accessing PRH out of hours

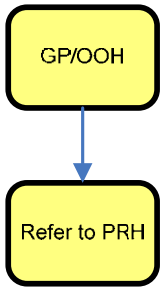
The Shrewsbury and Telford Hospital NHS
NHS Trust

1b. Child with illness – Out of Hours
Final draft

PAU closed



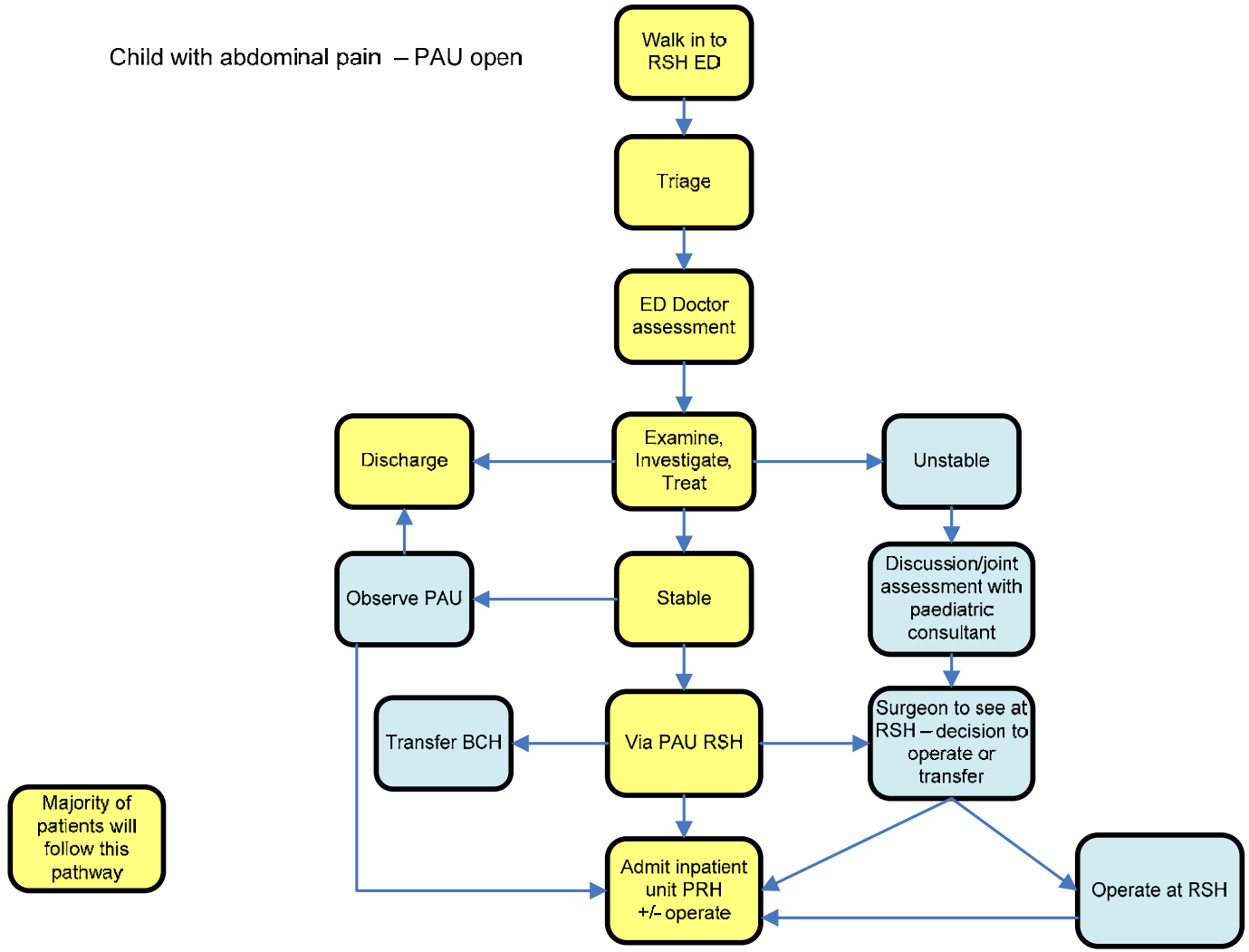
PAU closed



Question 10

2. Child with abdominal pain – RSH PAU open
Final draft

Question 10

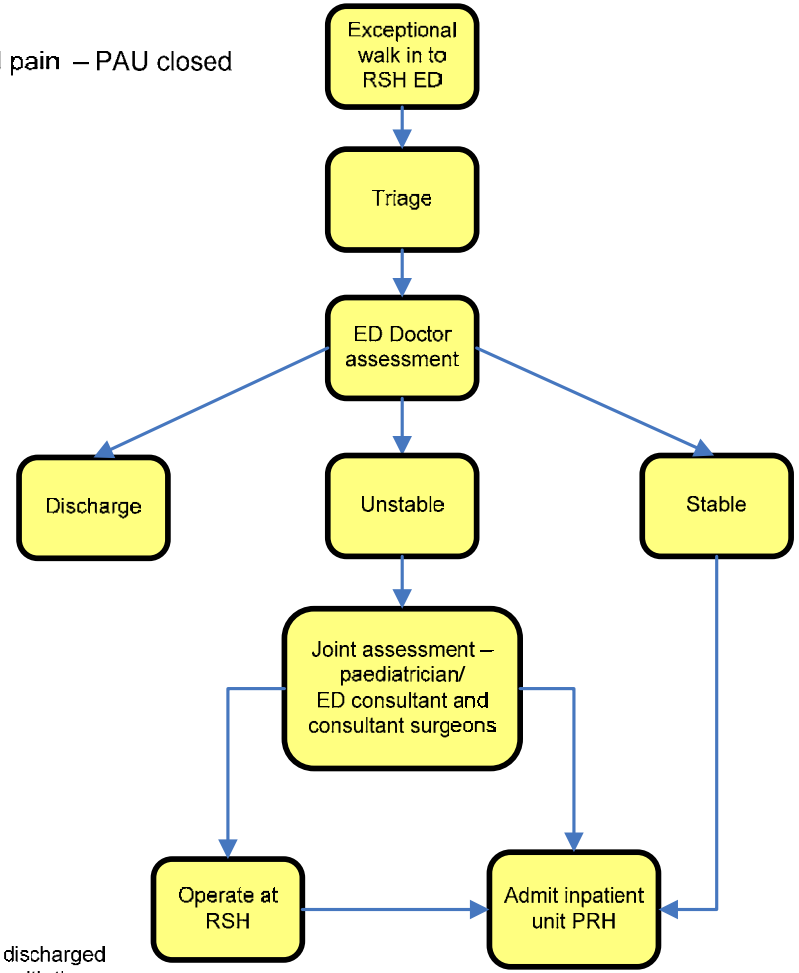


The Shrewsbury and Telford Hospital NHS
NHS Trust

3. Child with abdominal pain – RSH PAU closed
Final draft

Question 10

Child with abdominal pain – PAU closed

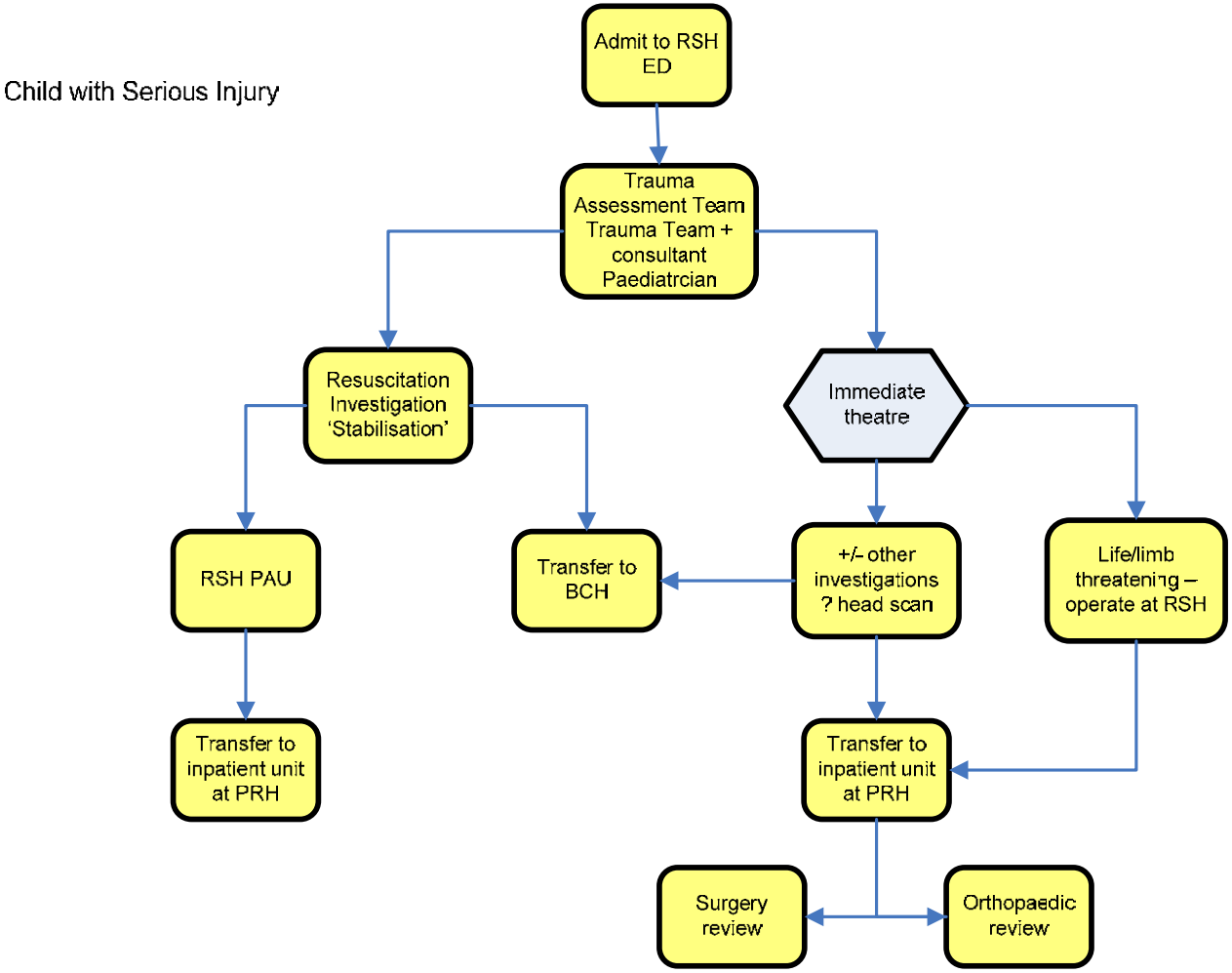


All children under 6 months old being discharged from A&E must be discharged by or with the knowledge of a consultant

The Shrewsbury and Telford Hospital NHS
NHS Trust

4. Child with serious injury – all county
Final draft

Question 10

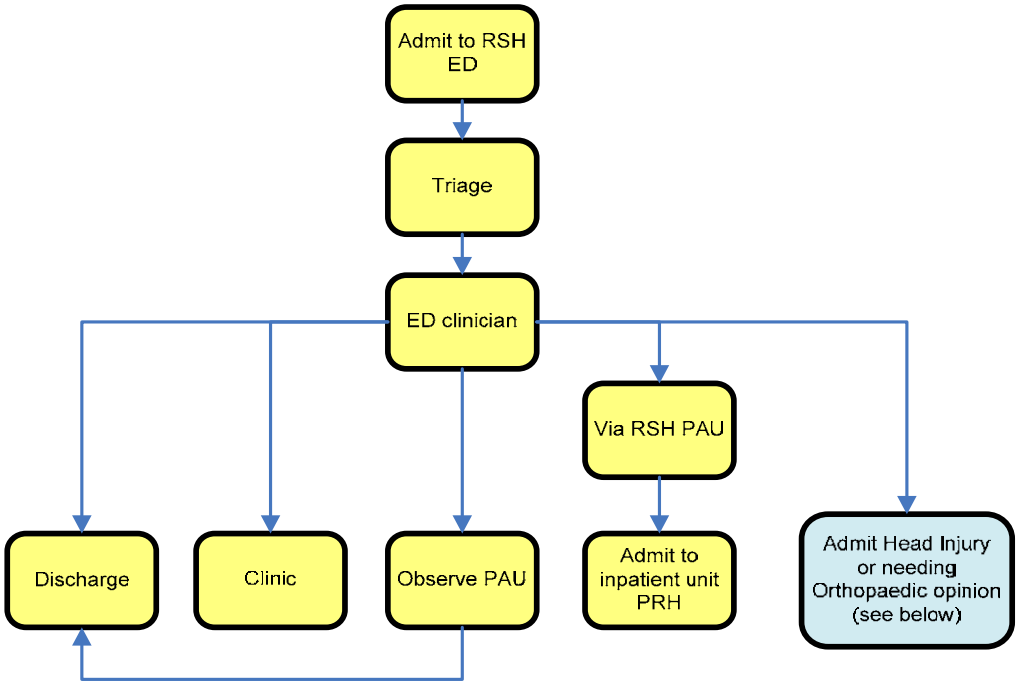


The Shrewsbury and Telford Hospital NHS
NHS Trust

5. Child with injury (not life threatening) - RSH
Final draft

Question 10

Child with Injury (not life threatening)

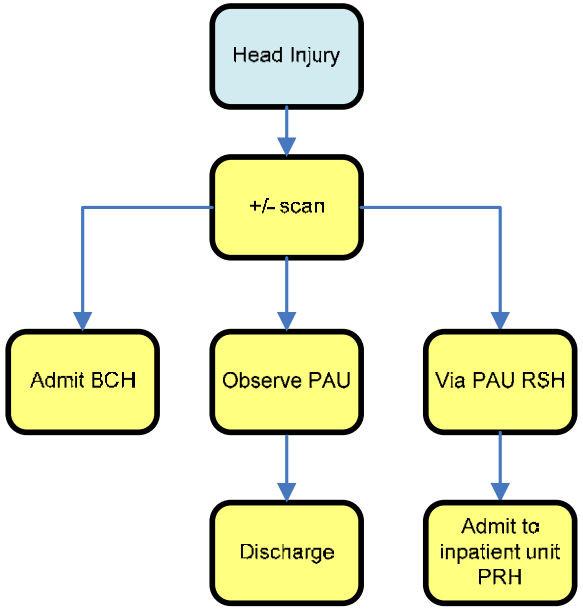


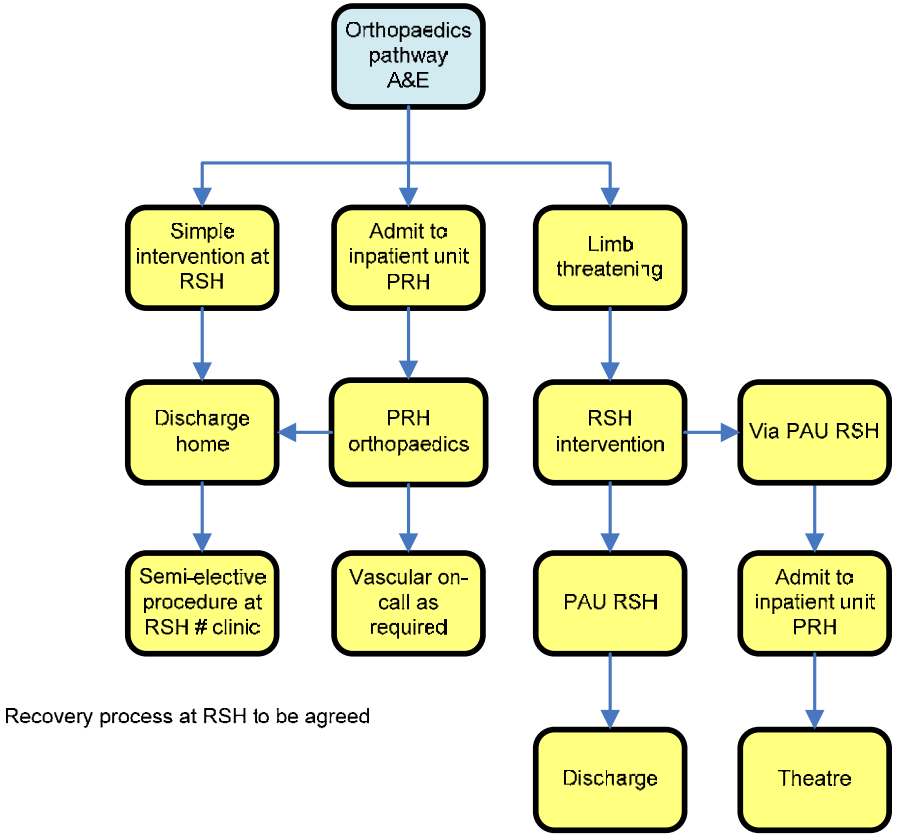
The Shrewsbury and Telford Hospital NHS
NHS Trust

6. Child head injury and orthopaedic pathway - RSH
Final draft

Question 10

Child with Injury (not life threatening)





Recovery process at RSH to be agreed

Surgery Risks and Assurances

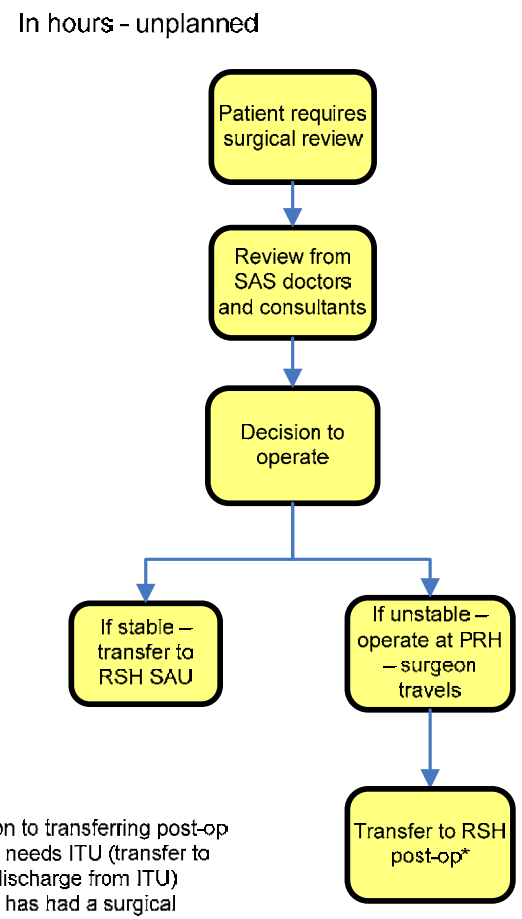
Issue/Risk	Raised by	Pathway Ref	Detail
The child with an acute surgical problem	NCAT	children 2, 3, 6	This pathway has been agreed. The outcome of the PAU discussions may also require some minor re-working of this pathway. The vast majority of children with an acute surgical problem will be transferred from the PAUs at both sites to the inpatient unit at PRH. Discussions are progressing well in terms of developing an increased number of paediatric surgeons at PRH who would also provide an on-call rota. Increasing number of surgeons in training are specialising in both breast and paediatric surgery and it is hoped that a reconfigured service would attract these specialists to Shropshire. The surgeons who currently focus on children's surgery do have the skills, training and experience to operate on children with good clinical outcomes and high quality care. In order to have a sustainable service, and to repatriate some surgery that currently goes out of county, the number of surgeons needs to increase.
Children's surgical pathway in terms of access and continuity of care	Public consultation		
Women with undifferentiated lower abdominal pain	NCAT	maternity/ gynae 6a, 6b	This pathway has been agreed and has the support of the Surgeons. Women will access services at both sites. A set sequence of investigations will determine the nature of their abdominal pain. Women with gynaecological pathology will be cared for and treated at PRH. Women with surgical pathology will be cared for and treated at RSH. GP triage and establishing whether a woman is pregnant or not have been identified as key elements to getting patients to the right hospital first time. Life saving interventions will be undertaken at both sites.
Distance and transport for patients and visitors from Telford and south east Shropshire	Public consultation		The additional distance some patients will need to travel is acknowledged. Shuttle buses would operate between sites for both patients and visitors. Most day case procedures and outpatients appointments would continue on the same site as now. Work with WMAS and WAS would continue to ensure that patients ate taken to the right hospital first time to reduce the numbers of transfers between sites.
Supporting infrastructure at RSH e.g. ITU, theatres, beds	Public consultation		The ITU at RSH is already in the Trusts capital programme as it is acknowledged improvements to this facility need to be made irrespective of reconfiguration. A high-level options paper has been developed for further discussion should the proposed reconfiguration progress. Discussions have started within the Surgery Clinical Working Group regarding theatres, beds, staffing etc and this would continue into a planning phase. There are a number of productivity initiatives already underway within the organisation to improve patient flow, capacity and scheduling which would be a vital element in the required infrastructure plans.

The Future Configuration of Hospital Services

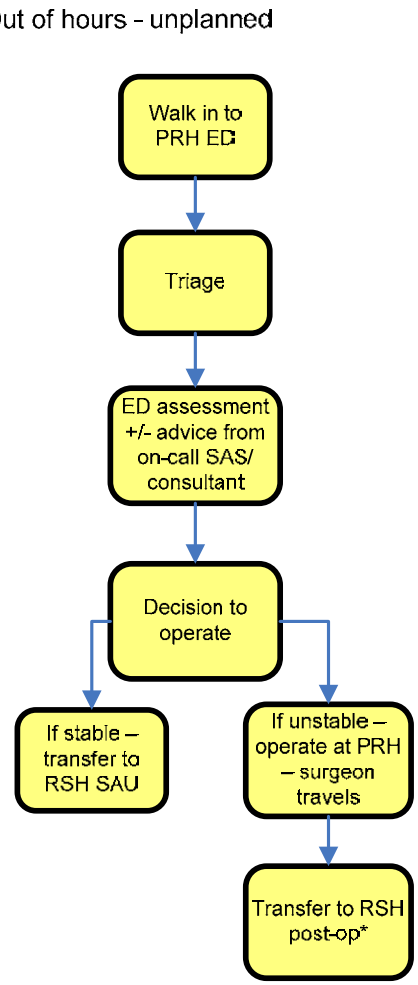
Surgery

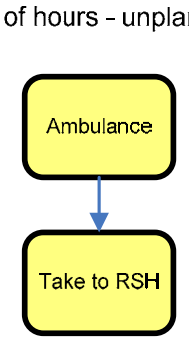
Management of patients at PRH

Question 10



* exception to transferring post-op
1) patient needs ITU (transfer to RSH on discharge from ITU)
2) patient has had a surgical biopsy and can remain under the care of the referring team at PRH





The Shrewsbury and Telford Hospital NHS
NHS Trust

Additional / General Risks and Assurances

Issue/Risk	Raised by	Pathway Ref	Detail
Sustaining high quality A&E services at PRH	NCAT		Both hospitals will continue to have a 24-hour accident and emergency department. Patients arriving at accident & emergency departments will, as now, be assessed, monitored, treated, discharged, admitted and/or stabilised and transferred. Work would continue with WMAS and WAS to ensure that patients are taken directly to the right A&E department e.g. women with likely gynaecological pathology would be taken to PRH whilst those with surgical pathology would be taken to RSH.
Ensuring interventional radiology supports all care pathways	NCAT		Radiology consultants are members of all three clinical working groups and have begun to work through the implications reconfiguration of paediatrics, maternity/gynaecology, neonatology and surgery would have on their team, department and the service they provide. The consultants have confirmed that interventional radiology will support all care pathways and would be supported by a 24/7 rota.
Links with the ambulance service	Public consultation		The West Midlands and Welsh Ambulance Services have been involved in the work to date and would continue to participate in pathway discussions. They are also members of the Clinical Assurance Group. Specific discussions have been held between the Trust and WMAS and the Trust and WAS to understand the impact the proposed changes would have on their service provision. Both WMAS and WAS have been invited to formally respond to the consultation.
Possible confusion about to which hospital patients should go	Public consultation		Information for the public regarding any change to service provision would be planned and implemented using NHS guidance and learning from elsewhere. Pathways have been designed and would be shared with GPs, the ambulance service, out of hours etc with guidance on referral routes and processes. In a planned attendance, clear site information is provided as part of the booking process. If a patient attended the 'wrong' hospital in an emergency, all care would be given by the staff at that site before safe transfer was arranged.

Briefing Note for Local Assurance Panel on 28 February 2011: Travel Time

SUMMARY: It is important note that the systems for managing longer travel times for women at all stages of pregnancy and birth than those proposed as part of this reconfiguration, are already in place. The early identification and management of risk is part of all clinicians' current practice and is documented in the future pathways. The ambulance service is committed to working with the Trust in exploring ways of reducing the overall pre-hospital journey. The anxieties that increased travel times can generate for midwives will be addressed through training, support and education.

The increased travel time for some patients has been the focus of much discussion during the consultation phase of the Future Configuration of Hospital Services Programme. The attached papers aim to provide the Local Assurance Panel with further assurance of the Trusts position on this important issue. It includes:

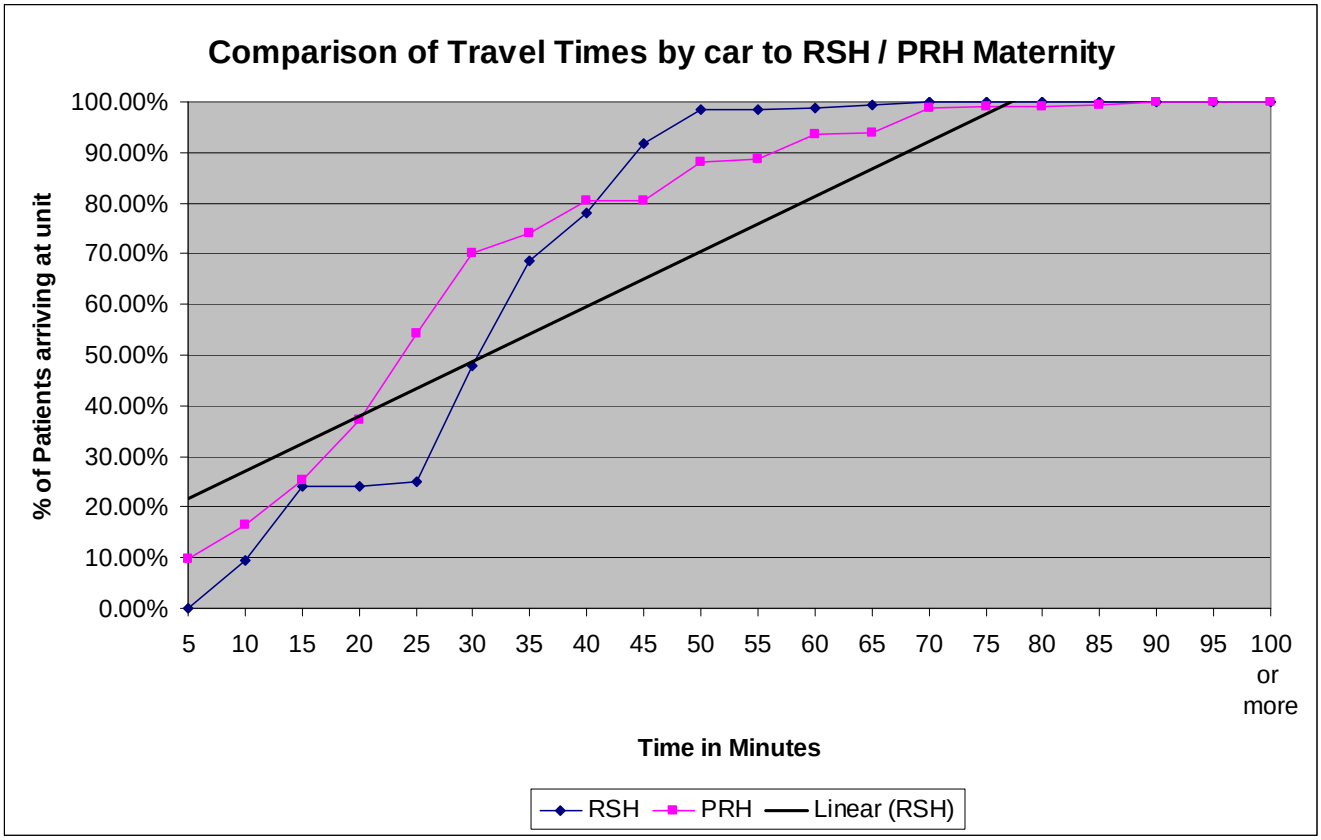
- Data on travel time analysis of women who have delivered their babies in the consultant unit, mapped against the RSH and PRH arriving within 20 and 60 minutes
- Data on the number of births by GP practice for Shropshire, Telford and Wrekin (this data is drawn from Dr Foster and only includes the NHS in England)
- Data on the non-elective admissions for children between the ages of 1 and 14 by GP practice
- A paper on the mitigation of risk from travel time and an analysis of the recent study by Ravelli et al

Data on travel time analysis of women who have delivered their babies in the consultant unit, mapped against the RSH and PRH arriving within 20 and 60 minutes

	RSH	%	PRH	%
Number of patients that could get to hospital within 20 minutes	1875	24.18%	2874	37.06%
Number of patients that could get to hospital within 60 minutes	7651	98.67%	7266	93.71%

BASED ON 2008/09 and 2009/10 BIRTH FIGURES - Consultant Unit Deliveries only

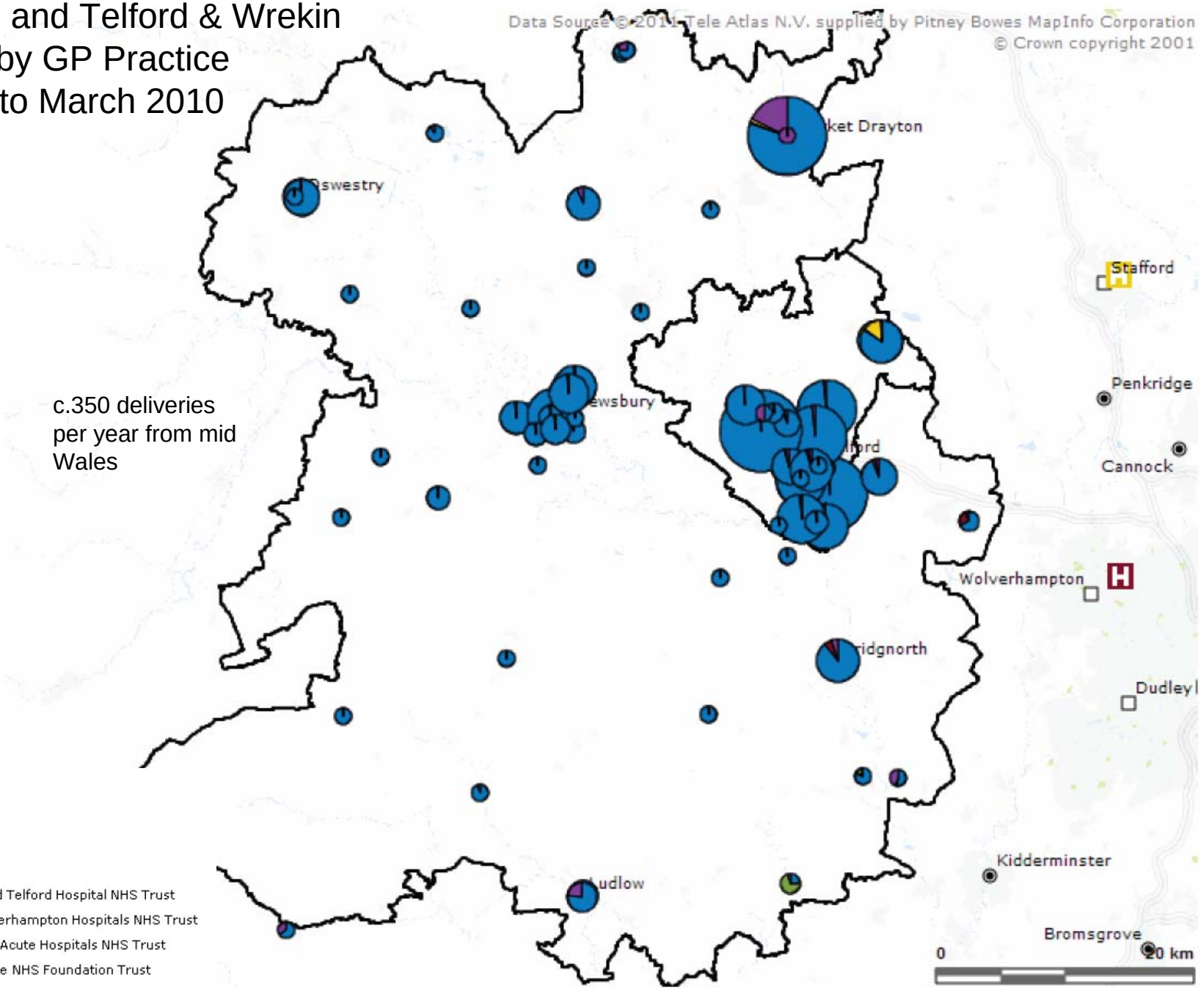
7,754 deliveries have been included in study (There were 7,837 deliveries between 01/04/2008 and 31/03/2010 - some postcodes were out of area)



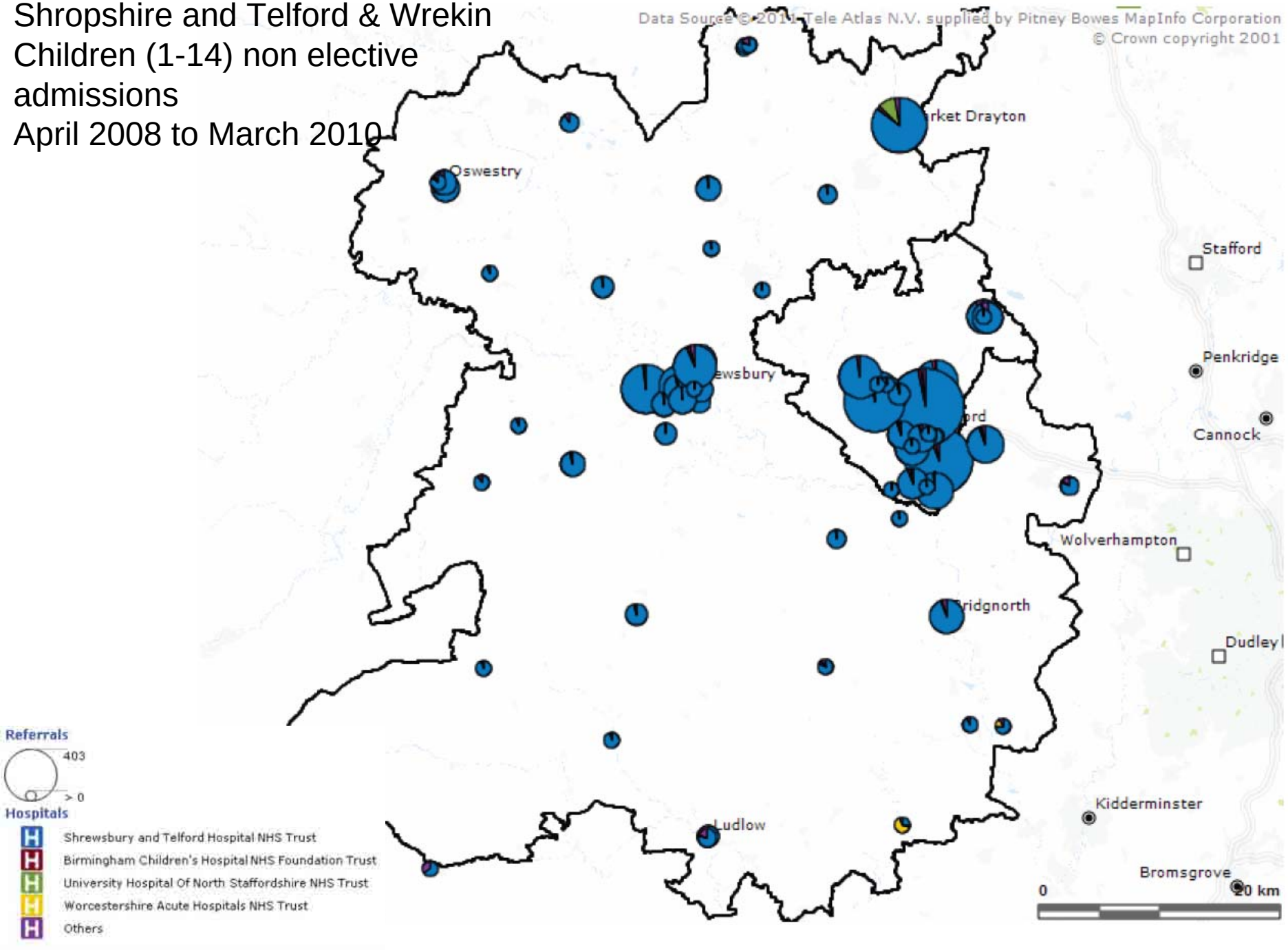
When comparing the consultant deliveries population for 2008 - 2010, if all patients were to have travelled to RSH for delivery, **24.18% of patients would have arrived at RSH within 20 minutes. 98.67% would have arrived within 60 minutes.** In comparison, if the delivery population had travelled to PRH, **37.06% would have arrived at PRH within 20 minutes. 93.71% would have arrived within 60 minutes.**

Question 10

Shropshire and Telford & Wrekin
Deliveries by GP Practice
April 2008 to March 2010



Shropshire and Telford & Wrekin
Children (1-14) non elective admissions
April 2008 to March 2010



Question 10

Mitigation of risk from additional travel time

The findings from the analysis of travel times suggests that; in terms of when comparing the consultant deliveries population for 2008 - 2010, if all patients were to have travelled to RSH for delivery, 24.18% of patients would have arrived at RSH within 20 minutes. 98.67% would have arrived within 60 minutes. In comparison, if the delivery population had travelled to PRH, 37.06% would have arrived at PRH within 20 minutes. 93.71% would have arrived within 60 minutes.

The benefit of the shorter travel times for the 12.88 % of this group and the increased risk to the 4.96% are not known and local clinical outcomes have not been reviewed against travel time. The only recent study we are aware of is the Dutch study (ACJ Ravelli et al 2011); see additional information provided for summary.

SaTH's clinical guidance for management of antenatal, intrapartum, postnatal and neonatal care currently takes account of the travel and transfer times associated with our rural location. The proposed change will not require any specific change to practice. However, review of our guidance, training and such elements as resuscitation equipment can only strengthen the governance of our processes.

During my communications with the Head of Midwifery for Powys Julie Richards, she has confirmed that the midwifery guidelines in place in Powys already anticipate transfer times greater than those proposed in the reconfiguration proposals.

Both Julie and myself accept that increased transfer times do generate anxiety amongst women, their families and midwives and if the proposals are to be implemented we will work together to address these anxieties.

Although the distances between the units can not be changed the transfer times can be minimised with increased ambulance response times. Clinical guidelines require early review of women transferred in labour ensuring that the opportunity for intervention, if required, is not delayed following the transfer to a consultant unit.

Regardless of the implementation of the reconfiguration plans we will continue to review and strengthen training and guidance for staff, particularly neonatal resuscitation in order to maximise clinical outcomes following transfer.

Travel times to maternity units

Intuitively distance from a hospital would be expected to independently determine the outcome of an illness. This has been demonstrated in such life threatening conditions as trauma and acute cardiac disease. Very few studies have been done looking at obstetrics and midwifery care in this light and the few done do not seem to demonstrate an independent effect. A recent Dutch study (ACJ Ravelli et al 2011) looking at a birth population of 751926 singleton term births seems to demonstrate that travel time beyond 20 minutes from home to the place of delivery is an independent variable when looking at intrapartum and neonatal mortality or intrapartum and neonatal mortality combined with low APGAR and admission to a neonatal unit. From the study it appears that risk of these adverse events increases as time increases although the study becomes weaker at longer travel times. The Dutch midwifery system is very different from general UK practice but does have some similarities with Shropshire practice where low risk women are delivered at home or peripheral units and high risk women are delivered in the hospital setting with care supervised by obstetricians. In this study 81% women delivered in the hospital setting.

Travel for longer than 20 minutes was associated with an increase in intrapartum and neonatal mortality but the significant difference appeared to be related to neonatal mortality. Mortality was lowest in those delivering in the low risk units. Mortality increased for those transferring during labour to high risk units but travel time beyond 20 minutes did not have an effect that was statistically significant. For those women considered to be high risk and delivering in the high risk unit (consultant

unit|) then travel time beyond 20 minutes was an independent variable for mortality and adverse outcome. In the study it showed that the effect on adverse outcomes increased the longer the travel time. The authors accept that the association between travel time and outcome may not be causal and feel that further research is needed and that travel time should be a factor looked at when adverse events happen. They recognise that other studies have not come to the same conclusion that travel time itself is an independent risk for adverse pregnancy outcomes. They do however feel that the information they have supplied can be used in health care planning particularly in the rural setting.

If one were to transcribe the excess risk calculations to the Shropshire population then we could look at the effect of a consultant unit based at RSH or PRH on predicted travel related risk. This is a dangerous thing to do as so many assumptions have to be made but such a process may identify an underlying trend of risk or benefit.

Briefing provided by:

Mr Andrew Tapp, Consultant Obstetrician and Gynaecologist, The Shrewsbury and Telford Hospital NHS Trust

Cathy Smith, Head of Midwifery/ Service Delivery manager Women and Children's Services, The Shrewsbury and Telford Hospital NHS Trust

4 March 2011

Keeping it in the County

Securing the future of hospital services in Shropshire, Telford and Wrekin

11) How will the WMAS plans for the Make Ready system support the implementation of these proposals?

12) Clarification of any additional costs identified by the WMAS in relation to increased demand for transfers and increased journey times. This should include the cost and time required to train additional paramedics required.

This information to be provided by West Midlands Ambulance Service NHS Trust.

Keeping it in the County

Securing the future of hospital services in Shropshire, Telford and Wrekin

13) Are there any other options to mitigate risks that have been identified during the consultation process? Do these options involve additional costs and if so how will these costs be covered?

Briefing Note:
Risk Mitigation Options

SUMMARY: In relation to the feedback received from patients, the public and staff on the proposal for women's and children's services and acute surgery, as part of its risk mitigation strategies there are four main areas that the Trust is exploring further. These are: Paediatric Surgery; Opening hours of the Paediatric Assessment Unit at RSH; Emergency transfer journey; Telemedicine; and, Stroke.

Paediatric Surgery

The proposal for paediatric surgery is detailed in the response to Question 1. It is not expected that this will generate additional costs.

Paediatric Assessment Unit (PAU)

The role, scope and opening times of the PAU are explored in the attached options paper that was submitted to the Local Assurance Process on 28 February 2011.

There was much discussion about the opening of the PAU at the Local Assurance Panel with experts from elsewhere expressing caution in assuming a need for a 24/7 service. The work to understand the demand and capacity, including the detail behind access times of children now, has already begun and will be key in determining the design of the PAU. The workforce requirements of the PAU are being developed. Additional costs relating to the PAU are expected to be off-set by the efficiencies made in providing a single inpatient service within a dedicated Women's and Children's centre.

Emergency Transfers

The Trust, in partnership with the PCTs and ambulance Trusts, has made a commitment to tackle the issues relating to emergency transfers into hospital irrespective of the outcome of the consultation. This work has already begun and currently focussed on the West of Shropshire and Mid Wales. A recent meeting with Trust, PCT and ambulance representatives, a GP commissioner and three local councillors from those areas was held and further work agreed. This involves understanding the current activity and response times, the reciprocal arrangements that are in place between West Midlands Ambulance Service and the Welsh Ambulance Service, the role of community first

responders and how innovative solutions around community solutions and telemedicine can be explored.

There is acknowledgement within all organisations that the emergency journey has many elements. It is also agreed that there is much we can do to minimise the additional travel time from RSH to PRH if we improved all aspects of the travel time compound.

The travel time compound includes:

- The time spent assessing whether to travel
- The time spent waiting to travel
- The time spent loading
- The time spent travelling
- The time spent unloading
- The time spent waiting to return the ambulance

Both ambulance Trusts are modelling the impact of the increased distance they may have to travel with some patients and the impact this will have on their turn-around time. It is expected that getting people to the right hospital first time and the improvements made in the travel time compound will mean any increase in resource required is material.

The travel time paper and a report from the children's working group on standards for paediatric transfers that were also submitted to the Local Assurance Process are also attached.

Telemedicine

The direction of travel for telemedicine is described in the response to Question 16. In terms of cost, evidence from elsewhere shows a long term saving when delivering care remotely via telemedicine.

Stroke

The consultation document invites people to comment on the future of stroke services within the county.

Working with local clinicians, and in response to the comments we have received, the Trust is working to develop a model for 24/7 stroke thrombolysis service at both sites from May 2011. Currently, the service is available from 08.00 to 20.00 at both sites and from 20.00 to 08.00 at PRH.

This employs a telemedicine solution to provide remote support from a specialist stroke physician to on-site clinicians to support appropriate decision-making about the appropriateness of prescribing clot-busting drugs. The service model is currently being developed, and this approach is subject to support from local commissioners following consultation.

Additional revenue consequences of providing a 24/7 service on both sites are not expected.

Next Steps

Further to work to consider and address risks will be taken forward in the work to develop the Outline and Full Business Case, which will need to be agreed with PCTs and the Strategic Health Authority.

Briefing Note:
Paediatric Assessment Unit

Background

Paediatric Assessment Units (PAU) at both the Royal Shrewsbury Hospital (RSH) and Princess Royal Hospital (PRH) are key to a reconfigured Children's Service within the county and form an important part of each one of the children's care pathways.

PAUs are not new and have been part of the inpatient wards at both sites for many years. Neither Unit was established to be a stand-alone service or to operate 24 hours a day. Children accessing the PAUs do so for a number of reasons and are assessed, monitored, observed and treated in a planned or unplanned way. The majority of children are discharged home from the PAU. The small numbers who require an overnight stay following an unplanned visit to the PAU are transferred to the on-site inpatient ward.

The RSH PAU

In the proposed option for the reconfiguration of hospital services the PAU at the RSH site will be a stand-alone service as it will not have an on-site inpatient ward.

PAU 08.00-22.00

Early discussions within the Children's Clinical Working Group have suggested that the PAU should be open from 08.00-22.00 or 08.00-00.00. Very few children access hospital services during the night and so the vast majority of patients who need to access the PAU service would do so during these times.

The PAU would close to new patients two hours prior to closure to enable assessment, monitoring, treatment and/or safe discharge home or transfer to the inpatient site if required. A comprehensive advertising campaign would be needed to advertise the opening time of the PAU at RSH and which services to access outside these hours. For example, outside the PAU opening hours, ambulances and GP admissions would be directed straight to Telford.

The model of clinical staffing would be a mix of consultant, middle grades, Paediatric Nurse Practitioners, children's nurses supported by health care assistants and ward clerks.

PAU 24/7

A number of consultants, nurses and programme staff visited the Calderdale and Huddersfield NHS Foundation Trust on 15th February 2011. The configuration of services at the Trust has similarities to the option proposed in Shropshire in that consultant maternity, neonatology and paediatric inpatients are on one site whilst major trauma, a paediatric assessment unit and surgery are on the other site. The sites are 5.5 miles apart.

The PAU at the non-inpatient unit site is open 24/7. The service is delivered by a team of Paediatric Nurse Practitioners (PNP), paediatric registrars and registered children's nurses. The unit is supported by an on-call Paediatrician and patients with orthopaedic and surgical needs are managed by the relevant speciality medical team. The PNPs work from 21.00-14.00. The Registrars work from 20.00-15.00 enabling an hour hand over at each shift change. Registered Children's Nurses work on the unit 24/7. They also have administrative support.

As part of the ongoing planning and implementation process we propose to review the advantages and disadvantages of the PAU being open 24/7.

Walk-Ins

As described above the opening times of the PAU would be well advertised. However, there may be a small number of occasions when parents arrive with their ill child to the A&E at times when the PAU is not open RSH. Whilst all A&E staff are trained to care for children in an emergency, having paediatric trained staff on site would offer a model for providing 24-7 on-site assessment.

Orthopaedics

If the PAU at RSH was open 24/7, children living nearer to Shrewsbury than Telford who need a simple orthopaedic procedure under general anaesthetic would be able to have their surgery and post-op care at the RSH and RSH PAU rather than having to be transferred to the inpatient unit at the PRH.

Services within the PAU

Both PAUs should:

- Deliver a good, high quality child/family experience
- Provide care as close to home as possible
- Keep admissions as short in time as possible
- Provide reliable support for children with long term illnesses
- Minimise travelling, where possible, for medical care

The PAU should be located near the A&E departments to facilitate the fast and safe transfer of patients. The units should also have safe and managed access due to the high volumes of people in these parts of the hospitals.

Activities

The current PAUs undertake both planned and unplanned/emergency activity. This would continue in a reconfigured service.

The planned service would include:

- Investigations
- Reviews
- Procedures that require sedation
- Phlebotomy

The unplanned/emergency service would include:

- Assessment, treatment and observation of unwell children

Whilst it is envisaged that a large proportion of children attending the PAU would be discharged home, a number may require an over-night stay as part of their treatment and care. In the 24/7 model, these children would remain on the PAU and only be transferred if they required a longer stay in hospital. In the 08.00-22.00 model, children requiring an overnight stay of any length would be transferred to the inpatient unit.

Transfers and transport

The safe transfer of children between the two hospitals is paramount. Paramedics from the West Midlands Ambulance Service (WMAS) have attended the Children's Clinical Working Group meetings to help inform the discussions on this issue. WMAS routinely transfer children, many of whom are very sick, in and out-of county and so have the knowledge, skills and competencies to move children safely.

The high-level transport/transfer requirements are detailed in a separate paper (Paediatric Transport)

In addition, an audit is currently underway at RSH to understand current patient activity in terms of a likely need of an inpatient stay and associated individual transfer and transport needs. This is due to be completed at the end of March 2011.

Further work

There is clearly more work to do in the development of the model of the paediatric assessment service. This will be influenced by the on-going conversations with staff on the future children's service, work and discussions within the Children's Services Clinical Working Group, the feedback received from patients and the public as part of the public consultation, and continued work with patients/carers and partners as part of the planning and implementation work that would be needed following consultation.

Briefing provided by:

Kate Shaw, FCHS Programme Manager, The Shrewsbury and Telford Hospital NHS Trust

Dr Frank Hinde, Consultant Paediatrician, The Shrewsbury and Telford Hospital NHS Trust

Briefing Note:
Travel and Travel Times

An increase in travel time and distance for patients, their families and visitors as a result of the proposed reconfiguration have been raised as major concerns by patients, the public and a number of clinicians. Further detailed work in the planning and implementation of a robust travel solution would be required should the reconfiguration of surgery, paediatrics and maternity progress.

This paper therefore outlines the process and work to date that has been undertaken to understand these important issues. It also describes the high-level themes that have come out of the clinical working groups and specific discussions with the ambulance services on this issue.

Included as an annex to this paper is "Transport – A guide for the Children's Working Group" which details the specification for the safe transfer of children.

Current Position

It is important to note that many transfers of patients, often in an emergency, are undertaken each day by the West Midlands and Welsh Ambulance Services. In addition, contracts are also in place for the non-emergency transfer of patients from their home or community hospital for example into the Trust. A number of transfers also take place between the two hospital sites.

The emergency of transfer of patients either by paramedic road vehicle or air ambulance to the specialist regional centres in Stoke, Wolverhampton and Birmingham is also a regular occurrence.

The issue for discussion is therefore around the additional travel time and distance for a number of patients, especially those living in the West of Shropshire and Wales.

It is worth noting that for a number of patients the travel time and distance of accessing certain services, consultant-led maternity care for example, is significantly reduced. Trust Clinicians involved in specific discussions around this issue are keen to avoid detailed conversations in terms of 'it's nearer for X%' and 'it would be the same for Y%' stressing that for a number of patients, there will be an increased journey time and distance.

Approach

The West Midlands Ambulance Service (WMAS) have been part of all the clinical working groups. Their contribution has been vital in understanding the current processes, journeys and operational issues. In summary, WMAS have stressed the need for:

- clear pathways of care that help them get the patient to the right hospital, first time
- a continued use of operational notices to support the delivery of the pathways
- further discussion on the commissioning of their service to ensure that this accurately reflects longer turn-around journey times due to the additional distance for some patients i.e. taking a patient from Oswestry to Telford rather than Shrewsbury will mean that the ambulance will be with that patient longer and so are not available to respond to other calls.

WMAS and the Welsh Ambulance Service are also both part of the Clinical Assurance Group and attended the first meeting on 8th February.

Specific meetings and discussions have also been held with representatives from the Welsh Ambulance Service (WAS).

2009/10 data has been shared around journeys into Shrewsbury. This equates to around 3,500 journeys per year across all specialties (approximately 10 per day). On the data supplied (attached at appendix 1) approximately 3% are coded under the complaint of 'pregnancy/childbirth/miscarriage', equating to about 100 women a year. It can therefore be assumed that approximately 2 women a week may need to go to PRH rather than RSH as they do now.

There is no pediatric specific data as ambulance services record a ‘complaint code’ rather than a diagnostic code. It is therefore not possible to determine the numbers of children transferred in or women with a gynaecological need and more work will need to be done to be able to understand the likely impact for these groups.

The Trusts discussions with WAS have raised one key issue, that is operational concerns of an increased turnaround time (as described above) on their ability to respond to an emergency call. WAS suggest that this could be mitigated by three developments:

- the outcome of current discussions with the Welsh Assembly Government regarding additional vehicles (the commissioning of the WAS is direct from the Welsh Assembly Government and is not the responsibility of Powys Local Health Board)
- developing maternity services so that access to midwives is increased and they are available when called to assist
- improved recruitment - keen to recruit from local areas but struggling to recruit

Both WMAS and WAS agree that the pathway work completed by the three clinical working groups has been a useful starting point in beginning to understand the impact the proposed reconfiguration would have on the services they provide and acknowledge the need for ongoing work and discussion.

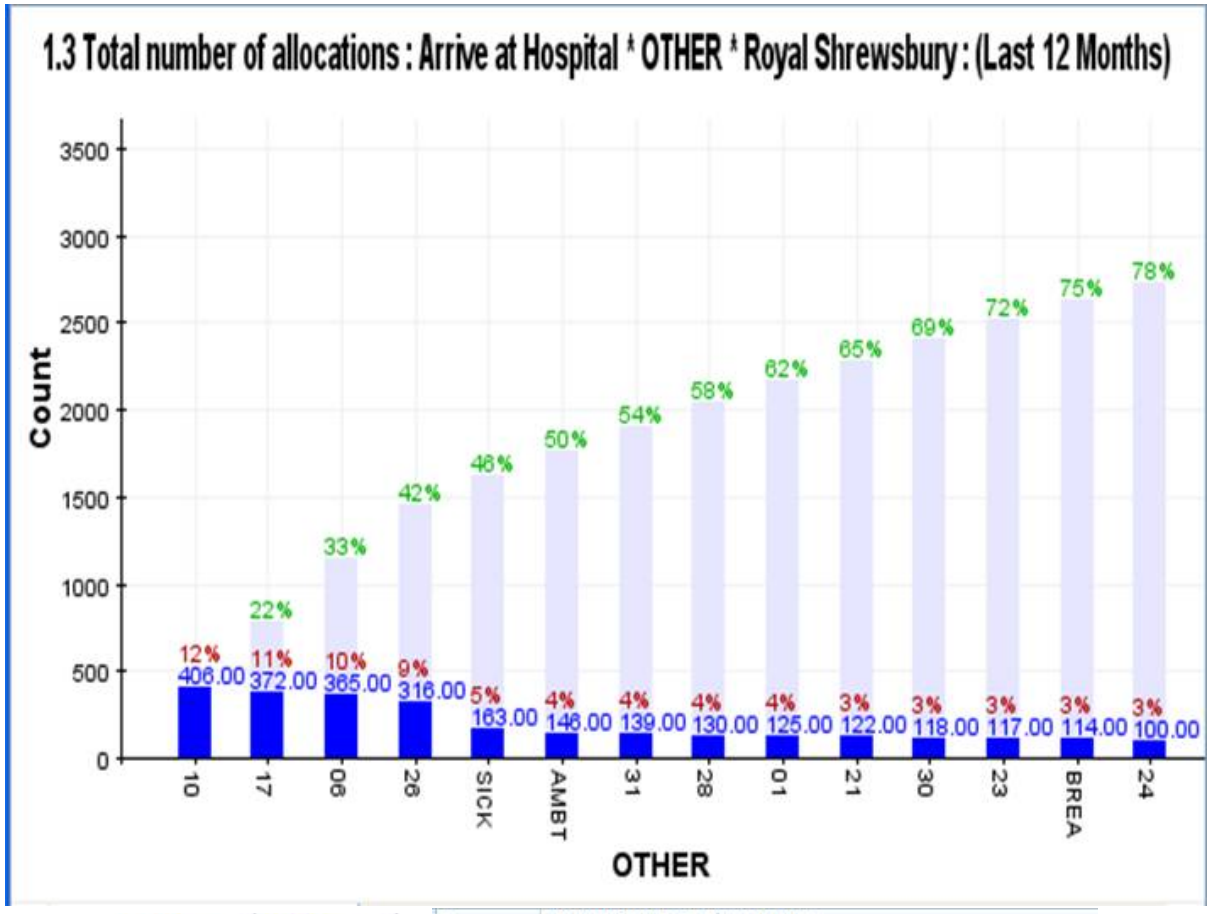
Ongoing work

Further modelling work is currently being undertaken by WMAS to map the journeys of surgical, obstetric and paediatric patients to each of the hospital sites and the transfers between sites that are currently undertaken.

The specified transport and transfer needs within each pathway will continue to be worked through and discussed.

Representatives from both WMAS and WAS joined the Trust, the PCTs, Powys LHB and Betsi Cadwaladr NHS Trust at a Strategic Forum on 25 February 2011. The impact of services changes within all organisations were shared by the Chief Executives and Lead Executives at this meeting to ensure the likely interdependencies and impacts on patients are explicit. It was agreed that the organisations would continue to meet to review these issues.

Appendix 1: Welsh Ambulance Service Data 2009/10



Datum	Value
Feb-10	277
Mar-10	279
Apr-10	279
May-10	315
Jun-10	316
Jul-10	266
Aug-10	308
Sep-10	302
Oct-10	285
Nov-10	278
Dec-10	311
Jan-11	290
Total	3506

1	Abdominal pain / problems
2	Allergies(Reactions)/Envenomations (stings, bites)
3	Animal bites/Attacks
4	Assault/Sexual Assault
5	Back pain(non-traumatic or Non-recent trauma)
6	Breathing problems
7	Burns(scalds)/Explosion (blasts)
8	Carbon Monoxide/nhalation/HAZCHEM/CBRN
9	Cardiac or respiratory arrest/Death
10	Chest pain (Non - Traumatic)
11	Choking
12	Convulsions/fitting
13	Diabetic Problems
14	Drowning (near)/Diving/SCUBA Accident
15	Electrocution/Lightning
16	Eye problems/injuries
17	Falls
18	Headache
19	Heart problems A.I.C.D
20	Heat/cold exposure
21	Haemorrhage/Lacerations
22	Inaccessible incident/other entrapments(non vehicle)
23	Overdose/poisoning (ingestion)
24	Pregnancy/Childbirth/Miscarriage
25	Psychiatric/Abnormal behaviour/Suicide attempt
26	Sick person (specific diagnosis)
27	Stab/Gunshot/Penetrating trauma
28	Stroke(CVA)
29	Traffic/Transportation incidents
30	Traumatic Injuries (specific)
31	Unconscious/fainting (near)
32	Unknown problem (Collapse - 3rd party)
33	Transfer/interfacility/Palliative care
34	ACN (Automatic crash notification)
35	Health Care Professional Admission

Transport

A Guide for the Children's Working Group

Richard Brough

This document explores - at high level - the requirements for the transfer of children between the RSH & PRH sites. It assumes the current proposals (A&E / Trauma / Surgery at RSH, inpatient Paediatrics & Neonatology at PRH) are the configuration adopted.

Situations

The population in question can broadly be split into 2 categories: Neonatal and Paediatric. There is unlikely to be a clear, inflexible distinction between these 2 groups, with some flexibility to use the appropriate setup depending on individual circumstances.

Further, the Paediatric category can be sub-divided depending on the level of dependency required.

A summary of the categories / sub-categories is in the table below.

Neonatal	Paediatric
	Own Car / Hospital Car
	Paramedic
Nurse Escort Doctor & Nurse Escort	Nurse Escort Doctor & Nurse Escort

Selection

This will need to be a joint consideration by the nursing staff and the medical staff at the "referring site" (ie PAU, A&E, MLU, etc), based on the clinical condition of the child and the expected evolution of this condition.

Requirements

For all but the "Own Car" situation, the Trust will need to ensure that there is an appropriate vehicle and appropriate equipment available to transport the expected number of admissions across the county. This vehicle / equipment must be available in a timely manner.

Question 13

Options for achieving this:
- contract with WMAS
- contract with alternative ambulance provider (such as the WMPRS service contract)
- purchase own ambulance / employ personnel

Of paramount importance is sufficient capacity to allow the PAU to close on time.

For all situations, there will need to be a mechanism for transfer of the medical / nursing notes between sites. This is a similar issue facing the PAU and access to PAU notes should the patient re-present to the main unit. It may be appropriate to initiate a 'paperless notes' project to overcome this hurdle.

Vehicle

1. **Nurse / Doctor Escort (Neonatal or Paediatric):**
   This will be required for the patient requiring HDU- or ITU level of care.

   The vehicle will need to be equipped with air (as well as oxygen) to allow safe neonatal transfers as well as paediatric ones. It should have a power supply that is usable by the transfer team.

   It will need sufficient space to accommodate a neonatal transport crib or a paediatric trolley, as well as the monitoring / equipment required for a HDU-level child.

   It should also be able to safely transfer the child, the nurse, the doctor and a parent. (As most children being transferred will be conscious, an accompanying parent is essential).

2. **Paramedic:**
   A standard paramedic ambulance, with the typical crew, is required.

3. **Hospital car:**
   This group of patients will need little in the way of specialised equipment within the vehicle. The vehicle will, however, need to have appropriate seating for all sizes of children (ie car seats appropriate to babies and children up to 135cm tall).

Equipment

1. **Nurse / Doctor Escort (Neonatal):**
   A full NICU transport crib is required. This must be different from the transport crib that the NICU uses to move babies around the Neonatal Network. If the 'Network' crib is depended upon, there will be considerable delay and increased risk to babies when it is on Network duties.

Question 13

The transport crib should include all equipment required to deliver neonatal intensive care, such as:

- a ventilator, capable of delivering neonatally appropriate ventilation (possibly including CPAP).
- a facility to deliver ambient oxygen
- monitoring facilities, including sats, ECG, BP (both invasive & non-invasive), etc
- facilities to deliver any & all intravenous infusions appropriate to neonatal intensive care
- a thermally appropriate environment with restraints appropriate to transportation.

The transport crib should be able to be loaded safely into the vehicle likely to transport it. (note: different vehicles have differing methods of restraint).

The storage location of this equipment needs careful consideration. A location on the RSH site has the advantage of ease of access, with the disadvantage of difficulty in ensuring maintenance / checks on the equipment.

2. **Nurse / Doctor Escort (Paediatric):**
   Equipment appropriate to High Dependency Care is required. This includes:
   - a CPAP delivery system.
   - the ability to deliver increased concentrations of oxygen.
   - monitoring facilities, including sats, ECG, BP (both invasive & non-invasive), etc
   - facilities to deliver any & all intravenous infusions appropriate to neonatal intensive care.

3. **Paramedic / Hospital car:**
   No dedicated equipment should be needed.

Both situations (1) & (2) above also require a full emergency kit, including equipment to manage all aspect of ABC resuscitation, in case there is a change in the clinical condition of the patient during the transfer.

It is also imperative that all equipment can be safely secured for the transfer. It would be sensible for the equipment to be presented in a way that minimal effort is needed by the transferring staff (ie all equipment attached to a device, so that only the device needs securing to the vehicle / stretcher).

Disclaimer

This document should not be taken as a comprehensive list. It is intended to act as a guide. When a system of transport is being designed, extensive consultation will be needed to fully define the equipment needed.s

Question 13

Keeping it in the County

Securing the future of hospital services in Shropshire, Telford and Wrekin

14) Confirmation that transport arrangements between sites for patients, visitors and staff will be established as soon as services move between sites. What are the proposals to improve transport e.g. working with public transport providers, developing existing volunteer driver schemes?

15) Do the proposals include increasing the number of car parking spaces at PRH and if so have these costs been included?

16) Has the Trust come to a view on feasibility of the ideas set out in the consultation documents for: Shuttle bus, Maternity flying squad, Night air ambulance, Telemedicine

Briefing Note:
Travel, Parking and Feasibility of Ideas Set Out In The Consultation Document

SUMMARY: A shuttle bus service is feasible and an initial model has been developed which would be progressed further subject to the outcome of consultation. The Shrewsbury and Telford Hospital NHS Trust is committed to taking forward telemedicine to provide safe, convenient care closer to home. A Clinical Chief for Telehealthcare has been appointed, who will work with Trust clinicians and partners to shape and implement our model for the future. A maternity flying squad is not a feasible option. We will continue to explore options for expanding and developing air ambulance services.

The consultation document describes a number of ideas that were raised within the Clinical Problem Solving Workshop in November 2010 that could be explored as potential options to mitigate risks and/or concerns raised with the proposed reconfiguration of services. This includes:

- Maternity Flying Squad
- Night air ambulance
- Shuttle bus
- Telemedicine

Brief updates on maternity flying squad and night air ambulance are provided below, whilst more detailed briefings and discussion documents on the shuttle bus (including wider travel and parking issues) and telemedicine are attached.

Maternity Flying Squad

At their visit to the Trust in December 2010, the National Clinical Advisory Team (NCAT) stated that the development of obstetric flying squads should not be explored due to the evidence that it does not improve patient outcomes and is operationally and financially challenging to deliver.

In 1990, the Royal College of Obstetricians and Gynaecologists published a report titled The Future of Emergency Domiciliary Obstetric Services ('Flying Squads'). They recommended that all calls for obstetric emergencies outside hospital should be responded to by a paramedic team. The criteria given for a good pre-hospital service are relevant to the current reconfiguration because they:

- Provide an efficient service to respond to current emergency needs
- Minimise the response time (although it is noted that there are current challenges with this target within Wales)
- Provide skilled assessment of the mothers condition, need or resuscitative measures and suitability for transfer to hospital
- Have personnel experienced and skilled in resuscitation, especially in domiciliary conditions
- Provider rapid and safe transport to hospital

Reviews of Flying Squad activity showed that calls are less than ten a year, even for the largest units and so team members do not manage the volume of patients to use their skills and get the experience they need. In addition, both kit and staff have to be collected from hospital prior to attending the patient and so build in a delay.

For the reasons stated above, the idea has not been progressed further.

Night Air Ambulance

Conversations with both the Welsh and West Midlands Ambulance Services continue to progress regarding their involvement in the current and future pathways of care.

The West Midlands Ambulance Service (WMAS) have confirmed that the air ambulance is currently not available at night and is sometimes restricted due to adverse weather conditions. WMAS state they currently have no plans to implement a night time service. They do however have a service improvement programme that includes:

- Increasing the paramedic skill-mix within the workforce up to 70% to ensure a paramedic is dispatched with every vehicle
- Continuing to develop Emergency Care Practitioner roles and so reduce admissions and the automatic response of taking someone into hospital
- Improving productivity and efficiency

Briefing provided by:

Kate Shaw, Future Configuration of Hospital Services Programme Manager, The Shrewsbury and Telford Hospital NHS Trust

4 March 2011

Draft Discussion Document: Travel, Parking and Shuttle Bus Feasibility

Purpose

The purpose of this paper is to outline the possible options for the provision of transport between the two hospital sites.

Background

The Trust has stated it commitment to being a Good Corporate Citizen and has implemented a number of initiatives in support of this objective, particularly in terms of improving its carbon management. Travel between the hospital sites has previously been identified as an area for potential improvement in this regard and is a key consideration in recognising and resolving issues that may arise from the proposed reconfiguration of services.

As well as taking these issues into consideration this paper also explores schemes that:

- Improve transport links between the sites for patients and their visitors
- Reduce demand for on-site car parking
- Is in keeping with the Trusts commitment to the Good Corporate Citizen agenda and carbon management objectives.

Quantifying the need

Some mapping work has already been undertaken in terms of identifying the potential demand for the shuttle bus service. However, it should be noted that predicting demand requires further analysis and discussion and is dependent on the outcome of consultation and on many other factors and assumptions.

Patient and Visitor requirements

The consultation proposals would mean that the majority of services will stay in their current location, whilst the headline service changes (acute surgery, women and children's services) may not necessarily lead to significant demand for inter-site patient transport:

- Outpatient and day case activity would not significantly change due to reconfiguration. However, if there are some small changes linked to movements in hospital specialties then this is likely to create demand for inter-site patient transport.
- It would be reasonable to assume that women travelling to hospital for births would not typically take up the cross site transport options, although their family and friends may do so.
- Patients needing acute surgery should not be included in the transport requirement but again their visitors may use the scheme.
- There is likely to be a proportion of unmet existing demand, as visitors may well use the scheme when visiting patients from other services that are not included in the proposed reconfiguration.
- Visitor transport needs are also dependant on where people live, the numbers of times they visit per day, the length of the patients stay etc.
- The shape of services agreed following consultation will need to be developed in more detail as part of the Outline Business Case and Full Business Case. As part of the work to plan for implementation, a more detailed assessment of anticipated patient and visitor demand would be developed.

Staff requirements

Data suggests that the reported number of journeys made by staff between sites (in the latest staff transport survey) is approximately 100 return trips per day, 7 days a week. This equates to 36,500 return journeys per annum. This involves all services and all specialties.

This would be expected to increase if the proposals in the consultation document are approved and implemented.

Further work will therefore need to be undertaken to understand the transport needs of staff. It is expected that numbers travelling will be much greater at key times of the day i.e. around shifts and potentially outpatient clinic start and finish times.

Mode of transport provision

With regard to the type of service provided, options include:

- No change - staff continue to undertake inter-site journeys in their own vehicles and claim for mileage.
- Enhanced public transport service - discussions may be opened with the two Local Authorities about changes to frequency, routing and charges on existing bus services between the two sites. A charge may / may not be made. The service may call at bus / rail stations and at off-site parking areas (e.g. Greenhous Stadium), Park & Ride sites (e.g. Oxon and Battlefield) if agreement can be reached with owners.
- Provision of a commercial bus service - a private contractor may be commissioned to provide a shuttle service between the two sites, available to staff, patients and visitors and also to the general public. A charge for usage may / may not be made a further discussion is needed around this.
  This could be extended to run from Park and Ride sites, between the two hospitals.
- A service already operates between Shrewsbury and Telford (X75) - this has the potential to be enhanced. The service may call at bus / rail stations and at off-site parking areas, Park and Ride etc as described above
- Provision of a maxi-taxi service - a privately commissioned service by SaTH to meet the needs of staff, patients and visitors with flexibility to accommodate peaks / troughs in demand and to provide a service for *ad hoc* transport needs throughout the day.
- Options that combine patient transport with non-patient inter-site deliveries.
- Volunteer / community-based services.
- Initial modelling of an inter-site bus service suggests that this could feasibly be delivered within a short timeframe at a cost of £400k per year. These costs could be reduced through effective partnerships with local authority providers, displacement of costs currently incurred for inter-site staff car travel etc.

Parking

Detailed site planning will need to take place as part of the ongoing work following consultation, including assessing car parking requirements.

Key considerations include:

- The Trust should continue to develop and promote alternatives to car transport.
- Expansion of car parking requires careful planning, in partnership with local authorities. Car parking would need to be reviewed on either hospital site depending on the outcome of consultation

- There are few land options for re-providing the women and children's services at the Royal Shrewsbury Hospital, and this is likely to require construction on car parking spaces on the site (e.g. 200 spaces). These spaces would need to be re-provided before construction commenced. There are significant land constraints on the site, so options for re-providing car parking would need to include building an additional deck on top of existing car parking spaces. The operational impact during the construction of a car parking deck would also need to be managed.
- There are more land options for building at the Princess Royal Hospital, including options that have minimal impact on current car parking. There are greater opportunities for building additional car parking on NHS-owned land adjacent to the Princess Royal Hospital.

Updates on travel and car parking would be presented to future meetings of the Health Overview and Scrutiny Committees as part of the ongoing development and implementation programme.

Further considerations

The Trust is committed to examining and managing the implications of change on the transport needs of patients, staff and visitors – including seeking the views of people who use and provide our services. Further work will need to be undertaken during the planning phase to consider issues such as:

- What will be the charging arrangements, if any?
- Will staff be required to use transport (instead of claiming travel expenses) or will it be optional?
- Will there be a cost for patients/visitors?
- Will there be minimum age for unaccompanied use?
- What accessibility issues need to be considered?
- What mode of transport is preferred – shuttle bus, adaptation of existing public service, maxi-taxi?
- How often should it run?
- Should it be introduced more frequently and review when usage is known?
- What times should transport be available?
- How could local Councils support a more environmentally friendly approach to inter-site travel for staff and patients (park and ride etc)?

Conclusions and Next Steps

A shuttle bus is considered feasible at an indicative cost of around £400k per year, but more cost-effective and/or personalised options may be available through ongoing work with local authorities, transport providers and patients & communities. Detailed plans for travel and car parking will be developed subject to the outcome of consultation as part of the ongoing planning and implementation work, and updates will be presented to the Health Overview and Scrutiny Committees. Comments on travel and parking options are welcomed from members of the Joint Health Overview and Scrutiny Committee.

The Shrewsbury and Telford Hospital NHS
NHS Trust

Shropshire – Connected County

How tele care technology will transform health and social care in Shropshire

An initial discussion paper on the development of a Shropshire T Care Programme

Comments are gratefully received and can be sent to communications@sath.nhs.uk

Chapter 1

Foreword

Foreword

Lorna's Story

Today

Lorna is an 81-year-old widow, who has Type 2 diabetes, COPD and chronic kidney disease. She currently receives clinical support from her primary care team, as well as clinically appropriate specialist input from 3 hospital consultants and their clinical colleagues. This means she attends a total of 12 hospital clinics each year for "routine" consultations; on each occasion, she has to travel to hospital via ambulance transport and wait at clinic for what is an often brief consultation with her consultant.

When she thinks she has a new problem, she raises this with her primary care team and is sometimes then referred through to the relevant specialist. This process takes time and she becomes anxious when she does not know what is wrong and what she can do about it. Her son lives 200 miles away and rarely manages to attend clinics with her; he finds it difficult to understand just how his Mother is doing and what all her various problems are due to.

Over the past two years, she has needed in patient care for her chest complaint on 4 occasions; she stayed in hospital for a total of 24 days. Her conditions have worsened over this time and she now needs a lot more clinical support than she used to.

Tomorrow

Lorna has been given a home T-Health system, which she was shown how to use and is now central to the way in which she receives medical care. She uses this to take regular measures of the state of her health; when there are indications that all is not well, she gets a video call (T-Consult) to her home TV from her health care key worker before she even knows something is wrong. She is able to speak with and see her key worker, who often solves the problem there and then by making simple adjustments to her medication. The ability to see the person she is speaking with is something Lorna values greatly; she finds it very reassuring, as does her key worker, who is far more confident in making clinical management decisions, having seen just how well or ill Lorna is at that time.

If more specialist support is needed, this is also provided using the T-Consult approach; her consultants come to her home over the video link and give her the advice she needs. This is provided very quickly and she no longer needs to go to hospital for any "routine" consultations. On the occasions when she needs acute hospital care, she is admitted at an earlier stage in the flare of her illness, responds more rapidly to treatment and has a shorter length of stay.

One of the features of the T-Health system is its ability to send relevant information about conditions and treatment to Lorna's TV; she watches the videos and presentations to learn how she can deal more effectively with exacerbations of her conditions. Although her problems have worsened over time, she feels more in control of her problems and in that sense has become far less anxious about her situation. Her son has noticed this change; he also greatly appreciates the fact that he is now able to "sit in" on the T-Consult calls by joining the video consultation from his home PC as part of a three-way call involving his Mother and her consultant. He feels engaged in her care and is better able to support his Mother, particularly as he has also been able to watch the educational material and understands far more than he did about her problems.

Lorna really likes the new approach – she hasn't found it difficult to use the system and is delighted that she no longer has to make regular trips to out patients. She feels more confident, knowing that advice is only a video call away. Her improved confidence has meant that, despite the easy access to help, she has not needed to ask for this as often as she used to. She also likes the fact that her doctors have been able to use some of the money that has been saved by using the new system to provide her with more home help – she enjoys having a chat with her cleaner each week. Her doctors, both GP and consultant, quite simply cannot now imagine working with their many long term condition patients in any other way.

There are many people like Lorna in Shropshire today. The Shropshire T Care Programme aims to give Lorna and people like her the chance to experience a more personalised, convenient and supportive service through maximising the ability of modern technology to put clinical staff and patient and carer together without the need to travel. Our belief is that this will help to transform the way that services are delivered so that patients and their families and carers can get the help and support they need, when and where they need it.

Chapter 2

Vision and Aims

An Ambitious Programme

Creating the climate for success

The Shropshire T Care Programme will create the largest system of technology-enabled care. It will enable the provision of clinical and social care and professional education among health and social providers and patients.

We will use the availability of technology to transform the way that citizens, patients and clients receive needed care by extending and enhancing access to health care providers and eliminating barriers to care to all.

Our aims are:

1. To improve access to needed care.
2. To improve the quality of the user experience of care and inspire the adoption of T Care by patients.
3. To free up expensive clinical resources and target them where they are most needed.
4. To maximise the benefits of technology for staff and patients.
5. To share learning and constantly explore new models of service delivery.
6. To build capacity and capability across every sector to drive innovation.
7. To reduce the carbon footprint of the NHS and social care in the Shropshire.
8. To maximise the opportunity for inward investment into Shropshire.

Our Vision

Our vision is that T Care becomes a mainstream channel for health and social care delivery and education. Using these technologies will become as familiar as face-to-face visits are now. The idea that knowledge and skills can be moved to where they are needed will change the way that Care care is provided to and accessed by the public.

T Care will deliver a fully sustainable programme of health and social care delivered through technology. The return on investment made will be seen through:

- Reduced unnecessary hospitalisation;
- Lower costs through better prevention and earlier detection of deterioration, reduced transport costs and better utilisation of assets outside of hospital;
- Reduction in hospital lengths of stay and readmission rates;
- Reductions in the costs of sustaining remote and rural health provision.

As a guide, the Ontario health care system has the largest whole system deployment of T Care worldwide. For patients in that system with COPD and Heart Failure, there has been:

A 60% reduction in outpatient attendances;

A 73% reduction in hospitalisation;

A 90% reduction in walk in clinic attendances (equivalent to A&E).

The return on investment in Canada is 7:1. If only 30% of these results were delivered in Shropshire, then for COPD and Heart Failure alone, a potential £250M benefit could be obtained county wide.

Chapter 3

Technology

New Horizons

How technology expands what is possible

What is T Care?

T Care is a collection of technologies, ways of working and means of accessing health and social care that can be used to help patients and users get the care they need, when they need it. The technology can also be used to support education and training for patients, users and staff.

T Care has three modes. Although these can run separately, from an infrastructure perspective (technical and service) consideration needs to be given to ensuring that both scalability and co-provision of these streams can be achieved as necessary.

The ability to understand through sensing (T Monitor) that a patient or user is outside of normal range takes us so far. The ability to interact with a patient/user (T Consult) about their situation will in certain situations take us further. Managing a small- scale local deployment may limit the capability to sustain a twenty-four hour support infrastructure of sufficient depth to change decision-making and so alter pathways. Connecting deployments into a common infrastructure may be more economic. The three value streams within T Care are:

- **T Consult** – this is the provision of clinical care using two way video conferencing technologies with or without other diagnostic instruments such as digital stethoscopes and patient examination cameras.

- **T Monitor** – this is the collection of data collected from a patient by devices such as blood pressure monitors and ECG machines that can be viewed and acted on by a clinical staff member from a remote location.

- **T Learn** – this is the provision of education or training to patients or staff using two-way video conferencing or interactive digital content.

Modes of Use

T Consult is now well developed due to the groundbreaking experience at Airedale NHS Foundation Trust working with English Prisons. The experience built up over four years needs to be 'hardwired' into the Programme so that lead-time for development into the NHS can be reduced. There are formidable technical and organisational barriers to implementation that would otherwise consume resources better deployed to delivery than experimentation.

T Monitor is now happening in pockets across the county. The Programme will look to co-create the implementation models, operating procedures and technical requirements with early adopters seamless integration where needed with T Consult.

Finally, it is very likely that patients will move dynamically between the modes. In particular patients in a T Monitor deployment are very likely to need access to T Consult modes if the full value of the deployment is to be achieved. This raises important issues about clinical and service infrastructure. It is imperative these issues are addressed to avoid potential system redundancy.

What can T Care do for Health Care?

T Consult

T Consult has the capacity to bring health care to virtually any patient or user, anywhere, anytime. By using the latest two way videoconferencing technology to put clinical staff and patients together without the need for either to travel T Care becomes a convenient and easier alternative to conventional models. By using the right diagnostic equipment such as digital stethoscopes, high resolution cameras, and digital imaging equipment that can transfer data between users across the Region, expertise can literally be delivered into the patient's own home.

T Monitor

T Monitor enables patients who need to be monitored or reviewed at frequent intervals to be safely managed in their own homes without the need for expensive and inconvenient hospital stays. T Care makes it easier for families and carers to stay in touch too.

T Care joins institutions and teams together to raise the standard of care across the county. Intensive care, radiology and critical care will all benefit from the ability to network the available expertise. Smaller hospitals can be sustained by joining together and sharing their infrastructure, using a combination of all the T Care value streams.

T Learn

T Learn enables staff to participate in education and training without the need to travel. Staff will benefit from more work based learning support, delivered through seminars and lectures over the video conferencing facilities. E-learning products can supplement the T Learn value stream.

Patients will also benefit from T Learn aimed at improving their knowledge about their illness and delivered digitally into their own homes. Patients can also be trained to manage their own health needs using T Learn using a series of verifiable digital training modules for patients.

Why Now?

The challenge for the NHS and social care is to raise the quality of what it offers to its patients and users, while at the same time becoming more productive. The benefit of a well-designed T Care programme will be to deliver enhanced quality and cost characteristics.

The economic imperative from a service delivery perspective is clear. The sustainability requirements, particularly for carbon use are also about to impact on the NHS and social care. As the large employers the NHS and social care also need to deploy technology to avoid the unnecessary expenditure of non-replaceable carbon resources in the transmission of skills and expertise to the patient.

There is also a wider corporate responsibility that the NHS and social care in Shropshire must shoulder, playing their full part in the economic development of the county. If technology can be developed in the county that the wider NHS and social care can use, then the we will have helped to add to the net GDP of the county. By working together the county can leverage more benefits for the communities it serves.

What is the Scope of the Programme?

The Programme offers organisations within Shropshire the benefits of lower costs of entry to T Care, accelerated deployment, rapid evaluation, innovation diffusion and training and education tools for staff and patients.

The Programme is designed to meet the needs of organisations in Shropshire. It is essential that individual organisations drive their own deployments and tailor what is needed to their local circumstances. The Programme is designed to put in place either that which it is uneconomic to provide for one organisation or site (such as running innovation and education streams of work), or that which organisations can benefit from only through some form of cooperation (such as solutions that need scale to demonstrate a return on investment).

The three key objectives of the Programme are:

- To deliver a self-sustaining programme for Shropshire using operational funds.
- To deliver scalable, local deployments added extra value through cooperation and shared expertise.
- To provide distinctive quality and cost benefits to patients and users and the organisations who serve them.

The Programme comprises the following elements:

Service and Technology

- The development standards for speed of connection, IT connectivity and presentation of data.
- The development of clinical pathway guidelines that have the potential to maximise the benefits of the technology.

Innovation

- The creation of an innovation powerhouse for the county, joining together the NHS with social care organisations, clinical staff and key workers from across the care sector.
- The provision of an interface with industry that provides a meeting place between technology providers and the needs of patients, carers and organisations.
- A forum for problem solving and ideas generation.

Training

- The development of training tools for patients, staff and organisations in the use of T Care.

Education

- The development of education resources for patients, carers, staff and organisations that can operate on the T Care infrastructure.

Evaluation

- The creation of a formal evaluation capability that can provide evidence for commissioners to use.

Hub Services

- A menu of options including the delivery of turnkey technical and business support to include end user training, system management (call scheduling, handling, and routing), and technical support.

Chapter 4

Technology

Programme Content

Elements of the T Care Programme

A. Service and Technology

Standards

The T Care field is a new market and abounds with a proliferation of technology and potential configurations. There is a role for the Programme to fulfil with respect to horizon scanning on emerging standards. These standards will include technology standards and guidelines from Continua,[1] data standards, services standards from telephony, IT, computing and other sectors as well as services standards from such bodies as the TSA. As technology converges it will be essential to ensure that the Programme helps to facilitate a strategic approach to procurement decisions through the development of advice and guidelines for procurement so as to minimise the risk of redundancy and maximise scope.
The Programme will represent the county's interests in relevant standards bodies. This will help ensure that existing investments are future-proofed, and that new investments take emerging standards into account.

The Programme will identify where a standards gap exists that is relevant to the county's strategy and where appropriate actively drive new standards.

[1] Continua is a US based federation of technology companies that is attempting to create industry standards.

The Programme will develop a testing and accreditation capability for verifying standards compliance for products and systems. This will benefit both commissioners and suppliers, and will be a key component in getting the market to work properly, allowing T Health to move to the mainstream.

Service Models

The Programme will provide all partner organisations, suppliers and partner organisations with easy access to current best practice and thinking on processes, knowledge, standards, and data via a membership website. This website will provide health economic models and spreadsheets, business cases and business models, reference service designs, organisational capability maturity models, equipment and service information, standards advice, case studies, and evaluation data. It is envisaged that county data will be provided from on a "moderated Wikipedia" model; data from elsewhere in the world will be gathered and summarised by the Programme.

B. Innovation

Process, System and Service Innovation

The Programme will work with expert resources within the NHS, the universities and the CLAHRCs, the supplier base and elsewhere to develop and propose new innovative service designs, business models, procurement strategies, standards policies, and change programmes for the region.

Supply-Side Stimulation and Guidance

The Programme will take information about system needs, service and product gaps and shortcomings, and other feedback from the regional operational T Care deployments and feed this to the supplier base by SBRI or a similar trusted mechanism to create a fast supply-side response to market needs. The potential to develop partnerships with technology providers will also be facilitated through the Programme.

Innovation Funds

The Programme will harness regional, national and international innovation and R&D funds to serve regional needs by working with national and international policy and funding bodies, creating consortia and submitting proposals to help fund research and innovation targeted on the requirements of the regional programme.

C. Training

The Programme will develop a training capability for the county. Training will be targeted at two groups:

- Patient and user based training – in this stream, training packages for end user patients/users will be developed using simple e-learning packages that are designed to equip patients with the skills they will need to operate the devices that are deployed for their benefit. The Programme will look to develop a verifiable learning tool(s) that can demonstrate that patients are able to safely operate the T Health solution they are being offered.
- Staff based training – in this stream, staff will be offered e-learning products that can verify their competence to operate the T Care solution they are responsible for. This will ensure strong governance to be demonstrated and will reduce operator reliability problems.

D. Education

The Programme will develop an education capability in two streams (as for Training above).

- Patients will be offered educational tools delivered to them in the most convenient route. This will provide patients with a capability to learn more about their disease or illness and so contribute more to their own recovery and self- management.
- Staff in locations where professional support and CPD can be difficult to access will be offered education and CPD packages, supervision and conference capabilities designed to increase skill levels and confidence throughout the system.

E. Hub Services

The Programme will provide an infrastructure for organisations to use to help them accelerate deployment and maximise the value adding elements at local level. Broadly speaking there are two components to a T Care deployment:

- Patient or end-user facing service delivery – this stream is where the service that is enabled by the T Health deployment actually takes place: a consultation or monitoring installation or an education or CPD event for instance.
- Infrastructure management – this stream is where the components that need to be in place for the stream above to take place is delivered: this could include physical entities such as devices, switches, networking or call handling) or human support such as technical or clinical support.

The Hub exists to minimise the transaction costs for local deployment by scaling up this parts of the T Care proposition where it makes sense to do so. This model is drawn to emphasise the point that through careful design from the outset it will be possible to keep the 'on-costs' for delivering the T Care Programme minimised. There will be no requirement to have multiple layers of technical support, call handling and infrastructure support. The Hub will enable 'turnkey' installation through one stop technical and business support through a technical platform comprising a hub and a gateway. Appendix 3 provides a schematic illustration of how the Hub will work.

F. Evaluation

The Programme will orchestrate the development of robust evaluation studies, drawing on the university sector in particular but also looking to benchmark with emerging international best practice. The Programme will over time develop recommendations and guidelines for commissioners to use based on what has been proven to work.

Appendix

APPENDIX 1

A HIGH LEVEL BUSINESS CASE FOR A T HEALTH PROGRAMME (Yorkshire Health Economics Consortium)

ESTIMATING THE BENEFITS OF INVESTING IN TELE HEALTH

The extract below is taken from an independent report commissioned by the Chief Executive of Airedale NHS Foundation Trust in January 2010. The report was aimed at providing a rationale for establishing a regional programme of tele health for the Yorkshire and Humber region. The paper examines the case for deploying a health only solution and concludes that there is a substantial return on investment available.

EXTRACT FROM A POSITION PAPER FOR YORKSHIRE AND HUMBER SHA

Background

Yorkshire and Humber SHA (Y&H) is one of the leading authorities in the testing and implementation of telehealth and telecare systems in the NHS. Review of the published literature reveals a series of case studies and pilots, in the UK and elsewhere, which show promise in terms

reductions in the use of health care resources without a decline in the standard of care. Estimates of reduction in hospital admissions vary from 19% (US Veterans Administration) to 65% (Ontario Telemedicine Network), and are related to the type of service provided. The more sophisticated approach in Ontario, using video links and patient records, showed more benefit than the information-based system in the VA. UK studies have shown 50% reduction in out-patient visits (Sheffield) and up to 75% reductions in the costs of ambulance use (North Cornwall).

A series of RCT-based evaluations is underway in the UK through the Whole System Demonstrator (WSD) project in England and the Scottish Government's Joint Improvement Team. These will provide stronger evidence on the effectiveness of individual programmes and projects, although the nature of the trial process means that results will not be available in the short term.

The impending reductions in the growth of NHS funding increase the need to look for more radical changes in the delivery of health care in the face of continually increasing population expectations and the growth of high risk populations. The DH Quality, Innovation, Productivity and Prevention (QIPP) agenda is designed to meet these challenges, and the use of telehealth can be seen to contribute in all four domains. Delivery systems which allow people to be treated more conveniently at home, and which avoid hospitalisations and outpatient visits, are generally preferred by patients and perceived to be of higher quality. Patients managed in this way are also likely to have better outcomes. The innovative technology used in telehealth forces NHS staff to think innovatively to make best use of it. Current results suggest that significant productivity improvements can be made, and they will largely result from reduction in the incidence of serious events and the prevention of unnecessary use of hospital services.

The financial and performance pressures on the NHS are such that decisions may have to be made before the results of the RCTs are available. This paper outlines approaches to the measurement of the benefits of telehealth using currently available data. The costs of providing the telehealth service are being examined separately.

Potential Benefits of Telehealth

Successful implementation of telehealth is likely to produce a full range of benefits from improved patient outcomes to cost savings for PCTs. Provision of better quality services will produce improvements in quality of life and, in some cases may increase patient survival. There will also be benefits to the families and carers of patients in terms of reassurance and convenience. These benefits are best measured in detailed formal research and estimates may emerge from the RCTs currently underway. This paper focuses on the financial savings likely to be achieved, from the perspective of PCTs.

Most of the potential of telehealth and telecare has been seen in terms of maintaining patients in their own homes, reducing their need to travel to seek care and reducing the need for health professionals to visit patients. Target populations have been seen as the elderly and sufferers from chronic diseases such as COPD and CHF. There are other chronic diseases, for which continuous care is needed, in which the patient population is younger, such as diabetes. Figure 1 below illustrates in general terms how the expected benefits of telehealth will be realised.

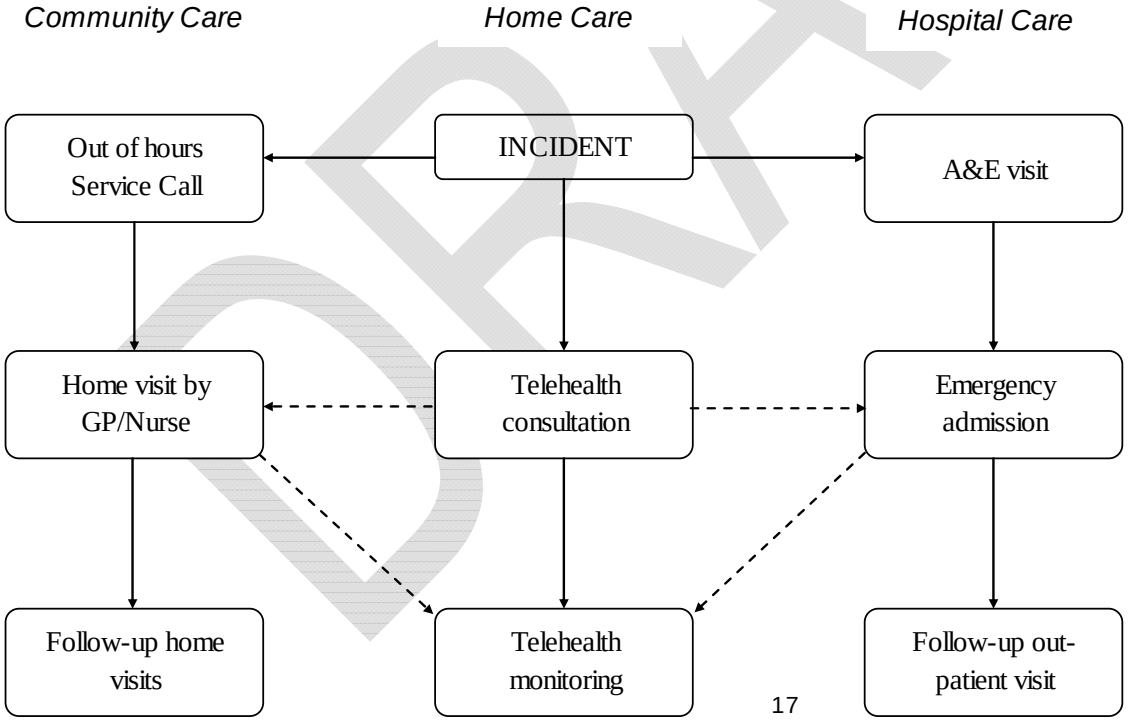


Figure 1: Population with Chronic Disease

In conventional patterns of service delivery if a patient living at home suffers an incident, e.g. an exacerbation of COPD, they may seek help from the primary care out-of-hours service or go to A&E. The former may lead to a home visit by a GP and subsequent follow-up visits by a GP or nurse. An A&E visit may lead to an emergency admission and post-discharge outpatient follow-up visits. Use of a telehealth consultation can avoid the need for patients to go down either of these routes. If the patient can be advised, reassured and stabilised, then follow-up through telehealth monitoring may be all that is needed. The dotted lines in Figure 1 indicate that some patients may still need to be seen in hospital or in primary care, so conventional management will not be totally replaced. However, for these patients a telehealth monitoring system may substitute for conventional follow-ups, avoiding some unnecessary resource use.

Financial benefits accrue to the PCT if activities are totally avoided, preventing a tariff payment. There may be other financial savings within the NHS, e.g. through reduced use of ambulances, or shortening of LOS in hospital. There is some evidence available to calculate the former, but determining the existence of net savings on the NHS budget from the latter is not straightforward. In the long –term if tariffs are reduced to reflect the real costs of treatment then the PCTs will see benefit. The short-term effects are less clear and are therefore not considered here. A similar model of benefit identification can be used with telecare systems in social care, which is closely linked with health care in many patient groups. A major goal there is to delay or avoid the need for long-term residential care. The development of a telehealth system will have additional benefits in facilitating telecare, with budget impacts beyond the PCT.

Estimation of Cost Savings from Telehealth

The table below sets out the stages in the estimation of the financial impact of telehealth using information from current experience in other locations. The target populations are generally those with chronic diseases such as COPD, chronic heart failure, chronic renal disease and diabetes. Under conventional clinical management all these patient groups require regular contact with health professionals, for monitoring and in the event of serious incidents such as exacerbations of COPD. The first step is to identify the size of the population which can be managed through a telehealth system in each of the disease areas. The next stage is to identify the types of health care used buy these populations and the current frequency of use.

Steps	Data Sources
Identify target population	PCT / SHA level data
Measure current health care use	PCT data on cost of treatment
Identify potential avoidance of health care use through Telehealth	• Hospital admissions • A&E visits • Out-patient visits • GP / Nurse home visits • Ambulance trips
Apply probability of achieving savings	Figures from published evaluations and case studies e.g. Ontario – 65% reduction in hospital admissions
Aggregate total savings	Apply relevant tariffs and unit costs to avoided activities
Present results as best case, worst case and base case scenarios	Use a range of published figures e.g. 70% / 50% / 30% reduction in health care use

The next stage is crucial – estimating the proportion of this activity which can be avoided by the use of telehealth. This can be done from clinical assessment of current practice and outcomes to identify those patients with higher service utilisation, which might imply that their disease is not well managed. Better management, e.g. through telehealth, might reduce their service utilisation to the average. An alternative approach is to draw on experience of the application of telehealth elsewhere to obtain figures on the potential reduction in health care utilisation. Transferring such experience must be done with caution because most published studies have not used rigorous RCT methods to measure the impact of their telehealth interventions. The nature of the telehealth system used must be close to that proposed, as the results of the US VA and Ontario studies show that systems without video links and direct patient contact have lower impact on service use. However, if systems and patient groups are compatible the same level of savings might be expected.

Once the expected percentage reduction has been identified and the number of events avoided calculated the appropriate tariffs or unit costs can be applied to estimate the financial savings. In the absence of definitive evidence of effect, it is best to present a range of potential savings, based on varying assumptions and different methods of estimation. The convergence or divergence of the estimates will indicate the robustness of the process.

Example: Reducing Hospitalisation for Exacerbations of COPD

Clinically-based Approach

The potential for avoiding hospitalisations is based on the following assumptions:

- All patients are likely to have one serious exacerbation in the course of a year which needs hospitalisation;
- Patients with more frequent rates of exacerbation may avoid further hospitalisations by using a telehealth system
- Patients with higher rates of exacerbation can be targeted for inclusion in the telehealth system.

Using data from one PCT (NY&Y), 2843 COPD patients had 4120 hospitalisations in one year – 1.45 per patient. However, of these, 2068 patients had only one hospitalisation while the remaining 2052 hospitalisations were experienced by just 775 patients. If these 775 patients were placed in the telehealth system and reduced hospitalisations to just 1 a year, 1277 admissions would be avoided giving the following savings:
1277 x £2569 = £3,280,613 or £4233 per patient benefiting.

As the annual cost of introducing and operating the telehealth system is estimated at £2400 per patient (Airedale NHS Trust), a net saving of £1833 per patient is expected from hospitalisation costs alone.

In addition there may be savings in connection with each visit from reduced ambulance transport (£360) and A&E attendance (£111) increasing the hospital-related savings to £4804 per patient benefiting.

It is also likely that COPD patients using the telehealth system will avoid outpatient visits and nurse home visits. If each patient avoids 3 OP visits at £80 there will be an additional saving of £240 raising the total per patient saving to £5044, without allowing for further transport costs or nurse visits avoided.

Sensitivity analysis shows that even if the 775 high service users were reduced to the overall patient group average of 1.45 admissions per year, the telehealth system would still deliver substantial savings.

Literature-based Approach

Previous studies of the use of telehealth in Ontario have shown a 65% reduction in all COPD hospital admissions. Using a conservative assumption that a 50% reduction can be achieved by a similar approach in Y&H the results for the same PCT are as follows:

Patients with multiple admissions: 775
Current admissions per year for this group: 2052

Reduction in admissions (50%): 1026
Cost per admission: £2569
Annual savings: 1026 x £2569 = £2,635,794
Annual savings per patient: £3401

Adding potential savings from avoided ambulance transport (£360) and A&E attendance (£111) increases this to £3872 per patient.
Including the avoidance of 3 OP visits per patient (£240) brings the figure to £4112.

This is £1712 higher than the estimated cost per patient of operating the telehealth system of £2400 (Airedale NHS Trust). If the full 65% reduction were made as in Ontario then the hospitalisation savings would produce a higher rate of return. The figure is also sensitive to the current hospitalisation rate in the COPD population. If the rate were higher than the NY&Y rate of 1.45 per annum a higher rate of return would be achieved by a 50% reduction in hospitalisations. The savings are such that even with just a 35% reduction in hospitalisations, net savings would be made.

Other Disease Areas

In other patient groups, such as diabetes and chronic renal failure, the main health care utilisation is likely to be outpatient appointments rather than hospitalisations. Taking an average OP appointment cost of £80, each patient would have to avoid 30 appointments to cover the full cost of the telehealth system at £2400. Savings would also accrue from avoided transport and diagnostics costs. There would also be additional benefits, such as reduced community nursing time and some avoided hospitalisations, so the composite savings could well cover the costs for high service users.

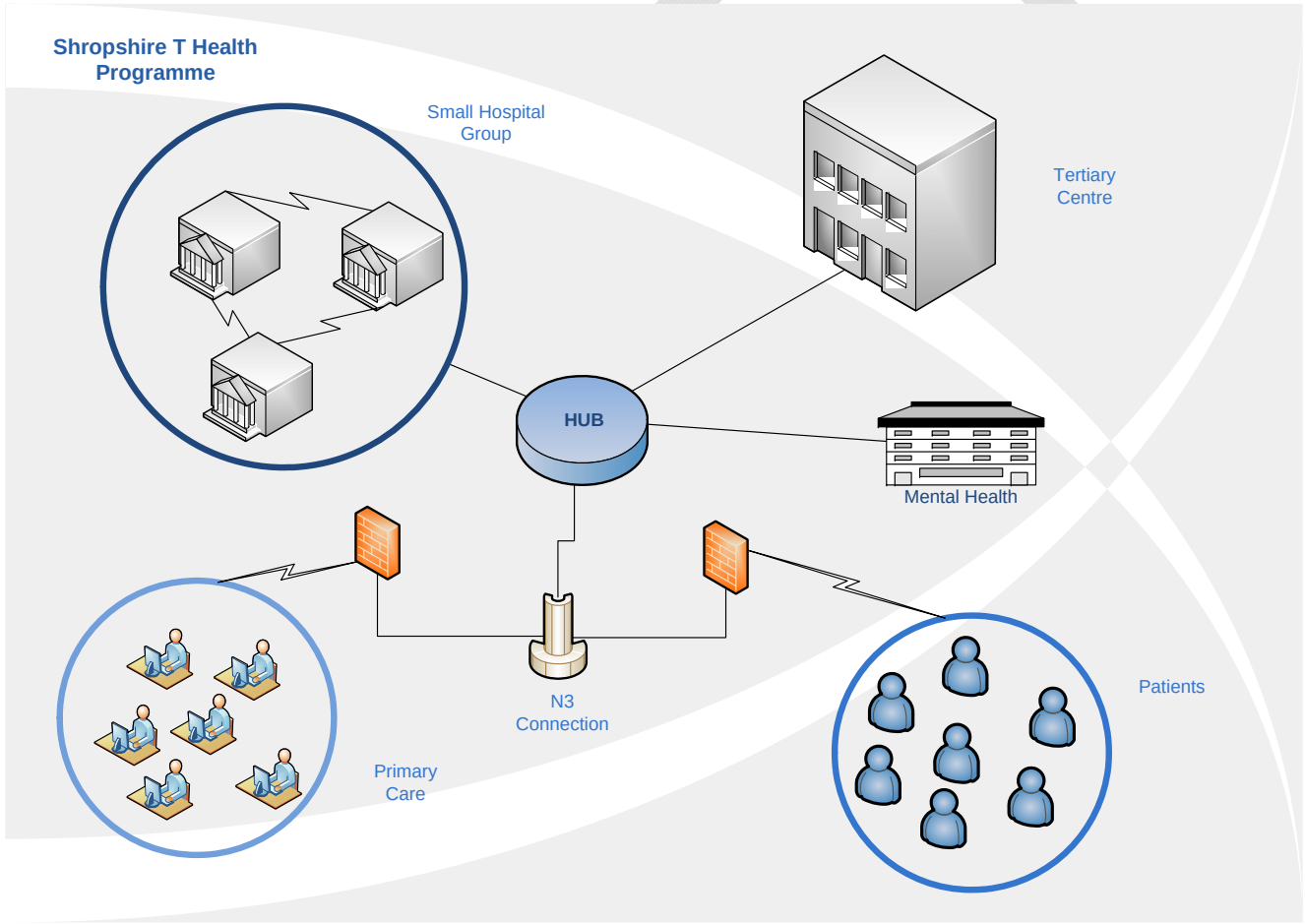
Costs of Telehealth

The above comparisons have been made using a single average cost figure of £2400 per patient per year for telehealth. Because of the fixed costs of establishing the system, the average cost will vary with the number of patients covered. Adding subsequent patient groups to the system will have a lower marginal cost. Also, many chronically ill patients will have multiple morbidities, and will be able to benefit in several ways from being on the telehealth system. So the above approaches may be over-estimating the costs and understating the benefits. To get a fair picture of the overall

financial benefits of telehealth will require some scenario modelling with more detailed assumptions about the patient groups and the costs of different configurations of the telehealth service.

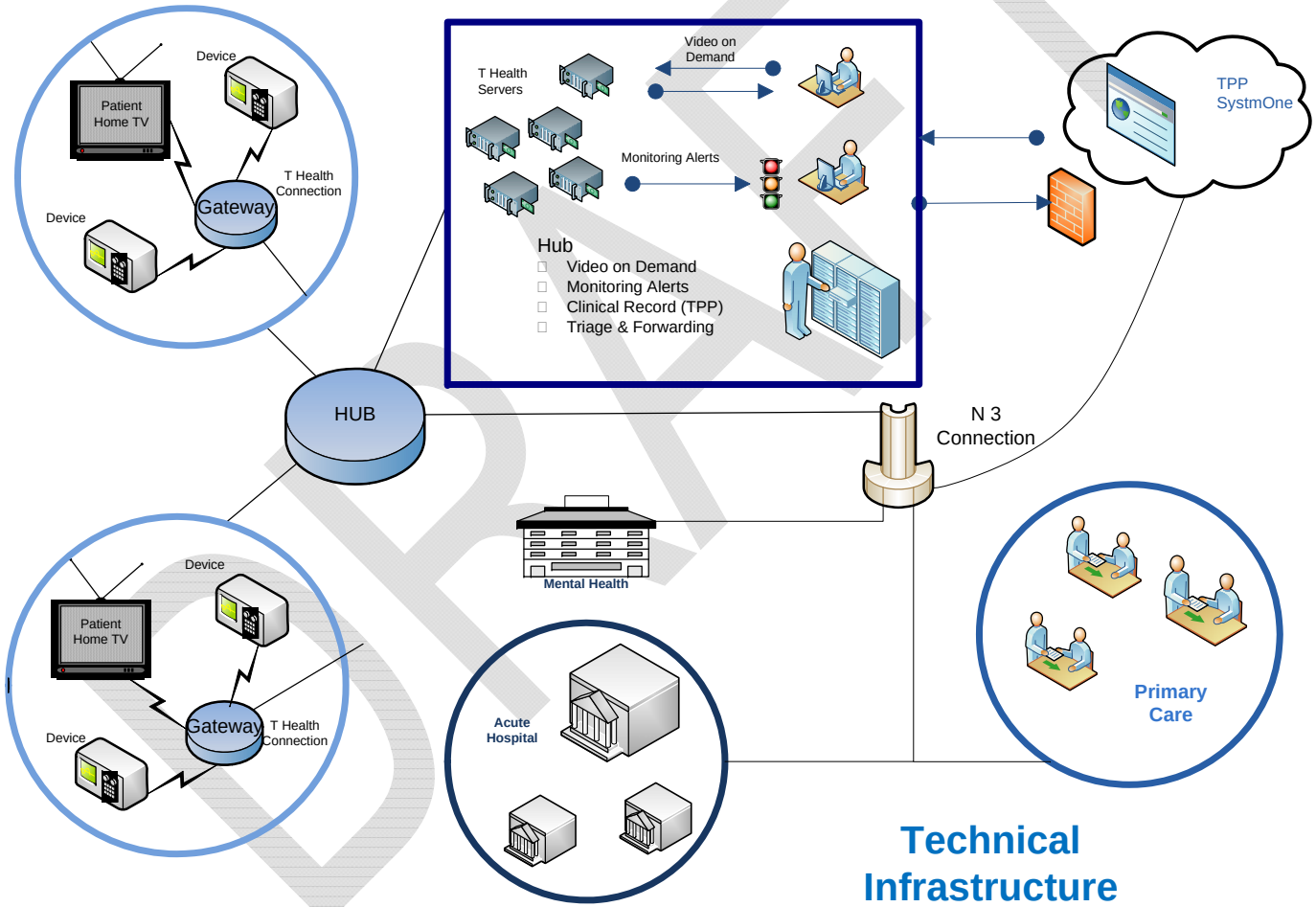
APPENDIX 2

A schematic representation of a T Health deployment



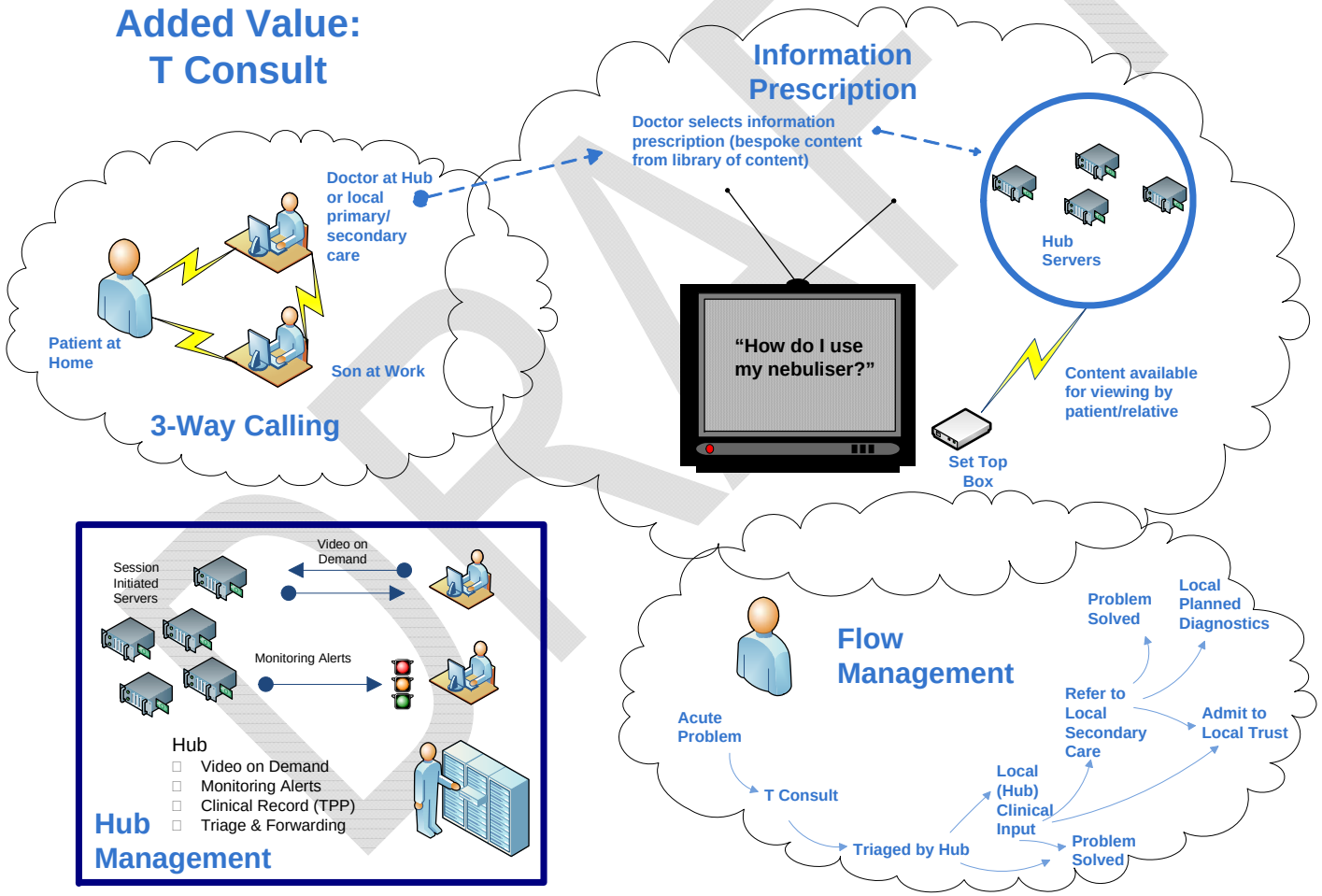
APPENDIX 3

A schematic representation of a T Health Hub



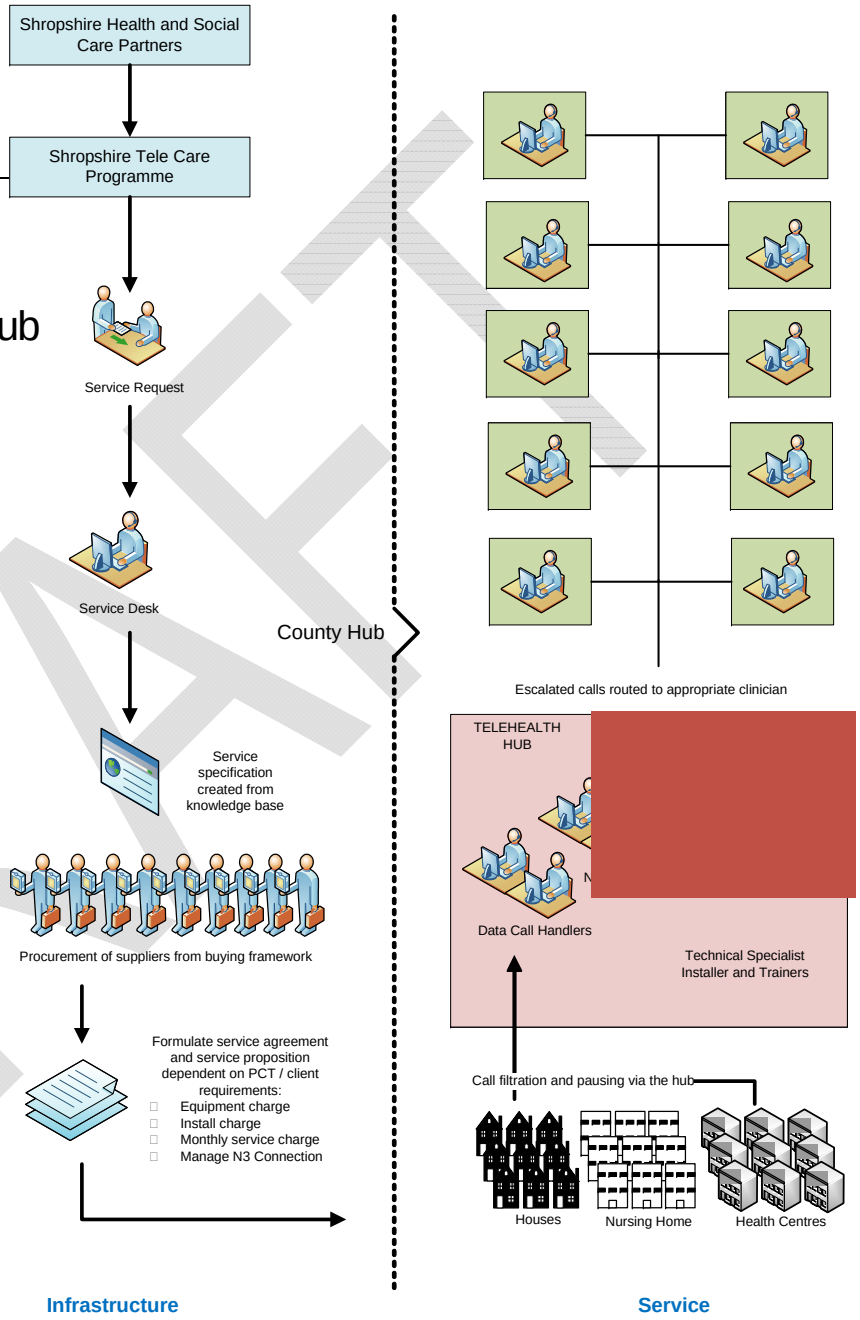
APPENDIX 4

A schematic representation of a T Health Hub Capability



APPENDIX 5

A schematic representation of a T Health Hub Organisation



Keeping it in the County

Securing the future of hospital services in Shropshire, Telford and Wrekin

17) Clarification on the stages in which the proposed changes would be implemented and commitment to give regular updates and ongoing engagement with the Joint HOSC and other stakeholders.

18) Information on how the changes if agreed will be communicated to the public, patients and other service providers.

Briefing Note:
Timetable for Implementation and Communication

Subject to the outcome of consultation, the outline timetable for implementation would include:

Date	Action	Comments
24 March 2011	Trust and PCT Boards meet to consider outcome of consultation	Arrange press briefings immediately following the Board meetings to communicate the decisions that have been made.
24 March 2011	Joint Health Overview and Scrutiny Committee meets to consider outcome of consultation	Joint Health Overview and Scrutiny Committee to communicate their review of the outcome of consultation.
Spring/Summer 2011	Development of Outline Business Case	Engage with commissioners and SHA in development of outline business case and full business case. Provide updates to Health Overview and Scrutiny Committees, Local Involvement Networks and Community Health Councils. Patient, public and staff engagement in the development of the OBC and FBC. Ongoing public and staff communication (e.g. through internal newsletters, A Healthier Future newsletter to SaTH public members, syndicated news items for inclusion in newsletters/intranets for partner organisations). Monthly “Keeping It In The County” bulletin for partner organisations.
Summer 2011	Development of Full Business Case	
Autumn 2011	Commence procurement of building and refurbishment work	Staff and patient engagement in the design aspects of building and refurbishment work.
Spring 2012	Commence building works	Use building milestones as opportunity for communications and engagement

TBC 2014	Building work concluded New shape of services in place	Commissioning of new services complete
2011-2014	Development of patient pathways	Ongoing patient/carer/community engagement in the development and implementation of care pathways. Work with individual patients and families with complex care needs. Engagement in development of children's cancer services including legacy maintenance.
Programmes TBC	Early implementation of measures to address risks to surgical services	The timetable for addressing immediate risks to surgical services needs to be agreed and communicated.
	Implementation of AAA screening programme	Work is ongoing, including a national screening programme meeting in April
	Telehealthcare	Programme of clinical, partner and public engagement in the development and implementation of telehealthcare
	Stroke services	Work with patients, Heart & Stroke Network and other partners to develop and implement telemedicine solution to support two-site 24-7 hyper-acute stroke services

The detailed timetable for implementation will be developed based on the outcome of consultation, and will form part of the Full Business Case which will be discussed with Health Overview and Scrutiny Committees later in the year.

The Shrewsbury and Telford Hospital NHS Trust and local Primary Care Trusts are committed to engaging Health Overview and Scrutiny Committees, Local Involvement Networks and Community Health Councils in establishing an ongoing communication and engagement plan to support the development and implementation of the proposals agreed following consultation.

Key elements of the engagement and communication plan are expected to include:

- Communication of key milestones and decisions to communities, staff and partner organisations
- Regular presentations to meetings of Health Overview and Scrutiny Committees, Local Involvement Networks and Community Health Councils
- Patient and staff engagement in:
    - the design and implementation of detailed care pathways for maternity, children's and surgical services (e.g. emergency access for children)
    - design work for building and refurbishment (e.g. children's cancer unit)
    - mitigation and management of risks identified during the consultation process (e.g. travel and access)
- Major publicity programme ahead of any significant changes in the way people access hospital services, including market testing to ensure that the key messages are clear and people understand how to act on them.
- An ongoing clinical reference group involving GPs, Hospital Consultants, Nurses, Midwives, Paramedics and other partners to review and assure the plans going forward.