Health and care working together in South Yorkshire and Bassetlaw

Hospital Services Review

South Yorkshire, Bassetlaw and North Derbyshire: Considering the case for change

Governing Body Note: Case for Change Annex

May 2019

Contents

1 Introduction

This case for change document acts as an annex to the note to Governing Bodies, which includes all tables, charts and graphs relating to the case for change section. The evaluation metrics are listed under the evaluation criteria described below, and are provided for each services under review (Care of the Acutely Ill Child, Maternity & Gastroenterology).

In developing this, we have considered the following inputs:

- Publically sourced data alluding to the sustainability metrics
- Workforce and activity data provided by Trusts
- Clinical input through the Clinical Working Groups regarding the sustainability metrics to use
- Qualitative information collected from Clinical leads and Medical Directors at Trusts through 1-1 interviews.

2 The Case for Change: Care of the Acutely Ill Child

2.1 Overall

The quality of CAIC services in SYB(ND) is currently good on most sites, but we are facing some sustainability challenges in our systems. Bassetlaw is of particular concern, having reduced its opening hours from a twenty four hour inpatient unit to no longer being open overnight in 2017 due to staffing challenges. Paediatrics is also currently included on the risk register for most Trusts.

Patient feedback for Paediatrics across SYB(ND) is very good, but staff satisfaction scores for overall satisfaction and workload suggest that the quality of the service is heavily reliant on current staff members working additional shifts and going above and beyond their day to day duties.

A detailed assessment of Trusts, against approximately 30 metrics at Trust level, is contained in the case for change report for each Trust, included below is a snapshot view of these metrics at the system level.

2.2 Quality

We will measure Quality by considering the question: *Is quality of care optimised by promoting delivery of national good practice and guidance, and contributing to maintained or improved outcomes?*

This takes into consideration the following:

- Are SYB(ND) Trusts able to meet national clinical guidelines and standards?
- Are patients satisfied with the quality of care offered?

CQC Assessment

The table below (Figure 1) shows the Care Quality Commission (CQC) scores for each Trust, including Children and Young People, and Urgent & Emergency services. The CQC score looks at safety, effectiveness, care, responsiveness and leadership of a service.

Overall, most Trusts score *'Good'* and Barnsley Hospital believe their *'Requires improvement'* score may have been in large part due to a one-off event on the day of the inspection. The Trust also highlighted that the CQC report did not suggest a poor quality of care or any clinical weaknesses at Barnsley.

CAIC CQC Scores	Barnsley *Published Mar '18*	Chesterfield *Published May '17*	Doncaster *Published July '18*	Bassetlaw *Published Jul '18*	Rotherham *Published Jan '19*	Sheffield Children's *Published Oct '16*
CQC Children & Young People	RI Requires Improvement	G Good	G Good		G Good	G Good
CQC Urgent & Emergency Services	G Good	G Good	RI Requires Improvement[2]		I Inadequate	G Good

Figure 1: CQC scores for Children and Young People, and Urgent & Emergency services[1]

Facing the Future Standards

In addition to the CQC score, we also looked at the number of the Facing the Future standards each Trust meets, as defined by RCPCH. The table below (Figure 2) shows the definitions of the standards and how many of the standards each Trust met in 2018. Figure 2 shows that Rotherham, Doncaster & Bassetlaw and Chesterfield are not currently meeting all standards, whilst Sheffield Children's and Barnsley met (or have a plan to meet) all 10 standards.

The most common standards Trusts are struggling to meet involve workforce considerations and are listed below:

- FTF Standard 1: Consultant is present at peak times, 7 days a week
- FTF Standard 3: Every child is seen by a consultant Paediatrician within 14 hours of admission

FTF Standard 8: All training rotas made up of 10+ WTE posts, all compliant with EU and UK working regulations

[1] CQC, Inspection reports, 2016 - 2019

		Barnsley	Chesterfield	Doncaster & Bassetlaw	Rotherham	Sheffield Children's
1	*Consultant is present at peak times 7 days a week*	✓	✓	X	X	✓
2	*Every child admitted is seen by a professional within four hours of admission*	✓	✓	✓	✓	✓
3	*Every child is seen by a consultant paediatrician within 14 hours of admission*	✓	-	X	X	-
4	*At least two medical handovers led by a consultant paediatrician*	✓	✓	✓	✓	✓
5	*Every child with an acute medical problem has their case discussed with a clinician before they are discharged*	✓	✓	✓	✓	✓
6	*Access to the opinion of a consultant paediatrician throughout open hours*	✓	X	✓	✓	✓
7	*All inpatient units adopt an attending consultant system, typically in the form of the 'consultant of the week'*	✓	✓	✓	✓	✓
8	*All training rotas made up of 10+ WTE posts, all compliant with UK and EU Working Time Regulations*	✓	X	✓	X	✓
9	*Specialist paediatricians are available for immediate telephone advice for acute problems for all specialties and for all paediatricians*	✓	✓	✓	✓	✓
10	*Access to a paediatrician with child protection experience and skills (of at least level 3 safeguarding competencies)*	✓	✓	✓	✓	✓

Key: ✓ Achieved ✓ Mostly achieved - Plan to achieve X Not achieved

Figure 2: CAIC Facing the Future standards met by each Trust in SYB(ND)[2]

Patient feedback

Patient feedback for Paediatric services is good, based on qualitative evaluation of NHS choices submissions, as well as public consultation during the Hospital Services Review. NHS choices feedback cited 'caring and reassuring staff' with parents kept 'informed and involved' by Paediatric staff.

To quantitatively assess patient feedback for CAIC services across SYB(ND) Trusts, we calculated an average of the scores achieved in the Children and Young People's (CYP) survey; all Trusts received an average score of 8.4 or more over the 5 questions asked, indicating a very good quality of patient feedback. The average scores for each SYB(ND) Trust are shown in Figure 3:

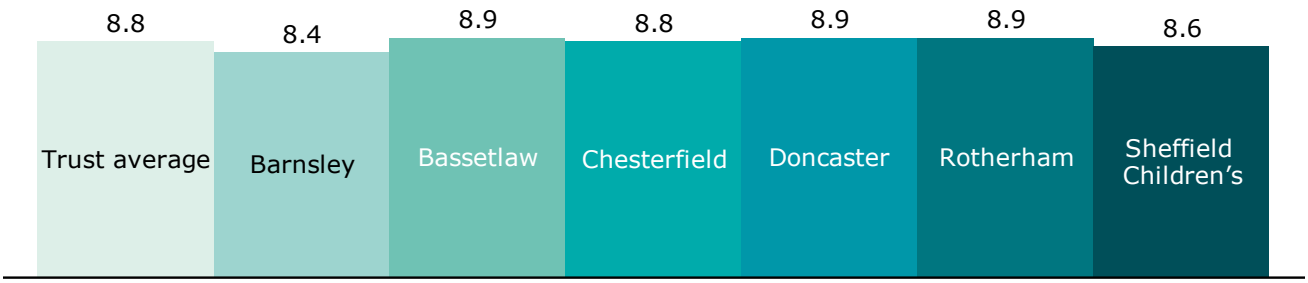


Figure 3: CAIC average CYP survey score for all SYB(ND) Trusts[3]

[2] RCPCH, Facing the Future standards, 2018

[3] NHS, Children and Young people's survey, 2016

2.3 Workforce

Workforce is measured by considering the question: *Does the option ensure there is a sustainable workforce of the right number and skill set?*

This takes into consideration the following:

- Do Trusts have sufficient workforce in place to provide a safe service?
- Is the existing workforce satisfied with their workplace environment and workload?
- To what extent do Trusts rely on locum / temporary staff?

There is currently a shortfall in workforce across the system for Paediatrics. It has been noted that, the excellent patient feedback received is heavily dependent upon permanent staff going the extra mile to provide a good quality of care, through working overtime to cover gaps in the rota. The Clinical Working Groups have also expressed significant concern around the future sustainability of the workforce, due to the low numbers of trainees rising through the ranks.

Through CWGs we have heard concerns around workforce pressures; although medical staff typically take all of their annual leave, the first leave to be sacrificed in the instance of high demand for a department is study leave. One Trust reported that all study leave for Consultants was cancelled for four months in 2018 due to large outpatient backlogs with Consultant being forced to use their annual leave if they wanted to take study leave, whilst a participant from another Trust mentioned that nurse study leave is only granted if the training was proved to be 'essential', which is difficult to make a case for.

This leads to low staff satisfaction and poor career development opportunities, as well as staff burnout - we have heard qualitatively of many incidences of people being forced to take time out due to work-induced stress and sickness.

We know that despite this, staff within the system are continuing to provide a service that is safe and that is generally good quality. Thus, according to CQC reports, patient care is good in most cases.

The scale of the workforce gap

We have tried to evaluate the scale of the gap between the staff currently in post and what would be required. Due to the difficulties in attaining consistent funded establishment values across Trusts, we have had to model the required establishment using assumptions developed by clinicians.

The chart and table below (Figure 4) show the gaps at each grade between:

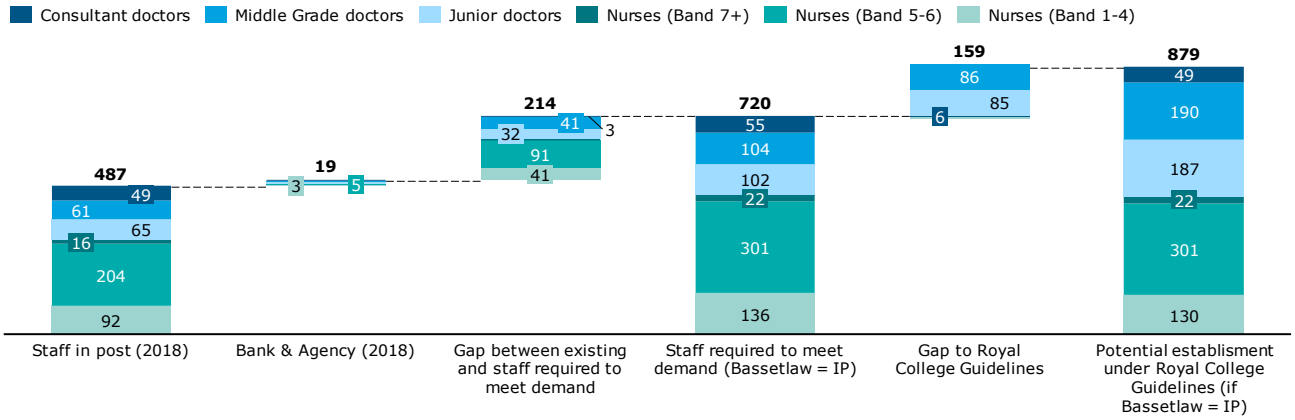
- The current staff in post and the number of staff required to sustainably staff units based on assumptions developed and refined with clinicians through a series of Clinical Working Groups
- The further gap between the number of staff required to sustainably staff units and the Royal College guidelines

The set of workforce assumptions used to develop this analysis (included in Appendix A) were developed through discussions with the Clinical Working Groups (CWGs). These assumptions take into consideration the number of days each staff grade would typically be assigned for annual leave, study leave and other duties outside of their primary acute role e.g. time for clinics as well as inpatient work in DGHs.

There is a gap of 214 WTEs from the current position, across grades, in order to meet the number of staff required to sustainably staff units using the assumption developed. When broken down by grade, the gap illustrates that Trusts struggle to fill middle-grade and junior-grade doctor positions, as well as Paediatric nursing positions, as is seen nationally.

In part, this gap is met with the use of 19 locum staff across SYB(ND). Through discussions with clinicians, we have ascertained that the figures for locum staff numbers received from Trusts are lower than they are in reality, due to a lack of data available and provided. This is likely to be significantly helping to close the gap between existing staff and the staff required to sustainably meet demand. This also suggests that, in reality, Trusts are having to spend significant amounts on locum, agency and bank staff, affecting the affordability of services.

There is then a gap of 159 WTEs from the number of staff required to sustainably meet demand to meeting Royal College staffing guidelines. When broken down by grade, the gap predominantly comprises of middle-grade and junior-grade doctors.



	Staff in post	Agency & Bank	Gap between staff in post and staff required to meet demand	Staff required to meet demand	Gap to Royal College Guidelines	Potential establishment under Royal College guidelines
Consultant doctors	49	4	3	55	- 6	49
Middle Grade doctors	61	2	41	104	86	190
Junior doctors	65	5	32	102	85	187
Nurses (Band 7+)	16	0	6	22	0	22
Nurses (Band 5-6)	204	5	91	301	0	301
Nurses (Band 1-4)	92	3	41	136	-6	130

Figure 4: Workforce numbers showing the number of staff in post, agency & bank staff, staff required to meet demand under the current configuration and the Royal College guidelines[4]

Workload and Satisfaction

Nonetheless, the shortfalls shown in the chart above (Figure 4) show that much of the good quality of care provided is being achieved by goodwill of staff. Members of the Clinical Working Group told us that a significant proportion of the shortfall is being made up by staff not taking study leave or taking additional shifts.

This is likely to be contributing to difficulties in recruitment and retention that we are seeing reported across the system. The General Medical Council (GMC) trainee staff survey scores for CAIC are shown below in Figure 5. The scores shown are for overall satisfaction and workload satisfaction, with both metrics are scored out of 100; a higher score for workload satisfaction indicates a more manageable workload.

[4] SYB(ND), Trust data returns, 2019

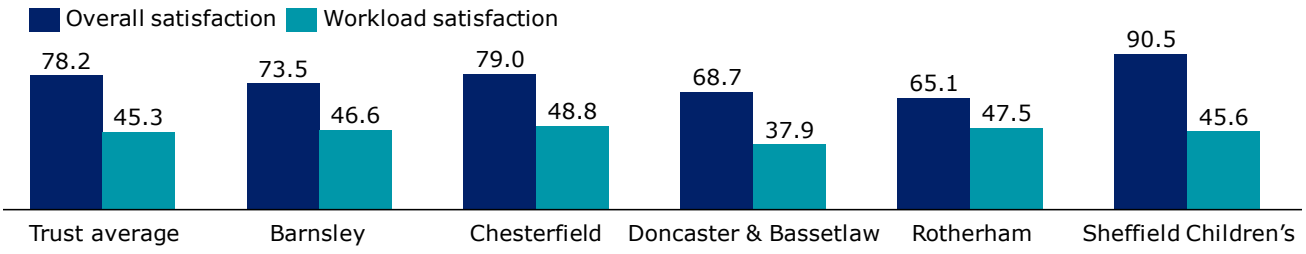


Figure 5: CAIC GMC trainee staff survey scores for all SYB(ND) Trusts[5,6]

The overall satisfaction scores (out of 100) range from 65.1 for Rotherham to 90.5 for Sheffield Children's, with a Trust average of 78.2. The workload satisfaction scores (out of 100) start at 37.9 for Rotherham, whilst Chesterfield has the highest score of 48.8, with a Trust average of 45.3. These scores echo the sentiment from the clinical working groups that staff in acute services are often overworked and feel significant workforce pressures in their roles.

2.4 Affordability

Affordability is measured by considering the question: *Does the option cost no more than the current service?*

This takes into consideration the following:

- How much activity do Trusts carry out?
- How efficient are the services the Trusts provide?

Interviews with Paediatric Medical Directors across SYB(ND) highlighted the difficulties in recruiting and retaining permanent staff to work in Paediatric departments. Therefore, some Trusts utilise locum staff for their acute Paediatric care, leading to an increased locum staff spend. Additionally, larger Trusts have developed efficiencies of scale, making them more cost effective overall.

We have used reference cost index (RCI) to assess the affordability of each service at each Trust. RCI is a measure of relative efficiency comparing the actual cost of activities in comparison to the expected cost; an RCI value above 100 means relatively inefficient services, whilst an RCI value below 100 means relatively more efficient services. The RCI values for all SYB(ND) Trusts are shown below in Figure 6 for CAIC. Sheffield Children's typically has lower RCI values than other SYB(ND) Trusts due to its large size, whilst Rotherham's very high RCI value could be indicative of high reliance on locum staff for CAIC:

[5] GMC, Staff survey, 2018

[6] Survey questions which make up the workload indicator: 'In this post, how often (if at all) do you work beyond your rostered hours?' 'In this post, how often (if at all) does your working pattern leave you feeling short of sleep when at work?' 'How would you rate the intensity of your work, by day in this post?' 'How would you rate the intensity of your work, by night in this post?'
GMC: High workloads may lead to fatigue and increased likelihood of error. Low scores are an indicator of a post where work intensity and/or long hours may lead to sleep deprivation or exhaustion.

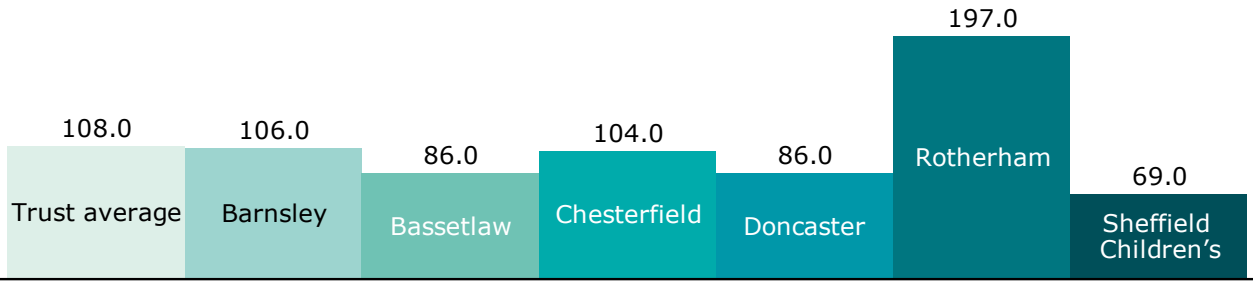


Figure 6: CAIC RCI values for all SYB(ND) Trusts[7]

Using the model described in the workforce section (and illustrated in Figure 4), we have calculated the number of staff required at each grade to sustainably staff units based on assumptions developed and refined with clinicians through a series of Clinical Working Groups. Based upon pay costs for each staff grade, an additional ~£10.3m investment p.a. would be required (excluding existing locum staff) in order to fund the supplementary workforce. The largest relative gap in is middle grade doctors as a proportion of staff required; in absolute terms the largest difference is band 5-6 nurses.

In order to close this gap, we are not assuming that we will automatically have to spend more on the service but we are looking to identify any ways in which we may be able to make the service as sustainable as possible within the existing workforce, either by strengthening it through shared working, or if necessary, reducing the demand on workforce from reconfiguration. However it must be noted that while reconfiguration can provide limited savings on one site in terms of overnight Consultant cover, it provides very few workforce savings for the system as a whole.

2.5 Interdependencies

Interdependencies are measured by considering the question: *Are the necessary supporting services appropriately available?*

This takes into consideration the following:

- Are interdependent services that need to be provided available onsite?
- What would the impact be to interdependent services at all Trusts if the clinical model were to change?

Paediatrics has a large number of interdependent services, notably Urgent & Emergency Medicine, Maternity & Neonatology. Paediatric doctors currently spend 30% of time in the Neonatology ward. The joint rota between Paediatrics and Neonatology is likely to be split in the future, which will create an even greater demand for middle grade doctors.

Paediatrics also has some interdependencies with A&E i.e. every Emergency department requires two Paediatric nurses who help to manage the inflow of patients with the support of consultant. Rotherham and Doncaster both have *Requires improvement* ratings for their A&E departments, partly as a result of Paediatric staffing issues.

At a system level, essential services are available within SYB(ND) for all but some of the most specialist services, for which there are arrangements on a Yorkshire and the Humber footprint.

[7] NHS, Reference cost indices, 2018

The table below (Figure 9) shows the CQC scores of the interdependent services required for Paediatrics:

	Barnsley	Bassetlaw	Chesterfield	Doncaster	Rotherham	Sheffield Children's
Urgent & Emergency Medicine CQC rating:	G	RI	G	RI	I	G
Maternity – CQC rating:	G	RI	G	RI	RI	O
Level of Neonatology provision:	L2	L2	L2	L2	L2	L3
Surgery (general surgery) CQC rating:	G	G	-	G	-	-
Neonatology – CQC rating:	-	-	-	-	-	G
X-ray and diagnostic ultrasound CQC rating:	RI	G	G	G	-	-
Acute mental health services CQC rating:	-	-	RI	-	-	RI

Figure 9: CQC scores of interdependent services for Paediatrics[8]

Paediatrics also has some interdependencies with A&E i.e. every Emergency department requires two Paediatric nurses who help to manage the inflow of patients with the support of consultant. We have considered the Children and Young People CQC score alongside the CQC score for Urgent & Emergency services, as this is a key interdependency for CAIC services. All Trusts achieve a *'Good'* score aside from Doncaster & Bassetlaw (who received *'Requires improvement')* and Rotherham (who received an *'Inadequate'* score). Doncaster & Bassetlaw's CQC rating for their A&E departments are partly due to the fact that they could not staff two Paediatric nurses in A&E, 24/7. Similarly the CQC report for Rotherham Urgent and Emergency Services found 'evidence of times when there were insufficient staff on duty in the resuscitation and paediatric emergency departments to ensure patients were safe.'

Similarly, the CQC scores for Maternity are varied across SYB(ND). Sheffield Teaching achieved an *'Outstanding'* score, Barnsley and Chesterfield achieved a *'Good'* score, whilst Doncaster & Bassetlaw and Rotherham achieved a *'Requires improvement'* score. All SYB(ND) Trusts have a L2 Neonatal unit, with the exception of Sheffield Children's which has a L3 unit.

2.6 The future of Care of the Acutely Ill Child services

Current activity

Through discussions with Clinical Working Groups (CWGs) and Paediatric Medical Directors, we have ascertained that there are an increasing number of GP referrals to SSPAUs across SYB(ND), with one Trust estimating c. 70% of their SSPAU admissions are from GP referrals. This indicates there is a large proportion of Paediatric patients who could be assessed and treated in the community, but are instead being directed to SSPAUs, which are already stretched in terms of activity and workforce. Rotherham has a very low number of SSPAU admissions, highlighting the success of their Paediatric Community Care Programmes.

The same discussions have highlighted the increased proportion of complex cases being admitted for acute Paediatric care, predominantly due to public health factors such as obesity and deprivation leading to increased comorbidities.

[8] CQC, Inspection reports, 2016 - 2019

The activity levels across each Trust in SYB(ND) for CAIC services are shown in Figure 10, using the metrics of non-elective IP admissions for 2018/2019 and average length of stay.

Activity levels	Barnsley	Bassetlaw	Chesterfield	Doncaster	Rotherham	Sheffield Children's
Population under 18y/o (2017/18)	52,858	24,530	53,563	69,325	60,070	123,891
Non-elective IP admissions (2018/19)	3725	1326	4573	4591	2382	6580
Average length of stay (days)	2.1	2.1	2.3	2.6	2.2	3.8

Figure 10: CAIC activity levels and under 18 y/o population data across SYB(ND)[9,10]

Future services

Overall, the demand for acute Paediatric services is expected to increase over the next 5 years. Based on the population growth (ONS) and non-demographic growth assumptions, we expect demand for Paediatric services to grow by 2.7% on average in the next 5 years.

Currently, there is a sufficient under 18 population to sustain appropriate levels of patient flow to facilitate training in SYB(ND) hospitals to ensure the workforce remain proficient in Paediatric care. The under 18 population of Bassetlaw is noticeably lower than the other SYB(ND) Trusts; if population levels were to fall there may be a risk to the training of staff in Bassetlaw.

The graph below (Figure 11) shows the predicted inpatient unit and SSPAU admission levels on the left axis, with the percentage change year on year shown on the right axis.

Using the HEE workforce growth assumptions, we expect the workforce to grow, on average, in the next 5 years (Figure 12):

- 1.3% p.a. for Junior doctors
- 5.3% p.a. for Paediatric Nursing staff

Although the number of Paediatric nurses is expected to grow faster than the number of Paediatric admissions (5.3% p.a.), given the current shortage of Paediatric nurses, it will not be enough to ensure appropriate staffing. Moreover, although this increase will help to alleviate some of the workforce issues currently experienced in SYB(ND), the rate of growth will not match the growth in demand when current workforce shortfalls are taken into account.

This will likely result in a decline in the quality of Paediatric care provided across SYB(ND), if there is insufficient staffing across the region.

[9] SYB(ND), Trust data returns, 2019
[10] NHS, CCG Population data, 2019

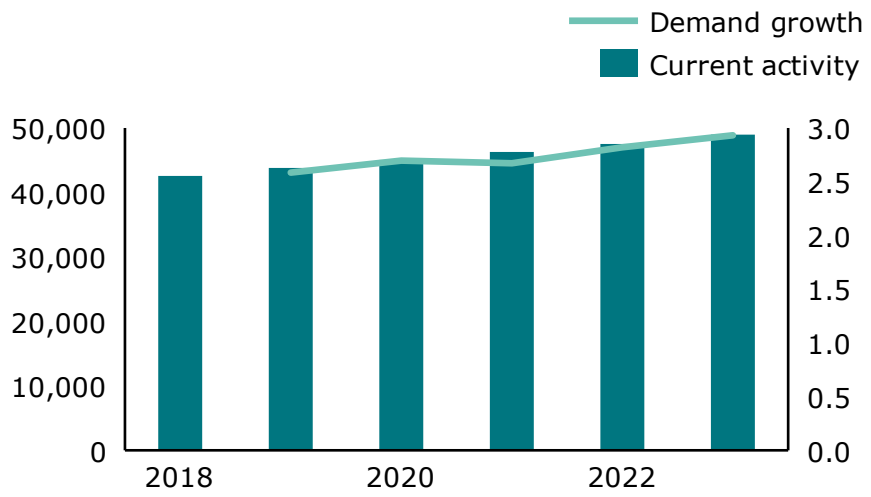


Figure 11: Predicted growth in demand over the next 5 years for CAIC services

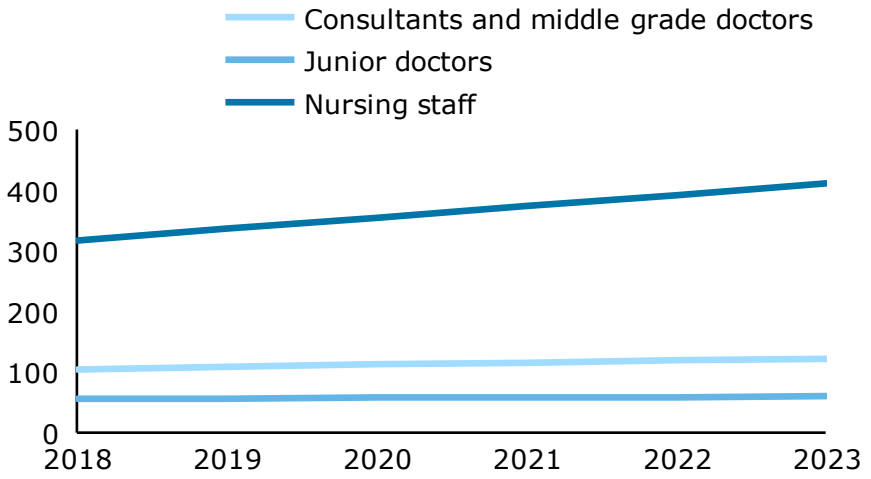


Figure 12: Predicted increase in CAIC workforce over the next 5 years

Furthermore, the implementation of Better New born Care guidelines could cause further workforce shortages in acute Paediatrics. For L1 and L2 Neonatal units, a junior doctor must be immediately available for Neonatal care, which will necessitate a separate rota to Paediatrics. Busier Neonatal units will require a separate middle grade rota, whilst the busiest units will require a separate consultant rota (as is the case currently). The splitting of the rota which currently covers both Paediatrics and Neonatology will could further exacerbate the junior and middle grade doctor shortages experienced in Paediatrics across SYB(ND).

3 The Case for Change: Maternity

3.1 Overall

The quality of Maternity services in SYB(ND) is currently good on most sites, but we are facing some sustainability challenges in our systems. Bassetlaw is of particular concern, as it cannot maintain a 24/7 Anaesthetics service and NHS England are reviewing its Neonatology service. Doncaster & Bassetlaw and Rotherham both have *Requires improvement* CQC scores for Maternity.

Patient feedback for Maternity across SYB(ND) is excellent, but staff satisfaction scores for overall satisfaction and workload suggest that the quality of the service is very dependent on staff members working overtime and going the extra mile to provide a good quality of care.

A detailed assessment of Trusts, against approximately 30 metrics at Trust level, is contained in the case for change report for each Trust, included below is a snapshot view of these metrics at the system level.

3.2 Quality

We will measure Quality by considering the question: *Is quality of care optimised by promoting delivery of national good practice and guidance, and contributing to maintained or improved outcomes?*

This takes into consideration the following:

- Are SYB(ND) Trusts able to meet national clinical guidelines and standards?
- Are patients satisfied with the quality of care offered?

CQC Assessment

The table below (Figure 13) shows the CQC Maternity scores for each SYB(ND) Trust. The CQC score looks at safety, effectiveness, care, responsiveness and leadership of a service. The CQC scores for Maternity[11] are varied across SYB(ND). Sheffield Teaching achieved an *'Outstanding'* score, Barnsley and Chesterfield achieved a *'Good'* score, whilst Doncaster & Bassetlaw and Rotherham achieved a *'Requires improvement'* score. Considering the CQC reports, Doncaster & Bassetlaw's CQC score was due to workforce shortages, whilst Rotherham's score was in part due to a low rate of safeguarding supervision and a lack of support for community Midwives.

[11] CQC, Inspection reports, 2016 - 2019

	Barnsley *Published Mar '18*	Chesterfield *Published May '17*	Doncaster *Published July '18*	Bassetlaw *Published Jul '18*	Rotherham *Published Jan '19*	Sheffield Teaching *Published Nov '18*
CQC Maternity	G Good	G Good	RI Requires Improvement		RI Requires Improvement	O Outstanding

Figure 13: CQC scores for Maternity[12]

Patient feedback

NHS choices submissions relating to Maternity indicate a good quality of patient feedback when assessed across SYB(ND), with reference to 'reassuring and supportive staff' who provide 'the highest level of care'. We have also used the NHS Friends and Family test for Maternity to assess how patients perceive the quality of the Maternity services at each Trust. The scores (% of people who would recommend the service) are shown in Figure 14 below. The highest score across SYB(ND) trusts is always for postnatal community care, with a lower average score for care during birth. All scores are above 90%, with the exception of postnatal community care at Mid Yorkshire Hospital NHS Trust.

Percentage who would recommend	Barnsley	Chesterfield	Doncaster & Bassetlaw	Rotherham	Sheffield Teaching
Antenatal Care	100%	100%	98%	100%	94%
Birth	100%	N/A	98%	99%	96%
Postnatal Ward	92%	97%	95%	97%	95%
Postnatal Community	N/A	100%	100%	100%	100%
Average	97%	99%	98%	99%	96%

Figure 14: Friends & Family test for Maternity for all SYB(ND) Trusts[13]

[12] CQC, Inspection reports, 2016 - 2019
[13] NHS, Friends and Family test, 2018

3.3 Workforce

Workforce is measured by considering the question: *Does the option ensure there is a sustainable workforce of the right number and skill set?*

This takes into consideration the following:

- Do Trusts have sufficient workforce in place to provide a safe service?
- Is the existing workforce satisfied with their workplace environment and workload?
- To what extent do Trusts rely on locum / temporary staff?

There is currently a shortfall in workforce across the system for Maternity. As with Paediatric care, it has been noted that the excellent patient feedback received is heavily dependent upon permanent staff going the extra mile to provide a good quality of care, through working overtime to cover gaps in the rota.

The Clinical Working Groups have also expressed significant concerns around the future sustainability of the workforce, due to the low numbers of trainees rising through the ranks. Many CWG members expressed their concern around the ageing demographic of the Midwifery workforce, many of whom will be coming up for retirement across Trusts over the next five years.

Workforce pressures have also been identified in terms of study leave; although medical staff typically take all of their annual leave, the first leave to be sacrificed in the instance of high demand is study leave, for example Midwives being asked not to take their designated amount of study leave. This leads to low staff satisfaction and poor career development opportunities, as well as staff burnout - we have heard qualitatively of many incidences of people being forced to take time out due to work pressures. Indeed it was mentioned in the CWGs that large numbers of midwives are taking time off work due to work-induced stress or ill-health.

We know that despite this, staff within the system are continuing to provide a service that is safe and that is generally good quality. Thus, according to CQC reports, patient care is good in most cases.

The scale of the workforce gap

We have tried to evaluate the scale of the gap between the staff currently in post and what would be required. Due to the difficulties in attaining consistent funded establishment values across Trusts, we have had to model the required establishment using assumptions developed by clinicians.

The chart and table below (Figure 15) show the gaps at each grade between:

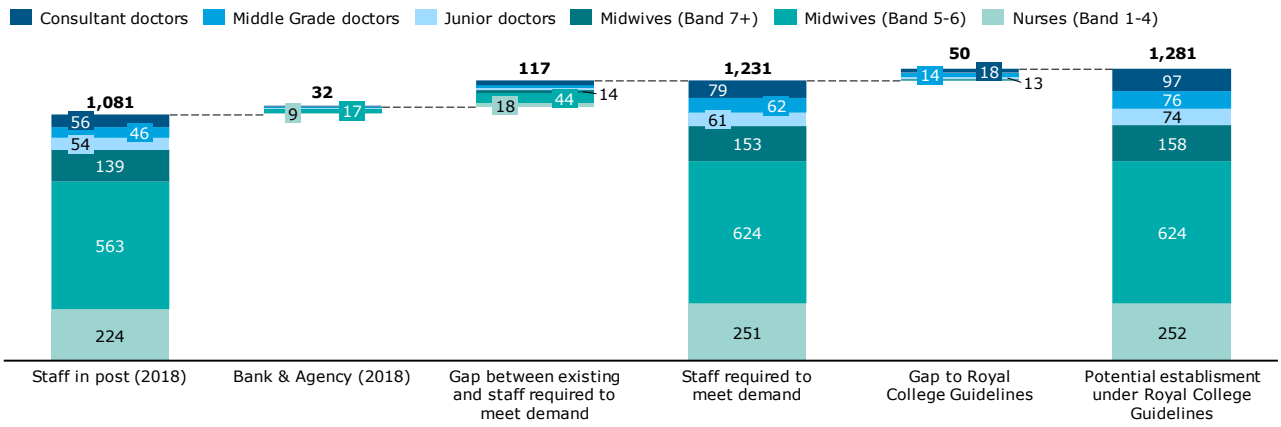
- The current staff in post and the number of staff required to sustainably staff units based on assumptions developed and refined with clinicians through a series of Clinical Working Groups
- The further gap between the number of staff required to sustainably staff units and the Royal College guidelines

The set of workforce assumptions used to develop this analysis are included in the Appendix (Section XX), which were developed through discussions with the Clinical Working Groups (CWGs). These assumptions take into consideration the number of days each staff grade would typically be assigned for annual leave, study leave and other duties outside of their primary acute role e.g. time for clinics as well as inpatient work in DGHs.

There is a gap of 117 WTEs from the current position, across grades, in order to meet the number of staff required to sustainably staff units using the assumption developed. When broken down by grade, the gap illustrates that Trusts struggle to fill consultant and middle-grade doctors positions, as well as Midwifery positions, as is seen nationally.

In part, this gap is met with the use of 32 locum staff across SYB(ND). Through discussions with clinicians, we have ascertained that the figures for locum staff numbers received from Trusts are lower than they are in reality, due to a lack of data available and provided. This is likely to be significantly helping to close the gap between existing staff and the staff required to sustainably meet demand. This also suggests that, in reality, Trusts are having to spend significant amounts on locum, agency and bank staff, affecting the affordability of services.

There is then a gap of 50 WTEs from the number of staff required to sustainably meet demand to meeting Royal College staffing guidelines. When broken down by grade, the gap predominantly comprises of consultant and middle-grade doctors.



	Staff in post	Agency & Bank	Gap between staff in post and staff required to meet demand	Staff required to meet demand	Gap to Royal College Guidelines	Potential establishment under Royal College guidelines
Consultant doctors	56	0	23	79	18	97
Middle Grade doctors	46	4	13	62	14	76
Junior ("SHO") doctors	54	1	6	61	13	74
Midwives (Band 7+)	139	1	14	153	5	158
Midwives (Band 5-6)	563	17	44	624	0	624
Nurses (Band 1-4)	224	9	18	251	1	252

Figure 15: Workforce numbers showing the number of staff in post, agency & bank staff, staff required to meet demand under the current configuration and the Royal College guidelines[14]

Workload and satisfaction

Nonetheless, the shortfalls shown in the chart above show that much of the good quality of care provided is being achieved by goodwill of staff. A significant proportion of the shortfall is being made up by staff not taking study leave or taking additional shifts. Examples of this include study leave being cancelled, and permanent members of medical staff covering gaps in the rota, as opposed to utilising locum, bank or agency staff.

[14] SYB(ND), Trust data returns, 2019

This is likely to be contributing to difficulties in recruitment and retention that we are seeing reported across the system. The General Medical Council (GMC) trainee staff survey scores for Maternity are shown below in Figure 16. The scores shown are for overall satisfaction and workload satisfaction, with both metrics are scored out of 100; a higher score for workload satisfaction indicates a more manageable workload.

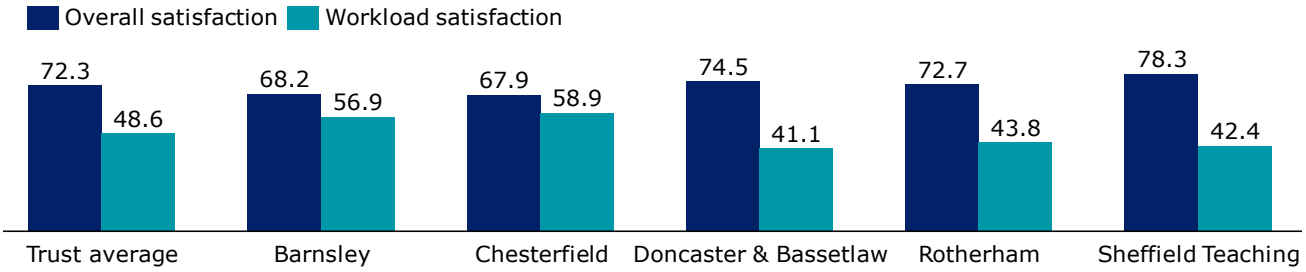


Figure 16: Maternity GMC trainee staff survey scores for all SYB(ND) Trusts[15,16]

The overall satisfaction scores (out of 100) range from 67.9 for Chesterfield to 78.3 for Sheffield Teaching, with a Trust average of 72.3. The workload satisfaction scores (out of 100) start at just 41.1 for Doncaster & Bassetlaw, whilst Chesterfield has the highest score of 58.9, with a Trust average of 48.6. These scores echo the sentiment from the clinical working groups that staff in acute services are often overworked and feel significant workforce pressures in their roles.

3.4 Affordability

Affordability is measured by considering the question: *Does the option cost no more than the current service?*

This takes into consideration the following:

- How much activity do Trusts carry out?
- How efficient are the services the Trusts provide?

Many Trusts have expressed their concern around the difficulty in recruiting Midwives and middle grade doctors, which has led to spend on locum staff in Maternity departments across SYB(ND). Additionally, larger Trusts have inevitably developed efficiencies of scale, making them more cost effective overall.

We have used reference cost index (RCI) to assess the affordability of each service at each Trust. RCI is a measure of relative efficiency comparing the actual cost of activities in comparison to the expected cost; an RCI value above 100 means relatively inefficient services, whilst an RCI value below 100 means relatively more efficient services. The RCI values for all SYB(ND) Trusts are shown below in Figure 17 for Maternity.

[15] GMC, Staff survey, 2018

[16] Survey questions which make up the workload indicator: 'In this post, how often (if at all) do you work beyond your rostered hours?' 'In this post, how often (if at all) does your working pattern leave you feeling short of sleep when at work?' 'How would you rate the intensity of your work, by day in this post?' 'How would you rate the intensity of your work, by night in this post?'
GMC: High workloads may lead to fatigue and increased likelihood of error. Low scores are an indicator of a post where work intensity and/or long hours may lead to sleep deprivation or exhaustion.

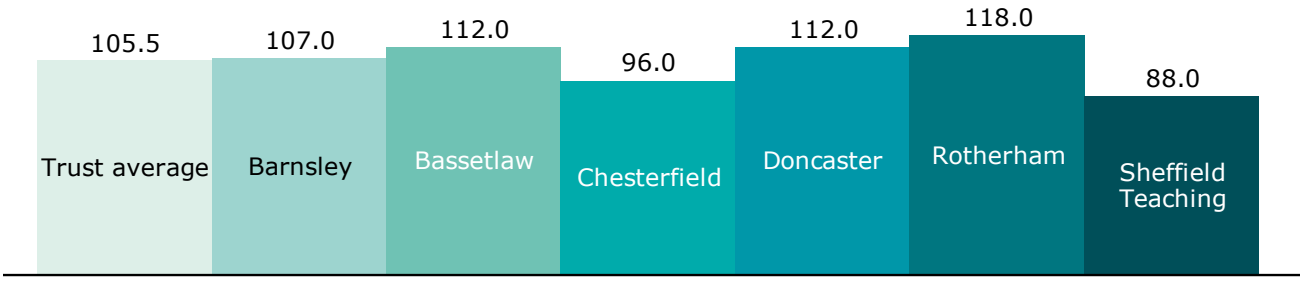


Figure 17: Maternity RCI values for all SYB(ND) Trusts[17]

We have calculated the number of staff required at each grade to sustainably staff units based on assumptions developed and refined with clinicians through a series of Clinical Working Groups. Based upon pay costs for each staff grade, an additional ~£11.8m investment p.a. would be required (excluding existing locum staff) in order to fund the supplementary workforce. The largest gap both proportionally, and by total cost, is in consultant doctors.

In order to close this gap, we are not assuming that we will automatically have to spend more on the service but we are looking to identify any ways in which we may be able to make the service as sustainable as possible within the existing workforce, either by strengthening it through shared working, or if necessary, reducing the demand on workforce from reconfiguration. However it must be noted that while reconfiguration can provide limited savings on one site in terms of overnight Consultant cover, it provides very few workforce savings for the system as a whole.

3.5 Interdependencies

Interdependencies are measured by considering the question: *Are the necessary supporting services appropriately available?*

This takes into consideration the following:

- Are interdependent services that need to be provided available onsite?
- What would the impact be to interdependent services at all Trusts if the clinical model were to change?

At a system level, essential services are available within SYB(ND) for all but some of the most specialist services, for which there are arrangements on a Yorkshire and the Humber footprint. The table below (Figure 20) shows the CQC scores of the interdependent services required for Maternity:

[17] NHS, Reference cost index, 2018

	Barnsley	Bassetlaw	Chesterfield	Doncaster	Rotherham	Sheffield Teaching
Urgent & Emergency Medicine CQC rating:	G	RI	G	RI	I	G
Children and young people CQC rating:	RI	G	G	G	G	G
Level of Neonatology provision:	L2	L2	L2	L2	L2	L3
Surgery (general surgery) CQC rating:	G	G	-	G	-	-
Neonatology – CQC rating:	-	-	-	-	-	G
X-ray and diagnostic ultrasound CQC rating:	RI	G	G	G	-	-
Acute mental health services CQC rating:	-	-	RI	-	-	RI

Figure 20: CQC scores for Maternity's vital interdependent services[18]

For Urgent & Emergency medicine, Barnsley, Chesterfield and Sheffield Children's achieved a *'Good'* score, Doncaster & Bassetlaw received a *'Requires improvement'* score, whilst Rotherham received an *'Inadequate'* score.[19]

All SYB(ND) Trusts achieved *'Good'* Care Quality Commission (CQC) scores for Children and Young People[20], with the exception of Barnsley, which received a *'Requires improvement'* score. Barnsley Hospital believe their *'Requires improvement'* score may have been in large part due to a one-off event on the day of the inspection. All SYB(ND) Trusts have a L2 Neonatal unit, with the exception of Sheffield Children's which has a L3 unit.[21]

Bassetlaw is of particular concern, as it cannot currently maintain a 24/7 Anaesthetics service and NHSE are reviewing its Neonatology service. Doncaster & Bassetlaw and Rotherham have *Requires improvement* CQC scores for Maternity. Having said that, most sites can address the interdependencies at present, with significant concerns only at Bassetlaw.

One major piece of guidance which could significantly disrupt the sustainability of the status quo is Better New born Care. This guidance requires that Neonatology and Paediatrics services have separate mid-grade rotas, rather than relying on a shared mid-grade rota as is currently the case in every SYB(ND) site (other than Sheffield Teaching Hospitals and Doncaster).

3.6 The future of Maternity services

Some Maternity Medical Directors stated that the overall activity levels across SYB(ND) are decreasing. Despite this overall decrease in activity, there continues to be an increase in demand for consultant-led services due to a larger proportion of expected high-risk pregnancies (up to c. 65% for some Trusts). High-risk pregnancies are usually due to public health factors such as obesity or smoking at the time of delivery. The trend of increasing demand due to public health factors is seen across services within SYB(ND).

Many Trusts commented that although they are able to manage their current level of demand, they would not be able to cope with the extra demand they would face as a result of potential changes to Maternity services elsewhere in SYB(ND) or due to changes to Maternity services outside of the system.

18 CQC, Inspection reports, 2016 - 2019
19 CQC, Inspection reports, 2016 - 2019
20 CQC, Inspection reports, 2016 - 2019
21 CQC, Inspection reports, 2016 - 2019

The activity levels across each Trust in SYB(ND) for Maternity services are shown below in Figure 21, showing the total number of births for 2018/2019 and the average length of stay:

	Barnsley	Chesterfield	Doncaster	Bassetlaw	Rotherham	Sheffield Teaching
Average yearly change in birth rate (since 2013/14)	+0.9%	+0.1%	-1.7%		-0.7%	-0.6%
Activity levels (number of births 2018/19)	2842	2719	3216	1488	2697	6667
Proportion of expected high-risk births	65%	35%	N/A	N/A	65%	60%
Average length of stay (days)	2.1	2.0	2.4	2.2	2.3	2.6

Figure 21: Maternity activity levels across SYB(ND)[22]

Overall, the demand for Maternity services is expected to increase over the next five years. Based on the population growth (ONS) and non-demographic growth assumptions, we expect the number of births to grow by 2% on average in the next five years.

The graph below (Figure 22) shows the predicted Maternity admission levels on the left axis, with the percentage change in admissions year on year shown on the right axis. The number of Midwives is expected to grow at 0.8% p.a., which is a slower growth rate than the growth rate of Maternity admissions; therefore there is likely to be insufficient Maternity staffing over the next five years. Although some SYB(ND) Trusts are seeing a decrease in overall activity levels, any increase in the proportion of women who require consultant-led services during their birth, may lead to increased pressures on the consultant workforce.

Using the HEE workforce growth assumptions, we expect the workforce to grow, on average, in the next 5 years (Figure 23):

- 0.8% p.a. for Midwifery
- 1.3% p.a. for Junior doctors

Although this increase will help to alleviate some of the workforce issues currently experienced in SYB(ND), the rate of growth does not match the growth in demand; this also does not take into account current workforce shortages.

[22] SYB(ND), Trust data returns, 2019

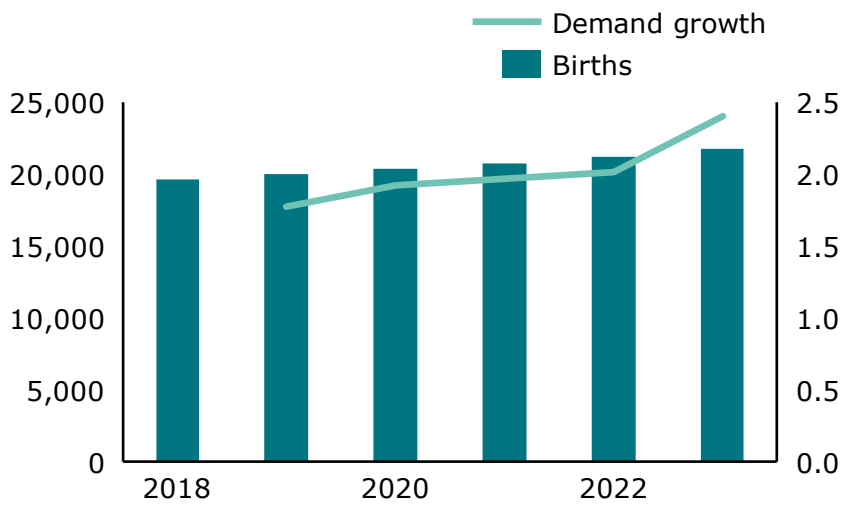


Figure 22: Predicted growth in demand over the next 5 years for Maternity services

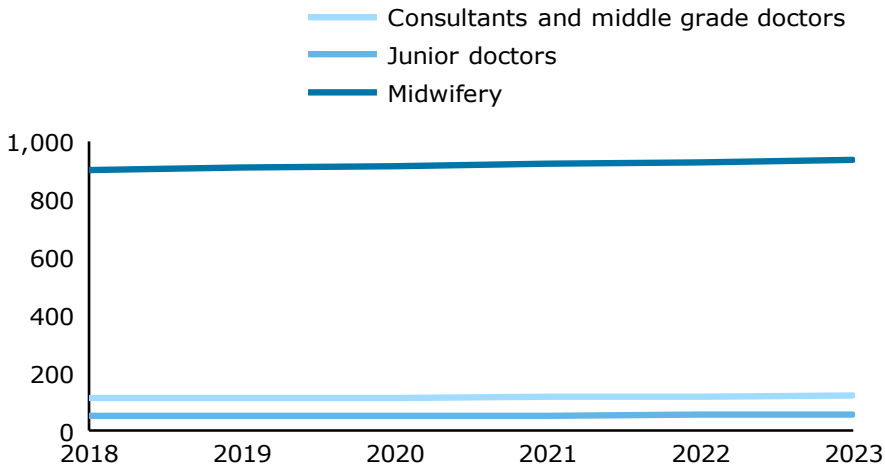


Figure 23: Predicted increase in Maternity workforce over the next 5 years

There are also significant concerns around the ageing Midwife workforce, and the declining number of Midwifery trainees. Continuity of Carer guidelines are also expected to have an impact on the Maternity workforce. The guidelines necessitate a different way of working for Midwives, who may be on call up to 2 or 3 times a week and teams of midwives will work with the same women throughout their pregnancy, increasing the need for community midwifery. Medical directors for Maternity have concerns that the Continuity of Carer targets could significantly destabilise the Maternity workforce, due to the increased requirement for Midwives, as well as the potential effects of different ways of working might have on Midwifery retention rates.

4 The Case for Change: Gastroenterology and Endoscopy

4.1 Overall

The quality of Gastroenterology and Endoscopy services in SYB(ND) is currently good on most sites, but are facing increasing pressures and strain. Rotherham is of particular concern, as at the beginning of the review there were no permanent Gastroenterologists working at the Trust, with all work being carried out by locum staff. Since then, they have successfully recruited two permanent Gastroenterologists, and are in talks with Barnsley to develop a formalised partnership. However, Rotherham still has a *Requires improvement* CQC score for Medical care (including Gastroenterology).

Patient feedback for Gastroenterology across SYB(ND) is excellent, but staff satisfaction scores for overall satisfaction and workload suggest that the quality of the service is very dependent on staff members putting in extra work to ensure a good quality of care is provided.

A detailed assessment of Trusts, against a number of metrics at Trust level, is contained in the case for change report for each Trust, included below is a snapshot view of these metrics at the system level.

4.2 Quality

We will measure Quality by considering the question: *Is quality of care optimised by promoting delivery of national good practice and guidance, and contributing to maintained or improved outcomes?*

This takes into consideration the following:

- Are SYB(ND) Trusts able to meet national clinical guidelines and standards?
- Are patients satisfied with the quality of care offered?

CQC Assessment and JAG Accreditation

The table below (Figure 24) shows the Care Quality Commission Medical care scores (used as a proxy for Gastroenterology) for each Trust. The CQC score looks at safety, effectiveness, care, responsiveness and leadership of a service. All SYB(ND) Trusts achieved a *'Good'* score for Medical care (used as proxy for Gastroenterology). The exception is Rotherham, which received a *'Requires improvement'* score, which is primarily due to the lack of permanent Gastroenterologists working in the department.[23] The table below also shows the Joint Advisory Group (JAG) Accreditation status for each Trust. JAG Accreditation means that an endoscopy service has displayed competence in delivery against a set of safety criteria.

[23] CQC, Inspection reports, 2016 - 2019

	Barnsley *Published Mar '18*	Chesterfield *Published May '17*	Doncaster *Published July '18*	Bassetlaw *Published Jul '18*	Rotherham *Published Jan '19*	Sheffield *Published Nov '18*
CQC Medical Care (incl. Gastroenterology)	G Good	G Good	G Good		RI Requires improvement	G Good
JAG Accreditation status	Criteria met	Criteria met	Criteria met		Criteria met	Criteria met

Figure 24: CQC scores for Medical care and JAG Accreditation status[24]

Patient feedback

Patient feedback for Gastroenterology is very good. The NHS Choices survey shows what percentage of patients would recommend the service. The average recommendation rate across SYB(ND) is 98.9%. The scores for each SYB(ND) Trust are shown below in Figure 25:

Figure 25: NHS Choices scores for Gastroenterology[25]

4.3 Workforce

Workforce is measured by considering the question: *Does the option ensure there is a sustainable workforce of the right number and skill set?*

This takes into consideration the following:

- Do Trusts have sufficient workforce in place to provide a safe service?
- Is the existing workforce satisfied with their workplace environment and workload?
- To what extent do Trusts rely on locum / temporary staff?

There are substantial workforce shortages for Gastroenterology services across SYB(ND) on particular sites and for Out Of Hour Gastrointestinal Bleed (OOH GI Bleed) Services.

The required number of staff is calculated on a basis of having 1 Consultant Gastroenterologist for every 42,000 people in the population (based on the RCP guideline). We have calculated "fill ratios" comparing the staff in post to the numbers required based on the RCP guidelines.

[24] CQC, Inspection reports, 2016 - 2019
[25] NHS Choices, Gastroenterology feedback, 2018

The fill ratios for in hours Gastroenterology services at each Trust (Figure 26) indicate that there are more than the required total number of Gastroenterologists with most sites having a fill ratio range of 1.0 – 2.0. However some of the Gastroenterologists listed as in post may be locum, agency or bank staff:

SUBSTANTIVE POSTS / POSTS REQUIRED = FILL RATIO

FILL RATIOKEY: <0.8 | 0.8 - 0.9 | >0.9

	Sheffield Teaching	Barnsley	Rotherham	Doncaster & Bassetlaw	Chesterfield
Population served	640,000	240,000	261,000	420,000	441,000
Gastroenterologists in post (including non substantive)	22.0	6.0	9.0	20.0	5.7
Gastroenterologists required	15.4	5.8	6.3	10.1	10.6
Fill ratio	1.4	1.0	1.4	2.00	0.54

Figure 26: In hours Gastroenterology fill ratios based on RCP guidelines

However, the equivalent fill ratios for Out Of Hours Gastroenterology services (Figure 27) highlight that there are shortages in the number of consultants, when compared to the same RCP guideline. The fill ratios indicate that Rotherham and Chesterfield do not have the required number of Gastroenterologists available to work on OOH Gastrointestinal Bleeding (a main cause for concern) both having a fill ratio of only 0.6, vs an average across the other three Trusts of 1.1.

SUBSTANTIVE POSTS / POSTS REQUIRED = FILL RATIO

FILL RATIO KEY: <0.8 | 0.8 - 0.9 | >0.9

	Sheffield Teaching	Barnsley	Rotherham	Doncaster & Bassetlaw	Chesterfield
Population served	640,000	240,000	261,000	420,000	441,000
Gastroenterologists in post	20.5	6.0	4.0	9.31	6.7
Gastroenterologists required	15.4	5.8	6.3	10.1	10.6
Fill ratio	1.3	1.00	0.6	0.9	0.6

Figure 27: Out of hours GI bleeds fill ratios based on RCP guidelines

The Clinical Working Groups expressed significant concern around the future sustainability of the workforce, due to the low numbers of trainees rising through the ranks. Many CWG participants expressed their concern around the lack of permanent Gastroenterologists at Rotherham and how this stark shortage was creating further demand at all other SYB(ND) sites, due to the central location of the Rotherham site within South Yorkshire.

However, the shortfalls shown in the table above show that some of this is being achieved by good will of staff and significant pressures. The General Medical Council (GMC) trainee staff survey scores for acute medicine (taken as a proxy for Gastroenterology) are shown below in Figure 28. The scores shown are for overall satisfaction and workload satisfaction, with both metrics are scored out of 100; a higher score for workload satisfaction indicates a more manageable workload when compared to peers nationally:

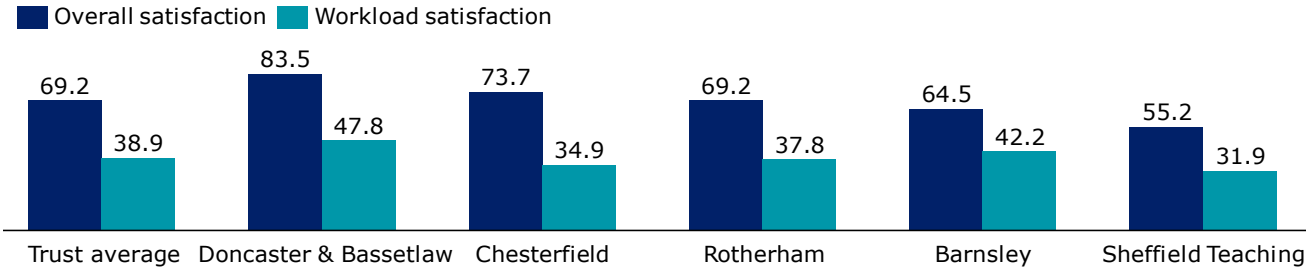


Figure 28: GMC trainee staff survey scores for Acute medicine for all SYB(ND) Trusts[26]

4.4 Affordability

Affordability is measured by considering the question: *Does the option cost no more than the current service?*

This takes into consideration the following:

- How much activity do Trusts carry out?
- How efficient are the services the Trusts provide?

Due to the difficulties in recruiting permanent staff to work in Gastroenterology departments, some SYB(ND) Trusts have very large locum staff spends. Additionally, larger Trusts have developed efficiencies of scale, making them more cost effective overall.

We have used reference cost index (RCI) to assess the affordability of each service at each Trust. RCI is a measure of relative efficiency comparing the actual cost of activities in comparison to the expected cost; an RCI value above 100 means relatively inefficient services, whilst an RCI value below 100 means relatively more efficient services. The RCI values for all SYB(ND) Trusts are shown below in Figure 29 for Gastroenterology:

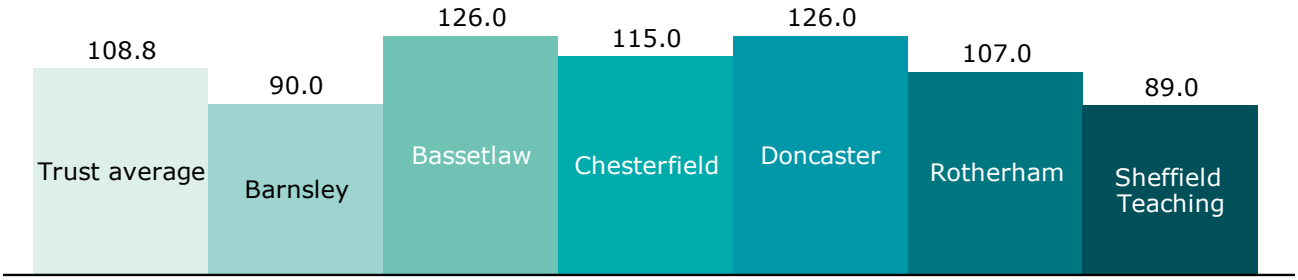


Figure 29: Gastroenterology RCI values for all SYB(ND) Trusts[27]

[26] GMC, Staff survey, 2018
[27] NHS, Reference cost indices, 2018

4.5 Interdependencies

Interdependencies are measured by considering the question: *Are the necessary supporting services appropriately available?*

This takes into consideration the following:

- Are interdependent services that need to be provided available onsite?
- What would the impact be to interdependent services at all Trusts if the clinical model were to change?

At a system level, essential services are available within SYB(ND) for all but some of the most specialist services, for which there are arrangements on a Yorkshire and the Humber footprint. The table below (Figure 31) shows the CQC scores of the interdependent services required for Gastroenterology:

	Barnsley	Bassetlaw	Chesterfield	Doncaster	Rotherham	Sheffield Teaching
Medical care CQC rating:	G	G	-	G	RI	G
Urgent & Emergency Medicine – CQC rating:	G	RI	G	RI	I	G

Figure 31: CQC scores of interdependent services for Gastroenterology[28]

For Urgent & Emergency medicine, Barnsley, Chesterfield and Sheffield Children's achieved a *'Good'* score, Doncaster & Bassetlaw received a *'Requires improvement'* score, whilst Rotherham received an *'Inadequate'* score.[29]

4.6 The future of Gastroenterology services

The demand for Gastroenterology has significantly increased over the past few years, with one Trust experiencing threefold increase in demand in as many years. The reasons for this large increase are believed to be the following:

- The bowel cancer screening programme has increased the demand for endoscopy services
- An ageing population will typically require more Gastroenterology services
- The drop in threshold for referrals from GPs has led to a huge surge in demand for endoscopy services over the past couple of years

Gastroenterologists expect that the demand for Gastroenterology services will only continue to increase in the next five years. If the threshold for bowel cancer screening becomes lower, this will create another large increase in demand for the service in SYB(ND). Some Gastroenterologists have commented that removing bowel cancer screening from the scope of Gastroenterology services would make the service's workload significantly more manageable.

Additionally, GPs are becoming increasingly risk adverse, which also leads to increased referrals for Gastroenterology services. It is also predicted that the occurrence of cancer will increase over the next 5 years, leading to increased requirement for Endoscopy services.

[28] CQC, Inspection reports, 2016 - 2019
[29] CQC, Inspection reports, 2016 - 2019