

BUSINESS CASE TEMPLATE

New Service Model for Urgent and Emergency Care – Delivery of Blue Zone and the Transfer of the Acute Renal Service to Ward 10

Care Group/CBU	Corporate covering developments in Unplanned Care (UEC) and Planned Care (Renal)		
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1 Background & Rationale for Change

In March 2019, the Trust Board of Directors approved a business case proposing a new operational and workforce model for Urgent and Emergency Care (UEC). A key part of this new model involves the provision of Same Day Emergency Care (SDEC) through an Ambulatory Emergency Care Unit (known as Blue Zone).

The business case submitted to the Board in March 2019 demonstrated that SDEC is essential to the success of the new UEC model and is vital if the Trust is to reduce crowding in the Emergency Department (ED), deliver safe care and meet the 4 hour Emergency Care Standard.

Blue Zone is the cornerstone of SDEC and this business case outlines the Trust's proposals to physically create it. The development of Blue Zone has two phases:

- an enabling phase that transfers the acute renal service at BRI to ward 10 (formerly ICU)
- a delivery phase relating to the development of Blue Zone in the space vacated by acute renal

Both phases will involve considerable work to the estate at BRI to ensure that the new accommodation for both Blue Zone and the acute renal service is fit for purpose.

The enabling phase could usually be considered as a standalone business case as the transfer of the acute renal service to ward 10 has its own operational and quality of care benefits. However, the acute renal service currently occupies the prime location, adjacent to ED, for Blue Zone. As a result, the overwhelming purpose (and benefit to the Trust) of this phase is to vacate this location to allow the development of Blue Zone. Whilst ward 10 is to be refurbished and modified so that it improves conditions for acute renal patients and allows space for expansion at a future date, these benefits are considered to be secondary to the overall advantages to the Trust of enabling Blue Zone and delivering SDEC.

As a result the transfer of acute renal services to a refurbished ward 10 has been subsumed into this business case.

2 Proposed Outcomes & Benefits Realisation

Enabling phase – the transfer of the acute renal service to Ward 10

Separate to any consideration regarding the creation of Blue Zone, it is the case that the Trust is facing consistent growth in the demand for haemodialysis at around 5-6% per annum. This means that the Trust is beginning to struggle to provide sufficient capacity to meet demand.

Dialysis services include home-based therapies (peritoneal dialysis and home haemodialysis) and in-centre haemodialysis. The main haemodialysis unit is situated at St Luke's Hospital (SLH) and there is a satellite haemodialysis unit at Skipton Hospital. In addition, the Trust also has the acute haemodialysis facility for inpatients at Bradford Royal Infirmary (BRI) that is the subject of this proposal.

Each of the elements of our renal service requires the development of new models of care, or expansion, in order to meet growing demand. Consequently, a formal strategy for the future provision of renal care has been drafted by the renal service. This contains various programmes of work to develop renal services at the Trust. These programmes of work are being advanced through their own business cases with a significant development in capacity at SLH being in the advanced stages of planning.

Also included within the renal strategy is the desire to increase capacity within our acute renal unit at BRI and whilst the primary purpose of the transfer of the acute renal service to ward 10 is to enable the development of Blue Zone; it is possible, as part of the transfer to ward 10, to lay the groundwork for building spare capacity into the new facilities.

Using this expansion space would require additional equipment and additional staffing. It is intended that the Renal service will submit a separate business case to obtain funding for any new equipment and staff once this space is required. Current forecasts show that this is likely to be in the near future; however this is outside the scope of this "Blue Zone" business case and we include no request for funding to staff or equip this expansion space within this document.

The Trust has appointed a design team from Gilling Dod Architects to work with Dr John Stoves (Clinical Lead – Renal Services) and his team to develop detailed plans for ward 10. These plans are to be developed within the clearly defined cost envelope agreed in the 2020/21 Capital Programme.

This in-built ability to expand capacity will mean that, when the time comes, the Trust will have an acute dialysis facility that can meet both growing demand and the expansion of the acute renal service due to additional work from areas such as vascular services and the need to treat patients with blood borne viruses. In other words, the ability to develop additional capacity in ward 10 will afford the Trust a cushion with which to absorb any extra activity and (given that NHSE still contracts on a payment by results basis) allow the Trust to take advantage of any financial opportunity that arises as a result.

It should also be noted that current facilities do not provide a good patient environment as space is inadequate, it is difficult to manoeuvre patients and perform line procedures and, given the proximity to ED, there is an excessive amount of noise. Ward 10 will therefore be a better environment for both patients and staff.

Blue Zone Delivery Phase

Nationally, there has been an increase in demand for emergency care year on year (CQC 2018). This national increase is reflected in Bradford; over the last year BTHFT has seen an average of 380 to 400 ED attendances per day and during winter 2018/19 attendance often exceeded 420 patients. This resulted in long delays for clinical assessment, severe ED crowding and long bed waits.

It is clear that safe and timely performance in UEC will be an increasing challenge over time; primarily as a result of growing demand, an older population and increased attendances of patients with more complex conditions. Recent performance data illustrates the scale of the challenge at BTHFT:

- the Trust's YTD 79% achievement of the Emergency Care Standard amounts to around 80 four hour breaches per day.
- 47% of admissions from the Emergency Department (ED) stay on a ward for less than 24 hours suggesting that some of these patients did not need to be admitted and could have been safely managed on an ambulatory pathway.

The single most common cause of patients breaching the 4 hour standard in our ED is crowding; there are too many patients in the ED at any one time waiting to be assessed, treated and discharged or admitted to a bed. In many EDs bed waits are the most common cause of crowding and breaching but this is not a significant factor at BTHFT. The two main causes of crowding in our ED are:

- Insufficient staffing, both nursing and medical, to undertake a clinical assessment and complete treatment.
- Lack of physical space to see patients, as all cubicles are full with patients.

These are the issues that the original UEC business case, approved by the Board of Directors in March 2019, seeks to address. One of the key elements of the case is that the Trust will resolve the problem of physical space through the development of Same Day Emergency Care (SDEC) via an Ambulatory Emergency Care Unit (known as Blue Zone) to manage more patients on an ambulatory pathway.

Blue Zone is essential to the success of SDEC and will be co-located with ED. It will operate an "assess to admit" model on a 7 days per week basis and for a minimum of 12 hours per day. It will have rapid access to diagnostics and the same internal service level agreements as ED.

Blue Zone will see adult patients suitable for ambulatory care who require 1 to 2 hours of observation or intervention to confirm their plan of care. Typically these patients will have a maximum length of stay of 12 hours. Clearly, Blue Zone will not see patients requiring resuscitation or patients suffering trauma, stroke, MI, neither will it see any category 4 or 5 patients (which will be seen by a GP or ENP).

The unit will be staffed by a combination of Acute and Emergency Physicians and Advanced Clinical Practitioners supported by nursing operating flexibly across AECU and ED. Changes to the workforce model necessary to make SDEC a success were proposed in the business case approved by the Board of Directors in March 2019.

Patients will enter the Blue Zone from a combination of ED, direct GP referral and directly from the Yorkshire Ambulance Service (YAS) and will be subject to initial streaming and triage in ED. It is

envisaged that patients will leave either by being discharged home, to a virtual ward, a hot clinic or be transferred to AMU/SAU/EMU.

Analysis of demand has shown that currently less than 30% of all medical patients are treated on an ambulatory pathway via the Trust's ACU. A conservative estimate is that up to 40 patients with ambulatory conditions are treated in ED each day. There are also up to 20 patients each day that are admitted to wards with ambulatory care conditions who have a length of stay of less than 24 hours. This figure has increased markedly since Q4 of 2017 (see table 1 below).

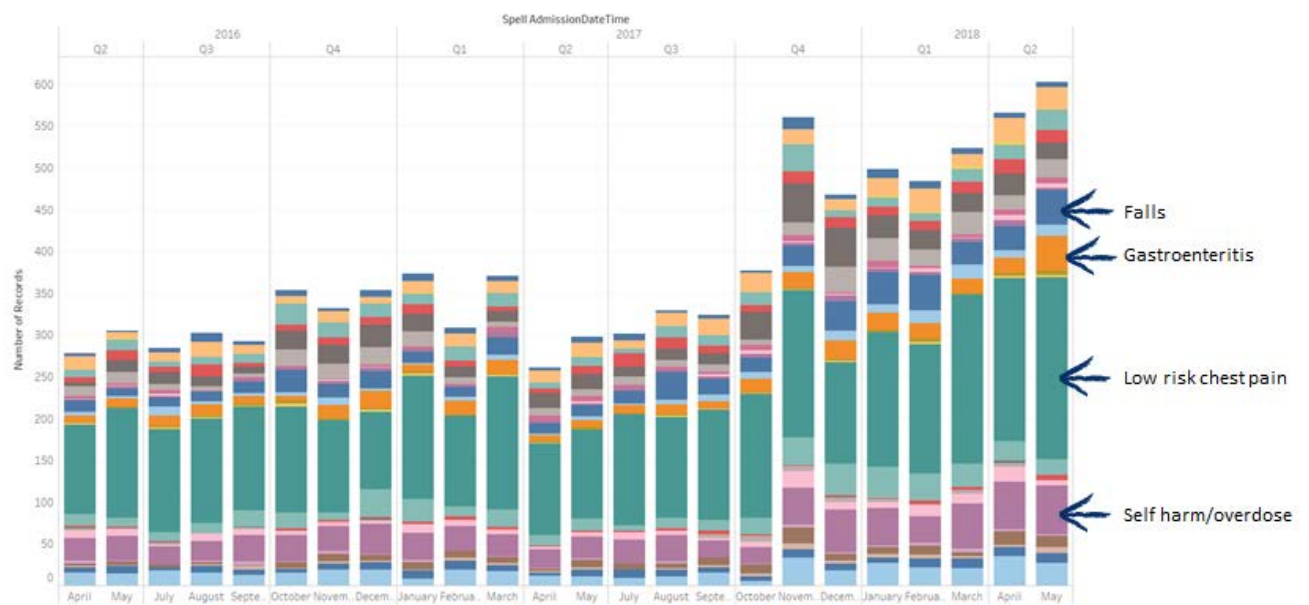
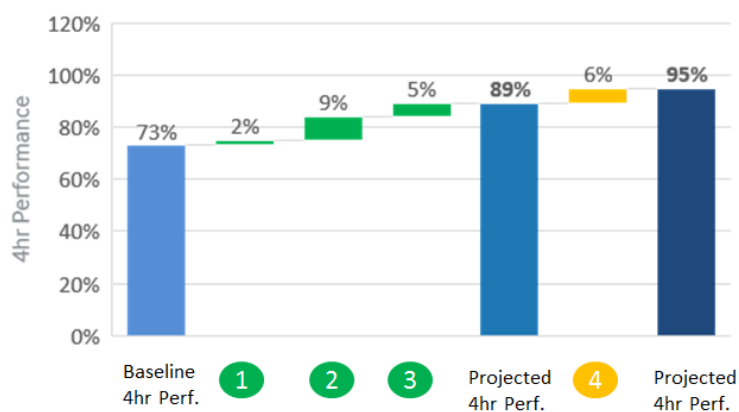


Table 1: Inpatient Activity Profile – Patients with an ambulatory condition and <24 hour LOS admitted to an inpatient setting

In short, it would appear the Blue Zone could see upwards of 60 patients per day that would otherwise be seen within ED.

Analysis has also shown that the implementation of Blue Zone as part of the other improvements in the overall vision for Urgent and Emergency Care should lead to an improvement in Emergency Care Standard (ECS) performance of 9 percentage points. This is shown in the illustration below.

BHFTH 4hr performance roadmap



By streaming patients to the Ambulatory Emergency Care Unit (AECU) and new Green Zone we would decongest Majors and could improve overall 4hr performance from 73% to 89%.

Matching staffing levels and skill mix to demand is a key enabler.

Improvement projects in progress

- 1 Co-location of GPs and Minors and increasing capacity to 11 (Lift & Shift)
- 2 Streaming ambulatory patients from A&E through the new AECU (blue zone)
- 3 Streaming triage category 4 & 5 through the co-located GPs and Minors unit (green zone)

The above improvement projects, would provide a 4hr performance opportunity to **89%** without any other changes.

- 4 **If 90% of patients have a bed wait of 60 minutes or less**, would provide a performance opportunity to **95%**.
(reliant on downstream bed capacity)

The current physical capacity in majors would be sufficient for current demand .

NB: Increasing demand

Projected increase in activity by 2023 is predicted to reduce 4 hr performance by 2% - therefore a more sustainable model is required.

Table 2: BTHFT 4 hour performance road map

However, the development and delivery of Blue Zone is dependent on its co-location with ED in a space adjacent to ED. This space is currently occupied by the acute renal service and requires this service to move to ward 10.

3 Financial Implications

Complete the financial summary below using the information you have developed with Finance. You must meet the financial targets unless there is a compelling case re quality and safety

The need to create Blue Zone in order to be able to deliver a SDEC model has been known for some time. As a result, work has been undertaken to ensure that funding of £1.6m for this project has been allocated in the Capital Programme for 2020/21.

The work of the design team lead by Gilling Dod Architects has been undertaken with the £1.6m cost envelope as a key design criteria.

The £1.6m is based currently on outline costs drawn up the Trust's Estates and Facilities team, copies of these costs are embedded below:



OB1 OUTLINE COST SUMMARY - AECU DEV
OB2 OUTLINE COST SUMMARY - AECU DEV

More detailed, pre-tender estimate costs will be available at the end of January 2020.

	£000k	Comment	
Income from Activities	0	Revenue implications relating to workforce were addressed in the March 2019 business case	
Funding Redistribution	0		
Operating Costs	0	0%	% Overhead rate included
EBITDA	0	0%	% Return against target of 10%
Capital Charges	(64)		
Net Surplus	(64)	0%	% Return against target of 2%

	£000k		
Capital Costs	1,600	Included in capital programme	Yes
Non Recurrent Costs (year 1)			

	£000k	%	
Sensitivity Analysis			Value and % movement on income or expenditure before financial hurdle rates are breached

Cashflow forecast (£000k)

Year 1	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Receipts	-	-	-	-	-	-	-	-	-	-	-	-
Payments	(1,600)	-	-	-	-	-	-	-	-	-	-	-
Net Cash	(1,600)	-	-	-	-	-	-	-	-	-	-	-

Year 2	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Receipts	-	-	-	-	-	-	-	-	-	-	-	-
Payments	-	-	-	-	-	-	-	-	-	-	-	-
Net Cash	-	-	-	-	-	-	-	-	-	-	-	-

Year 3	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Receipts	-	-	-	-	-	-	-	-	-	-	-	-
Payments	-	-	-	-	-	-	-	-	-	-	-	-
Net Cash	-	-	-	-	-	-	-	-	-	-	-	-

4 Strategic Context

The proposals within this business case would assist the Trust in the delivery of its objectives in relation to improving patient flow through Urgent and Emergency Care and delivering the 4 hour Emergency Care Standard. The proposals would also ensure that we could continue to meet future demand for access to our acute renal dialysis service and that both our UEC and Renal services would be provided in improved accommodation and in ways that would significantly improve the care experience for both patients and staff.

In short, the proposals set out in this case would help the Trust to achieve our strategic objective of providing outstanding care for patients.

5 Option Appraisal

Option 1 – “Do nothing”

Do nothing is not a realistic option. Not developing Blue Zone would mean that the Trust would need to revisit the business case approved by the Board of Directors in March 2019 and develop a new approach to addressing our problems in relation to UEC. Given that the business case in March 2019 assessed the various options available to the Trust, and that the basis on which those options were reviewed and discounted has not changed, it would seem inappropriate to not proceed with the new model of Same Day Emergency Care (SDEC) as agreed.

Option 2 – Develop Blue Zone in the space currently occupied by the acute renal service (Preferred Option)

As stated above, the single most common cause of patients breaching the 4 hour standard in our ED is crowding - there are too many patients in the ED at any one time waiting to be assessed, treated and discharged or admitted to a bed. In many EDs bed waits are the most common cause of crowding and breaching but this is not a significant factor at BTHFT. The two main causes of crowding in our ED are:

- Insufficient staffing, both nursing and medical, to undertake a clinical assessment and complete treatment.
- Lack of physical space to see patients, as all cubicles are full with patients.

The main way in which the Trust is seeking to address the problem of physical space is through the development of SDEC via an Ambulatory Emergency Care Unit (Blue Zone) to manage patients on an ambulatory pathway.

To maximise its impact, Blue Zone needs to be co-located with ED and will need operate on an “assess to admit” model. It will also require rapid access to diagnostics.

The location currently occupied the acute renal service is an ideal location for Blue Zone.

Option 3 – Identify an alternative location for Blue Zone

Other locations for Blue Zone have been considered. However, none have been identified that offer the same proximity to ED and will allow the same optimal triage and flow of patients.

6.1 Demand, Capacity & Resource Implications

Demand in ED has risen considerably over recent years and is forecast to continue to increase. For example, daily attendances (type 1 & 3) have increased over each of the last 3 years:

	15/16	16/17	17/18	18/19
Daily Attendances	366.0	370.3	369.1	380.3
Growth Rate		+1.2%	-0.3%	+3.0%

But this is not the full story;

- ambulance arrivals have been relatively stable in this period
- attendance growth has predominantly been during one time in the day (between 1200 and 1600 each day)
- the rate of growth in our attendance has been less than the rate of decline in our ECS performance

This suggests that a significant contributor to our fall in performance is not purely an increase in attendances but the fact that this increase causes ED crowding and overwhelms our physical space to see patients. This was commented on by the Emergency Care Intensive Support Team (ECIST) during a 3 day assessment, who said that an average attendance of 280 was the maximum number that our current capacity could tolerate under current ways of working.

Blue Zone will allow the Trust to change these ways of working and to triage and improve the flow of patients by treating patients with an ambulatory condition in a dedicated AECU. This will ensure that a significant number of patients (upwards of 60) are moved through the department each day resulting in a predicted improvement in our ECS performance of 9 percentage points.

6.2 Resources and Estates Considerations

Additional resources will not be required from other departments. Indicative plans have been developed by the Estates department and Gilling Dod Architects for both the Blue Zone and the transfer to ward 10.

Detailed proposed layout of Blue Zone:




BTHRIA-GDA-V2-00-R
D-A-35_05-0001_P01_

Proposed layout of Acute Renal when transferred to ward 10:



BTHRIA-GDA-V1-00-R
D-A-35_05-0001_P01_

7	Implementation Plan <i>Description of action, responsibility, date to complete. Bear in mind that there will be an ongoing implementation review designed to ensure that Business Case is progressing as planned</i>		
	Objective	Description of Action	Lead
	Business Case approval	Submit to Board of Directors	Sandra Shannon
	Identify Contractor	Complete tender process with a view to beginning work in early 2020/21	Sandra Shannon/Shane Embleton

8. Signatures	
Chief Operating Officer	

9. Benefits Realisation Table

Each benefit must be clear and measurable, have an owner, have a current baseline value and measurable target and have a deadline date. **Remember** – there will be a post implementation review and DGMs and DCDs will be held to account for achieving the benefits stated.

Benefit to Measured	Owner	Baseline Value	Target Value	Method of Measurement	Measurement Dates	Risks & Mitigation
Delivery of Emergency Care Standard	Sandra Shannon	74%	83%	NHSI daily sitrep	As per agreed trajectory	There is a risk that increases in ED attendance with continue to cause crowding and limit the positive impact on performance of SDEC. Further mitigation is achieved through the other work streams in the urgent and emergency care improvement programme.
Improvement in %ambulance handover within 15 minutes	Sandra Shannon	79%	85%	YAS turnaround report	Weekly	
Reduction in ambulance handover delays > 60 minutes (per month)	Sandra Shannon	28 per month	Zero	YAS turnaround report	Weekly	
Average daily number of patients seen via Blue Zone per day	Sandra Shannon	8-9 (ACU)	40	ED dashboard	Weekly	There is a risk that there will be insufficient acute physicians to accept all patients suitable for same day emergency care into Blue Zone. Mitigation through ongoing recruitment and expansion of the ACP workforce model.

