

FutureFit Acute Services Design Template

Introduction

The purpose of this document is to provide a description of the advantages and disadvantages of each of the FutureFit Clinical design scenarios FROM A CLINICAL DESIGN PERSPECTIVE

The document will be used by the Programme Board and by the Evaluation panel as evidence that supports the evaluation of options.

The FutureFit acute services scenarios

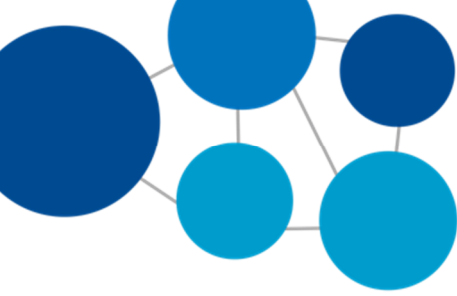
The programme has agreed a longlist of options that encompass the following dimensions for acute services:

- A single Emergency Care Centre (EC) and a Diagnostic and Treatment Centre (DTC) either co-located onto a single site (but physically separate) or in separate sites.
- An Urgent Care Centre (UCC) is to be located in front of the Emergency Care Centre and both Shrewsbury and Telford would have a UCC
- It has been assumed that outpatient activity and Radiotherapy services will continue to be provided from their present locations.

The service adjacencies insofar as they have been described to date are as follows:

Services within a single EC

- Assessment and treatment space for acutely unwell patients
- Radiology & Pathology
- CT/MRI complex imaging
- Blood bank
- Pharmacy
- Critical Care Unit
- Emergency surgery – trauma and general
- 20% of planned surgery
- Short Stay Beds – at least for <3 day LOS
- Longer stay acute beds for acute phase of care
- Medical specialty beds (eg Cardiology)
- Paediatric unit
- Theatres including imaging intensifiers for major emergencies

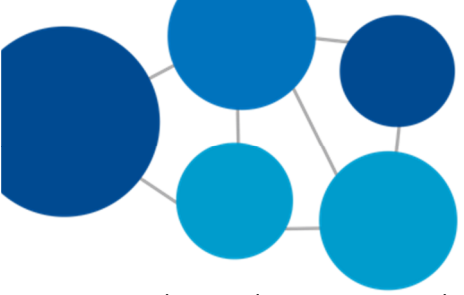


Services within a single DTC

- 80% planned surgery
- Theatres including imaging intensifiers
- Most day case
- Specialty beds (e.g. planned orthopaedics)
- Major diagnostics – including U/S, MRI, CT, Nuclear
- Planned endoscopy
- Pathology
- HDU

The location of consultant led obstetrics is described as a variant, allowing for location either with the EC or DTC. It is assumed that neonatal care would be co-located with consultant led obstetrics under all scenarios.

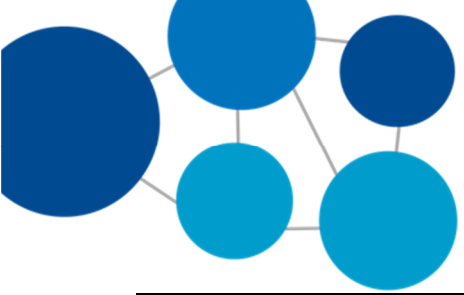
Midwifery led obstetrics is assumed to be located separately from consultant led obstetrics and could be on either the EC or DTC site or elsewhere.



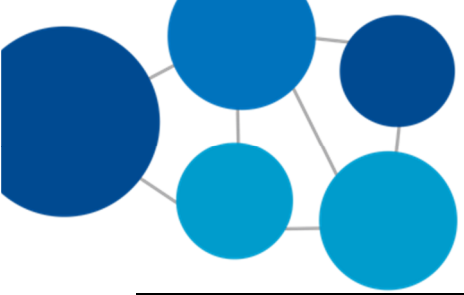
The template

The template below sets out the clinical design arguments for and against three of the key location variables set out in the long listing scenarios;

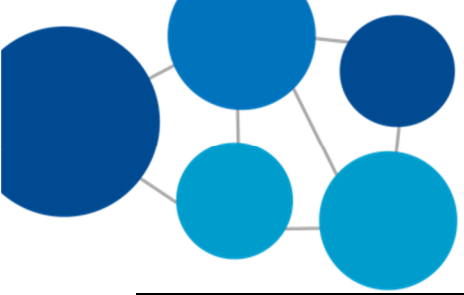
Scenario	Clinical quality advantages	Clinical Safety advantages	Clinical quality disadvantages	Clinical safety risks	Workforce implications expressed in as much details as possible in terms of rota implications and staffing numbers	For scenario 2: What additional mitigations need to be put into place to meet essential quality and safety standards
<p>1 EC and DTC on a single site with Obstetrics co-located</p>	<ul style="list-style-type: none"> Maximises use of planned care facilities Acute to planned care transition Implementing 7 day working Diagnostic Access Flexibility and resilience Pharmacy consolidated All specialties co-located Collaborative working maximised All clinical linkages are strengthened Single trauma service would allow emergency sub-specialisation (eg upper and lower limb specialists) Single critical care unit should achieve national standards Speciality co-location Single critical care unit Maximises utilisation of available beds at the risk of impacting elective care but ensures flexing of beds at times of high emergency demand All acute specialities available to each other for comprehensive patient management. Minimal duplication of workforce to cover more than one site. Sharing skills for MDT working. Rare events catered for No need for work around solutions creating complex patient pathways All radiological specialities on same site Easy to implement single 'duty' radiologist to keep interruptions of others to a minimum 	<ul style="list-style-type: none"> Emergency Obstetric response Beds on other site to "play with" Easy access to critical care and obstetric and DTC patients More personnel to deliver 7 day standards Immediate access to required clinical skills in the majority of secondary care scenarios. No loss of skills from one site whilst another site is being services. Team learning and knowledge is easier to acquire. Interventional radiology on same site as obs & gynae OOH radiographers for CT and MRI 	<ul style="list-style-type: none"> EC impact on DTC (Travel times) Infection control in DTC No beds on same site to "play with" Temptation for bed managers to park outliners in DTC may reduce efficiencies Non separation of patient flows may result in bed occupancy problems for elective care 	<ul style="list-style-type: none"> Increased travel times for patients potentially increased risks – by mitigated by co-location Some loss of benefits of separation of elective and emergency work in terms of hospital acquired infection If medical staffing at single unit is no adequate for the volume of work as this is a trade-off for cost or an assumption of configuration then clinical safety and timely care is at risk Non separation of patient flows creates a great opportunity for wrong patient in wrong place within the DTC. Single rotas for radiologists and radiographers 	<ul style="list-style-type: none"> Co-location Minimum number of rotas – no duplication Anaesthetic rotas consolidated Most likely option to support recruitment and retention Single rota for <ul style="list-style-type: none"> General surgery (4 tiers), ENT (3 tiers), Urology, T&O single trauma service would need consultants on site in day Maxillofacial (3 tiers) Single critical care unit improves recruitment for staff Single site allows for specialist rotas in anaesthesia including paediatrics. Clear configuration makes it more attractive to recruit and retain staff. For Women & Children's this has no significant rota implications unless there is significant development of treatment centres requiring paediatric specialist input 	



Scenario	Clinical quality advantages	Clinical Safety advantages	Clinical quality disadvantages	Clinical safety risks	Workforce implications expressed in as much details as possible in terms of rota implications and staffing numbers	For scenario 2: What additional mitigations need to be put into place to meet essential quality and safety standards
<p>2 EC on one site DTC on another site</p>	<ul style="list-style-type: none"> DTC as a day case facility preferable, or surgical team employ trust grade staff, who are of variant quality and availability Separation of patient flows Workforce clearly aligned to activity and speciality in DTC Predictable requirement of senior staff in DTC Radiologists based at DTC relatively free from interruptions 	<ul style="list-style-type: none"> If DTC demands on site medical cover then there is no advantage of having a single EC. This would demand separate on call rotas and very isolated juniors in poorly supervised and of limited education value. Separation of patient flows 	<ul style="list-style-type: none"> This will revolve around out of hours care. There will be generic skills for hospital at night practice with the requirement of separate senior non-resident rotas within all specialities covering the DTC. The availability of HDU/ITU will limit patient acuity Separation of speciality senior rotas will limit availability of senior Drs to the EC Splitting of some modalities eg nuclear medicine will probably lose economies of scale if 1 nuclear medicine scanner on each site CT and MR (but to a lesser extent) Interventional radiology would be on one site only therefore has to be EC 	<ul style="list-style-type: none"> The patient becoming suddenly and critically unwell may well be disadvantaged requiring multiple speciality input and facilities This will limit the acuity of patients having surgery and determine the capacity of DTC Limited investigations within a DTC out of hours would also have a negative safety effect. Staffing too many separated areas may result in reduced pool for EC. 	<ul style="list-style-type: none"> Option 1 – comprehensive DTC with full staffing Option 2 – day case only DTC with limited cover Option 3 – for Ortho use RJAH for longer stays. Hospital at night rotas will be mainstay of DTC May well be difficult to staff with training medical staff as this is separate from speciality training DTC will pool on pool of Drs for EC (particularly anaesthetics) Single radiology rota at EC Would need off site 'oncall' radiographer rota for DTC depending on complexity of surgery being performed Splitting of CT/MR expertise would lose economies of scale vs. all on 1 site. 	<ul style="list-style-type: none"> Will much depend on what the DTC will provide If low acuity, then low out of hours staffing requirement If high acuity, need more extensive rota cover This depends on the placement of some paediatric and gynae surgery. If paediatric surgery in on the DTC then access to paediatric specialist (medical and nursing) care will need expansion as there is considerable sharing of skills and bed base with a single site. This has significant implications for Head and Neck along with some general surgery and gastro. With this scenario gynae surgery would require support for overnight care and emergency gynae would be separated from elective gynae. In most instances a hospital at night service will suffice but speciality knowledge/skills required. With a significant separation (distance and time) a separate Consultant Gynae rota (6 docs) will be required for the cover for the unusual returns to theatre etc. as this could not be supplied by the gynae consultant on for gynae emergencies at the EC/second on call obstetrician With the separation from emergency gynae there are also nursing skill implications. Would need off site 'oncall' radiographer rota for DTC depending on complexity of surgery being performed



Scenario	Clinical quality advantages	Clinical Safety advantages	Clinical quality disadvantages	Clinical safety risks	Workforce implications expressed in as much details as possible in terms of rota implications and staffing numbers	For scenario 2: What additional mitigations need to be put into place to meet essential quality and safety standards
<p>2a Obstetrics co-located with EC Option 1 preferred but 2a next best DTC – Diagnose only</p>	<ul style="list-style-type: none"> Separation of elective surgery reduces risk of cancellation Single trauma service would allow emergency sub-specialisation (eg upper and lower limb specialists) Single critical care unit should achieve national standards Consultant obstetric practice requires, on occasion, all the specialities presumed to be at EC including blood transfusion and pathology support. This model avoids work around solutions and keeps neonatology with paediatrics which supports some work force issues (mid grades). It also keeps obstetrics with emergency gynaecology and likewise resolves some potential work force issues (mid and junior grade) 	<ul style="list-style-type: none"> Speed of access for obstetric patients requiring critical care or interventional radiology Easy access to surgery and medicine for obstetric patients Reduced risk of hospital acquired infection for patients having elective surgery Immediate access for patients to required specialist; critical care; blood transfusion; pathology Interventional radiology on same site as obstetrics for PRH 	<ul style="list-style-type: none"> Risk of theatre productivity falling on EC site as can no longer mix day cases with in patients. Separation from elective gynae creates some workforce issues at senior level and speciality knowledge for hospital at night and nursing teams. 	<ul style="list-style-type: none"> Small number of patients undergoing surgery will need access to critical care or medicine (these patients will have to be transferred) This revolves around the workforce set up for the DTC in relation to gynae and availability of appropriate speciality and pathology support on the rare occasion. 	<ul style="list-style-type: none"> “Surgical patients” in DTC will need on site medical cover (this could be a single multispecialty specialty doctor rota) Will need separate consultant rota in anaesthetics, general surgery and orthopaedics Smaller specialities such as urology, ENT and maxillofacial will struggle to supply two consultant rotas and will have to cover two sites (this may reduce recruitment opportunities. Interventional radiologist would be co-located with obstetrics EC benefit from co-locating with clinical staff trained in management of obstetric emergencies Problematic hospital at night team Need a DTC non-resident senior rota separate from the 2 senior rotas at the EC 	<ul style="list-style-type: none"> Would need to be prepared to initiate critical care on the DTC site and transfer the patients out All surgery needing access to interventional radiology would need to take place on EC site. 1 in 6 non-resident consultant rota in addition to rotas for DTC in addition to rotas for EC
<p>2b Obstetrics co-located with DTC</p>	<ul style="list-style-type: none"> Separation of elective surgery reduces risk of cancellation Single trauma service would allow emergency sub-specialisation (eg upper and lower limb specialists) Single critical care unit should achieve national standards A neonatal unit, as part of this unit, would be human resource intensive for middle grades and radiology (and other support services) This separates Obs/elective gynae from emergency gynae and neonatal paeds from acute paeds (not sure where paediatric surgery would take place?) This separates consultant obs from other acute specialities. This has no clinical quality advantage 	<ul style="list-style-type: none"> Reduced risk of hospital acquired infection for patients having elective surgery This separates Obs/elective gynae and neonatal paeds from acute paeds (not sure where paediatric surgery would take place?) This separates consultant obs from other acute specialities. This has no patient safety advantage. 	<ul style="list-style-type: none"> Potential separation of ill mother (on EC) and baby (on NICU at the DTC) Risk of theatre productivity falling on EC site as can no longer mix day cases with in patients This requires work around solutions for the support of obstetrics by emergency specialities; radiology; blood transfusion; pathology and critical care All solutions will create more complex care pathways for pregnant and post-partum women Separation of mid- grade tier in neonatology from paeds will create a clinical quality issue for either of these specialities. No interventional radiology on site 	<ul style="list-style-type: none"> Poor access to critical care or interventional radiology for obstetric patients (patients needing these services would need to be transferred) Poor access to surgery and medicine for obstetric patients Requires many “back-up” professionals with added risk Work around solutions and complex pathways results in unnecessary risk of failure of timely delivery of care No interventional radiology on site and probably no angio room All interventional radiology will be at EC & cardiology will presumably be at EC also Therefore very unstable patients would require transfer to EC 	<ul style="list-style-type: none"> EC rotas <ul style="list-style-type: none"> General surgery (4 tiers) ENT (3 tiers) Urology T&O single trauma service would need 2 consultant on site in day Maxillofacial (3 tiers) Single critical care unit improves recruitment for staff Difficulties for anaesthesia; would require 4 rotas (general and critical on EC and general and obstetric on DTC) Paeds/Neonates: Additional mid-grade staff (9) as rota currently shared Gynae: loss of support of acute gynae to emergency obstetrics therefore need a 1 in 6 resident and non-resident gynae consultant rota for EC (current gynae rota supplies 2nd consultant obs as col-located with EM and Obs) Mid-grade and junior rota required for emergency gynae on one site creates the need for additional rotas Anaesthetics: Obs co-located with DTC will require current resident mid-grade rota and day time resident consultant but will require additional non-resident consultant out of 	<ul style="list-style-type: none"> The DTC staffing would need to be enhanced to provide support to the obstetric unit. This would require, as a minimum, a CT in medicine. The surgical rotas would have to be speciality specific (i.e. separate rotas for general surgery, urology and orthopaedics) Enhanced risk that consultants on call for DTC would need to return to assess obstetric patients Drs will need to choose between: <ul style="list-style-type: none"> Stand alone, self sufficient capacity (even if co-located) Or linked with other specialities Radiographer on site OOH for neonatal unit



Scenario	Clinical quality advantages	Clinical Safety advantages	Clinical quality disadvantages	Clinical safety risks	Workforce implications expressed in as much details as possible in terms of rota implications and staffing numbers	For scenario 2: What additional mitigations need to be put into place to meet essential quality and safety standards
					<p>hours to supply back up/2nd pair of hands. This may be supplied by anaesthetic cover for DTC as this will be relatively quiet.</p> <ul style="list-style-type: none"> • <i>Resus</i>: Obstetric unit will require a resus team although this should be in place of the DTC • <i>Imaging</i>: The obstetrics unit will require access to in hours and out of hours imaging and therefore consultant radiology resident and non-resident rota • <i>Medicine/Cardiology</i>: The most common emergency consultations in consultant obstetric practice are with medicine although a 10 minute travel is acceptable. This will result in the loss of staff to the EC • <i>Surgery/Urology</i>: 10 minutes travel is acceptable but this will result in loss of resource from the EC. • Immediate inter-operative attendance is rare but the absence of intervention radiology means that vascular assistance will very occasionally be required • Pathology: obstetrics and neonatology will require on site blood transfusion services and pathology (haematology and biochemistry) • Pharmacy: on-site support and IV feeding for neonatology • Therapies • Interventional radiology provision to cover cross-site if there is angio room at DTC 	

- In all the options Microbiology and Cellular pathology would remain on one site only. Therefore it would be blood sciences (haematology, including blood bank, and biochemistry) that would be affected. We would provide a 24 hour, 7 days a week service at PRH, RSH and an on call service at RJAH.
- One EC and DTC together would require a fourth laboratory with equipment and estimated 10 more BMA staff to run a forth 24/7 service
- For separate EC and DTC that potentially increased the blood sciences laboratories to five with increased staff numbers.
- Obstetrics as stand alone would create significant blood bank problems which could be resolved with a remote blood bank system.

Contributors:

Bill Gowans – Future Fit Clinical Design Lead
 Edwin Borman – Medical Director, SaTH
 Mark Cheetham – Scheduled Care Group Medical Director, SaTH
 Kevin Eardley – Unscheduled Care Group Medical Director, SaTH
 Andrew Tapp – Women & Children’s Care Group Medical Director, SaTH
 David Hinwood – Radiology Care Group Medical Director, SaTH
 Archie Malcolm - Pathology Care Group Medical Director, SaTH