

Appendix 26 – Demand and Capacity, February 2016

Table 1 Population projections by CCG area taken from ONS (2012):

Area Name	Age Group	2012	2023	Variance	% Variance
<i>NHS Brighton & Hove</i>	<i>All ages</i>	275,762	296,520	20,758	8%
NHS Coastal West Sussex	All ages	476,677	519,582	42,905	9%
NHS Crawley	All ages	108,302	121,171	12,869	12%
NHS Eastbourne, H & S	All ages	181,986	196,948	14,962	8%
NHS Hastings & Rother	All ages	181,433	194,599	13,166	7%
NHS High Weald Lewes Havens	All ages	167,782	180,959	13,177	8%
NHS Horsham and Mid Sussex	All ages	223,327	239,806	16,479	7%
England Total	All ages	53,493,729	57,708,196	4,214,467	8%

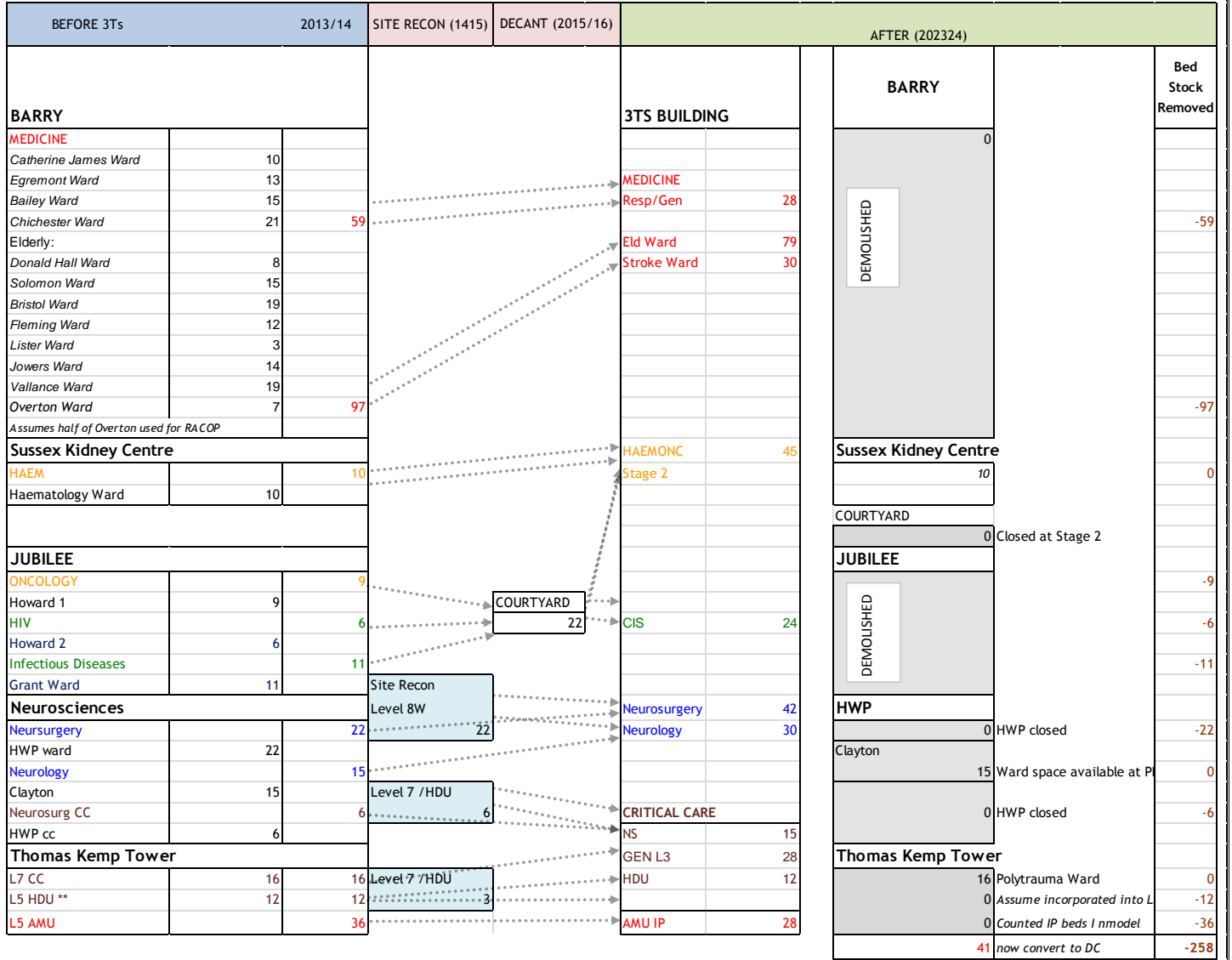
Source¹: 2012 SNPP CCG pop Persons. Extracted 23/9/14

¹ <http://www.ons.gov.uk/ons/rel/sape/clinical-commissioning-group-population-estimates/mid-2011--census-based-/rft---mid-2011-clinical-commissioning-group-population-estimates.zip>

Table 2. Ward Changes

The following diagram illustrates the expected ward changes for specialties moving into the 3Ts building at RSCH site and the consequent increase of 100 beds once Stage 2 is open.

3Ts IP Bed Change Diagram



BEFORE	DECANT	AFTER (202324)			
Current 3T Specialty beds 1314		3Ts Built Beds	Current Bed Stock, Remaining Post 3Ts	Total 3Ts Spec beds	Change
299		361	41	402	103
	302	361	41	402	100

Table 3: Service Changes – Estimates of impact on current providers

The transfers of activity from current providers have been estimated and are represented in Table 4 by income at 2014/15 tariff.

Specialty	Income (£K) 2-14/15 Tariff								Total income
	WSHT	EHST	London Hospitals	Marsden	Kings	St Georges	UCL	Other (small no. Barts, Guys, RNOH, Imperial)	
Haematology	862	-	819	491	205	-	123	-	1,681
HIV Network	59	59	-	-	-	-	-	-	118
Neurology	173	169	580	-	55	55	429	42	922
Neurosurgery	1,003	1,523	1,837	-	370	558	691	218	4,363
Oncology	64	20	-	-	-	-	-	-	84
All	2,161	1,771	3,236	491	630	612	1,243	259	7,168

Note: Total may not be sum of parts due to rounding. Radiotherapy and demographic growth not included.

Table 4: In-Patient Bed Model Output - Demand and Capacity by Specialty at RSCH

Specialty	Bed Demand 2022/23	Physical Beds 2022/23	Difference
3Ts Specialties:			
Haematology/Oncology	37	45	8
HIV / Infectious Diseases	10	24	14
Neurology	17	30	13
Neurosurgery	37	42	5
Medicine for the Elderly	130	109	-21
General Medicine Group	25	28	3
Respiratory Medicine	28	28	0
Critical Care (relevant 3Ts)	49	55	6
3T Subtotal	333	361	28
Other RSCH Specialties:			
A&E	6	15	9
Cardiac Services	68	65	-3
Digestive Diseases (Medical)	14	11	-3
Digestive Diseases (Surgical)	58	47	-11
Gynaecology	6	9	3
Renal Medicine	34	36	2
General Surgery	11	24	13
Trauma & Orthopaedics	17	49	32
Vascular Surgery	29	37	8
Other Specialties Subtotal	242	293	51
TOTAL	575	654	79

Table 5: Change in Bed Demand over 9 years of modelling – OBC and FBC – BSUH

Assumption	OBC (June-13) 2012/13- 2021/22	FBC 2013/14 – 2022/23	Difference
Demand Management	0	-60	-60
Service Developments	71	63	-8
Growth	98	99	1
Length of Stay reductions / Occupancy Reduction	29	-116	-145
<i>Requirement for space to accommodate seasonal variation/temporary decant (ward at each main site)</i>	60	60	0
Change *	258	46	-212

** Both exclude assumptions re Maternity /Paediatrics /SOTC / Eye Hospital beds*

Table 6: Capacity Modelling for Neurosurgery Elective Theatres

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Procedures	336	339	342	346	349	352	706	712	719	726
4 hr sessions/ week	7.9	8.0	8.1	8.1	8.2	8.3	15.8	15.9	16.1	16.2

Model assumptions:

- Utilisation – 85%
- Wks per year – 50
- Hrs per session – 4Hrs
- Average time per procedure – 4.0 Hrs (modelled on 2012/13 data for specific procedures moving under Site Reconfiguration)
- Growth assumptions as per LTFM

3Ts provides 2 elective theatres for Neurosurgery (20 x 4 hour sessions a week). High level modelling indicates demand for 16 sessions a week by the opening of Stage 2 (excluding private patient activity).

Emergency Theatres

The NHS England Standard Contract for Neurosurgery (Adult) states that ‘all units require a minimum of two fully resourced dedicated operating theatres and immediate access to an emergency (National Confidential Enquiry into Patient Outcome and Death (NCEPOD) theatre’.² This will be provided alongside the 2 elective theatres and it is estimated that the demand will be approximately 500 procedures a year. With a mode of 3 hours per procedure (2012/13), it is likely that there will be adequate capacity in 1 theatre. Similarly, the NHS England Standard Contract for Major Trauma states that major Trauma centres will have :‘24/7 immediate availability of fully staffed operating theatres’³. 3Ts provides a Major Trauma theatre on the acute floor.

² NHS Standard Contract for Neurosurgery (Adult); D03/S/a

³ NHS Standard Contract Major Trauma (all ages); D15/S/a

Table 7 : Out-patient Capacity

Department	% Increase in Demand to 2027/28	Current C/Exam Rooms	3T Consult/Exam Rooms	Change	% Change	Notes
ENT/OMF	15%	8.0	9.0	1.0	13%	
Rheumatology	15%	4.4	5.0	0.6	14%	
HIV/Infectious Diseases	38%	8.0	13.0	5.0	63%	
Fracture	15%	6.0	10.0	4.0	67%	Current rooms used is an estimate based on % fractures vs elective. Fracture pathway has recently changed to reduce demand, however, 3Ts design was based on just Fracture activity. Currently MSK pathway being developed which may mean some elective activity is to be accommodated.
Neurol/NS	38%	8.0	13.0	5.0	63%	Current capacity clearly inadequate for current demand. 4 MDT rooms also provided
Haem/Oncology	33%	12.0	20.0	8.0	67%	Includes 15 MDT rooms

Table 8: Imaging Capacity

A simple capacity plan has been created using LTFM growth assumptions to assess against capacity being provided in scheme just for RSCH site.

There are significant limitations to this exercise:

- 1) OPD demand is allocated flexibly across both sites according to demand - whereas this assumes demand all at RSCH based on current demand
- 2) Significant changes in intervention rates are likely but difficult to predict.
- 3) Changes in treatment pathways will change the average time for exams - difficult to predict.
- 4) Configuration of machines at each site may change in the interim period due to strategic changes in provision
- 5) 3 session days / 7 day working changes from current - not factored into the modelling

Modality	Exams 2013/14	Calculated Demand 2013/14- Consult/Exam Rooms	Capacity Available	Projected Demand - Exams 2023/24	Projected Demand - Consult Exam Rooms	Capacity in 3Ts
CT (excl CT planning & ICU)	27936	3.7	4.0	32307	4.3	5.0
MRI	22755	3.4	3.5	27393	4.2	5
Fluoroscopy	1215	2.0	2	1463	2.4	3
Ultrasound	19605	4.0	4.0	23601	4.8	7
X-RAY	69491	5.8	7.0	83655	7.0	6
Grand Total	141002	19.0	20.5	168419	22.7	26.0

Table 9: Comparison Between Bed Numbers in Modelling vs KH03

	Total Trust Beds (av 2013/14)	KH03 (av 2013/14)	Beds Used in Model Outputs (av 2013/14)
RSCH	485	485	485
PRH	224	224	224
Childrens (RAH)	32	32	
SOTC	36	36	
Eye hospital	3	3	
<i>General and Acute</i>	<i>780</i>	<i>780</i>	<i>709</i>
RSCH Mat	40	40	
PRH Mat	32	32	
<i>Maternity</i>	<i>72</i>	<i>72</i>	
RSCH CC	38		38
PRH CC	13		13
RSCH Mat CC	29		
PRH Mat CC	6		
Childrens CC (RAH)	9	□	
CC	95		51
PRH Rehab	39	□	39
Total	986	852	799

Table 10: Length of Stay for Specialties Contributing to 80% of the Bed Reduction

- The benchmark shown is for 24 Peer Trusts at 2012/13 (benchmarking done by KPMG as part of the Clinical Strategy)
- The benchmark data includes zero length of stay - the bed model length of stay does not. This affects specialty groups highlighted.
- The data has been taken from the bed model in order to correlate with the bed reductions

Site	Specialty	Admission Type	Base Spells	Length of Stay at 2013/14 - Baseline	Length of Stay at End of Modelling Period	Change	Top Quartile Min	Notes
RSCH	Vascular	Elective	314	5.7	4.0	-1.6	3.5	
RSCH	Vascular	Non Elective	544	14.9	10.5	-4.4	11.3	
RSCH	Cardiology	Elective	685	2.4	2.1	-0.3	1.4	
RSCH	Cardiology	Non Elective	1917	6.2	5.3	-0.9	5.3	
PRH	Respiratory Med	Elective	427	1.2	1.0	-0.2	3.6	
RSCH	Respiratory Med	Non Elective	1280	8.6	7.3	-1.2	7.9	
PRH	Respiratory Med	Non Elective	548	8.5	7.4	-1.0	7.9	
RSCH	Digestive Diseases (Surgical)	Elective	491	7.7	6.6	-1.1	5.6	**
PRH	Digestive Diseases (Surgical)	Elective	364	2.1	1.8	-0.3	5.6	
RSCH	Digestive Diseases (Surgical)	Non Elective	2954	5.9	4.9	-0.9	5.5	
RSCH	Medicine for the Elderly	Non Elective	3994	11.5	9.8	-1.6	11.6	
PRH	Medicine for the Elderly	Non Elective	1619	12.1	10.7	-1.4	11.6	
RSCH	Medicine Group (Gen Med/Diabetes/Endocrinology)	Non Elective	2258	4.3	3.7	-0.6	2.2	*
PRH	Medicine Group (Gen Med/Diabetes/Endocrinology)	Non Elective	1788	7.9	4.0	-3.9	2.2	*
PRH	Trauma & Orthopaedics	Elective	472	6.9	6.0	-1.0	3.2	*
RSCH	Trauma & Orthopaedics	Elective	233	3.1	2.7	-0.4	3.2	
RSCH	Trauma & Orthopaedics	Non Elective	1374	8.2	7.1	-1.2	7.9	
PRH	Trauma & Orthopaedics	Non Elective	526	19.1	16.7	-2.4	7.9	
RSCH	Renal Medicine	Elective	240	3.4	2.9	-0.5	3.6	
RSCH	Renal Medicine	Non Elective	694	11.2	8.1	-3.1	8.4	
3T Specialties not Included Above								
RSCH	HIV / Infectious Diseases	Non Elective	369	11.3	7.9	-3.5	7.9	
RSCH	NeuroSurgery	Elective	640	5.0	3.1	-1.9	3.4	
RSCH	NeuroSurgery	Non Elective	547	9.4	8.0	-1.3	9.7	
RSCH	Haematology	Non Elective	278	10.1	8.7	-1.4	9.0	
RSCH	Haematology	Elective	77	8.0	6.8	-1.1	7.1	
PRH	Neurology	Elective	224	3.9	3.4	-0.6	3.3	
PRH	Neurology	Non Elective	132	22.0	18.9	-3.1	7.2	

* Comparison not valid, LOS=0 incl in Benchmark

** Complex Surgery focussed at RSCH

