

A Census of Medical Workforce & Infrastructure for Liver Disease Strategy: Summary of Findings (Final 2011)

1 Aim

As part of the National Liver Disease Strategy (NLDS), a Census of the Medical Workforce (Consultant Gastroenterologists and Hepatologists) was undertaken in order to:

- Assess the current capacity and infrastructure for delivery of Liver services in England
- Identify which secondary care pathways for referral and management already exist
- Understand how the current secondary care services relate to burden of disease
- Assess future training needs and capacity for liver services

2 Methodology

A list of Consultant Gastroenterologists/ Hepatologists in England was compiled from and in collaboration with the following sources¹:

- British Society of Gastroenterologists (BSG) membership list
- British Association of the Liver (BASL) membership list
- British Liver Trust list of Hepatologists
- Further or complementary information was sought and collated from:
 - American Association for the Study of the Liver membership list (UK list)
 - European Association for the Study of Liver members (not made available)
 - Royal College Physicians & BSG census data on hepatology
 - Trainees in Gastroenterology (TiGs) survey of Hepatology training
 - Pharmaceutical companies who identified their larger market centres
 - Commercially available lists in the public domain (e.g. Mediahurst & Dr Foster)
 - DH internally available data on inter-hospital referral activity

The list was collated by SHA region (n=11²) and a lead clinician from each SHA was sent their list and a questionnaire/ pro forma (see Appendix A) to obtain further information about individual consultants and Trusts in their area.

¹ The European Association for the Study of the Liver did not make their membership list available.

² For this exercise, London was split into North and South.

Information was gathered either by personal interview, email or by asking a lead from each Trust or hospital to report back for the whole organisation. Regional leads collated all of the information they had obtained and duplicates, retirees, scientists, surgeons, nurses and others were removed from the lists. These data were finalised with individual SHA leads in the autumn/ winter of 2010³.

3 Response rate

Once the regional sample lists had been cleaned, i.e. retirees and ex-employees etc had been removed, a total of 904 Consultants (Gastroenterologists and Hepatologists) remained across England. At the outset it was recognised that there is no formal definition of what constitutes a 'Hepatologist' in the UK nor is there an accreditation process other than the subspecialist CCT available to trainees since 2005. Therefore our Clinical Advisory Group (CAG) agreed that doctors should 'self-declare' their status, as a guide it was suggested that 50% face-to-face clinical time should be liver disease related and for the purpose of this initial exercise, Hepato-biliary work (ERCP & HPB-EUS) could be included in that definition and this was further informed by activity analysis. A similar self-report method is employed by BSG-RCP manpower census.

The regional leads were asked to establish for each consultant whether he/she was a Hepatologist⁴, Gastroenterologist with an Interest in Hepatology (GIH) or a Gastroenterologist with no particular liver interest. Consultants either defined themselves (in the main) or were ascribed to a category by the regional lead on the basis of their knowledge of the consultant's work if there was no response to the request for information. Data on consultant-type were obtained for 878 out of 904 consultants, representing a response/information rate of **97%** (see table 1). Half (n=5) of the regions obtained data on all the consultants in their patch (100% response rate).

³ It is recognised that some unfilled posts have been filled since then and some names will have changed

⁴ A Hepatologist was defined as a Consultant that spends >50% of their clinical face-to-face clinical time in Liver practice (included HBP for the purpose of this census)

Table 1: Response rate by region

SHA area	Number Cons	Info on	Consultant-level Response	Number Trusts ⁵	Info on	Trust-level response
EENG	83	83	100%	17 (18)	17	100%
EMSHA	71	65	92%	8	8	100%
LONDON	181	169	93%	23 (30)	12	52%
NESHA	59	59	100%	8	8	100%
NWSHA	121	120	99%	23 (27)	20	87%
SCSHA	61	61	100%	10 (11)	9	90%
SECSHA	62	58	94%	13 (19)	10	77%
SWSHA	91	88	97%	17	13	76%
WMSHA	92	92	100%	15	12	80%
Y&HSHA	83	83	100%	15 (21)	15	100%
Total	904	878	97%	149	124	83%

Trust-level information (capacity or activity) was requested by the regional lead from one individual per Trust (or sometimes hospital where there were more than one hospital in a Trust). At least some Trust-level information was obtained from 124 out of a total of 149 Trusts across the country representing a response rate of 83% and some could be collated with national data.

Regional leads were also asked to help categorise Trusts by the liver services they provided⁶ whenever information was missing as every Trust needed a designation for the mapping exercise.

4 Consultant types

Overall, 122 consultants (14%) of the consultants for which information was available, were Hepatologists³ categorised by this exercise. The proportion of Hepatologists varied from 7% in the South East Coast to 24% in London: Almost 40% work in six liver transplant centres and another third in 15 large centres with >2 hepatologists, the remainder distributed in 19 hospitals (Table 2).

⁵ Acute Trusts providing gastroenterology services to adults (figures in brackets are acute hospital sites)

⁶ Transplant centre, tertiary liver centre, gastroenterology with hepatology (GIH) or gastroenterologist unit.

Table 2: Consultant type by region

SHA area	Hep (n)	%Hep	GI-Hep (n)	%GIH	G only (n)	% GI	HPB (n) [ERCP or EUS]	Info on/ total consultants
EENG	9	11%	8	8%	67	81%	14	83
EMSHA	11	17%	12	18%	42	65%	20	65
LONDON	38	24%	26	15%	105	62%	26	169
NESHA	9	15%	22	37%	28	47%	19	59
NWSHA	10	8%	32	27%	78	65%	43	120
SCSHA	8	13%	12	20%	41	67%	15	61
SECSHA	4	7%	26	45%	28	48%	21	58
SWSHA	9	10%	23	26%	56	64%	24	88
WMSHA	14	15%	28	30%	50	54%	14	92
Y&HSHA	10	12%	17	20%	56	67%	11	83
Total	122	14%	206	23%	551	63%	206	878

More than 200 consultants across England were identified as Gastroenterologists with an interest in Hepatology (GIH), representing 23% of all consultants responding to the survey; the remaining 551, or 63% of consultants, were Gastroenterologists with no particular interest in hepatology though many of them see patients with liver disease as part of their daily routines.

206 consultant gastroenterologists across England reported that they undertake ERCP⁷ or HPB-EUS⁸. This represents 23% of the consultants for which we have some information. It is also recognised that radiologists or surgeons may also provide this service⁹. For this series, one third of the hepatologists contribute to 20% of ERCP/EUS service.

Further data from JRCPTB indicated that since 2005, 44 trainees have been granted CCT in hepatology (UK including Scotland, NI & Wales) representing just 9% of all trainees gaining CCT in Gastroenterology during that time. By correlation with our lists 25 or those (57%) are currently working in England as consultants, 18 (72%) as hepatologists, 7 as Gastroenterologists with an interest and apparently one in pure Gastroenterology

5 Liver services

As part of the Census, all acute Trusts across England that provide medical services to adults were categorised according to the gastroenterology / liver services they provide using the following typology:

- Liver transplant centre: provides liver transplant services and would be expected to provide full panoply of liver services

⁷ Endoscopic retrograde cholangiopancreatography

⁸ Hepatic, Pancreatic and Biliary Diseases Endoscopic ultrasound

⁹ Radiologists & Surgeons undertaking ERCP were not surveyed but from the 2005 BSG audit, these represent <15% of individuals undertaking ERCP (et al Gut. 2007; 56: 821-9)

- Tertiary liver centre: has at least three Hepatologists³ with at least two other units referring significant numbers in for at least two liver services¹⁰ (a liver referral centre)
- Gastroenterology Unit with Hepatology: a Gastroenterology Unit with at least one Consultant spending more than 50% of their clinical time in liver service. May get some referrals in for some services from other units.
- Gastroenterology Unit: no Hepatologists or Gastroenterologists that spend more than 50% of their time in liver services

Table 3: Summary of findings used to ‘designate’ centres in this exercise

CENTRE TYPE	Liver Transplant Centre	Large Hepatology Centre	Gastro with some Liver services (GIH)	Gastroenterology Unit with few specialist services for liver disease
Hepatologist (self-designated >50% face-to-face clinical time)	>4	>3	>1	<1
Gastroenterologist with an interest in hepatology (at least 1 specialist clinic)	☑	>1	>2	<2
Gastroenterologist with no particular interest in liver disease	☑	☑	☑	>2
Alcohol specialist nurse	☑	>2	>1	x
Hepatology specialist nurse	☑	>2	>1	x
Hepatitis specialist nurse (C or B)	☑	all	some	few
Database kept of Liver patients under follow up or treatment	Most	Most	Some	none
Member RCP or EASL or AASLD or BASL (or BSG liver section)	Most	Most	Some	None
Declared as ‘Hepatologist’ on RCP-BSG annual manpower census	>4	>3	>1	<1
Receives significant numbers of referrals in from 2 or more centres for 2 or more ‘liver services’	>3	>2	<2	
Refer sited	>3	>3	<3	x
Refer out for some services (usually OLT, surgery, RFA) but also for liver failure, variceal haemorrhage, hepatitis management	☑	OLT	>2	>3
Surgical centre (liver resection)	Y	Y/N	Y/N	Y/N
Interventional Radiology supplying TIPS or RFA	Y	Y	Y/N	Y/N
Liver transplant centre	Y	N	N	N
EQA participation for liver histopathology	Y	Y	Y/N	Y/N

There are 6 liver transplant centres in England, two in London (Royal Free and King’s College), one in the East of England (Cambridge), one in the North East (Newcastle), one in the West Midlands (Birmingham) and one in Yorkshire and Humber (Leeds) (see Table 3)

¹⁰ Referral in or out for liver services included management of varices including TIPS, Transjugular liver biopsy, viral hepatitis, alcoholic hepatitis or HRS or fulminant failure or regular advice or consultation. It is excluded HCC (analysed separately) but the present census allowed HPB (ERCP or EUS) to count as one of the referral services. Note correlation with BSG-BASL designation.

There are at least 10 and possibly up to 19 centres that could be categorised as *tertiary liver centres* across the country. There was some disparity of data on these as there is no official designation and they were designated on the basis of their services or volume in this exercise correlated across a number of data sources.

Of the remaining 124 Trusts (mainly District General Hospitals), 41 (33%) have at least one consultant that considers themselves to be a Hepatologist (appendix C). However, the majority of acute Trusts (n=83), have a Gastroenterology Unit where there is no liver disease specialisation.

Consultants were also asked whether their hospital provides surgery or radiological intervention for primary liver cancer. Across England, 26 Trusts provide such a service (appendix D). The number of Trusts per region providing surgery or RFA for primary liver cancer ranged from one in the North East to four in London and the North West.

Table 3: Trust types by region

SHA area	Num Trusts (adult)	No. Transplant Centres	No. tertiary liver centres	No. gastro units with hepatology	No. gastro units	Number Trusts providing liver cancer surgery
EEngSHA	17	1	1	2	13	3
EMSHA	8	0	1	7	0	2
LONDON	23	2	3	7	11	4
NESHA	8	1	0	4	3	1
NWSHA	23	0	3	4	16	4
SCSHA	10	0	2	2	6	3
SECSHA	13	0	2	2	9	2
SWSHA	17	0	2	6	9	2
WMSHA	15	1	2	7	5	2
Y&HSHA	15	1	3	0	11	3
Total	149	6	19	41	83	26

6 Beds and outpatient appointments

The pro forma requested the following information for each hospital/ Trust: the total number of beds; the number of beds allocated to Gastroenterology and Hepatology and the proportion of the Gastro-Hep beds occupied by liver patients. Some Trusts do not designate beds for particular specialties in which case reporters were asked to estimate the number of beds routinely occupied by liver patients. Although there was a high proportion of missing data on these questions, the proportions appear to be fairly consistent across the different regions.

Across England, 5% of all acute Trust beds are allocated to Gastroenterology/ Hepatology (Table 4)¹¹. This figure ranged from 2% in London¹² to 6% in the North West and West Midlands.

¹¹ In some hospitals, there is no separation of GI/Hepatology from GIM and reporters were asked to give the 'usual' number of beds they look after: there was a remarkable consistency of response for this proportion.

¹² This could be due to missing data

Approximately half (46%) of these Gastro/Hep beds are thought to be occupied by patients with liver disease amounting to just under 0.6 million bed days per annum for these patients (other work indicated just over 150,000 patients with liver disease by ICD-10 codes accounted for almost 300,000 admissions which are broadly consistent with this census data).

Table 4: Beds and outpatient appointments

SHA area	Total beds	Beds Gastro	Beds Gastro %	% Hep/GI IP	Num G OP	% Hep/GI OP
EEngSHA	9546	409	4%	44%	42828	25%
EMSHA	5516	265	5%	70%	missing	missing
LONDON	9030	222	2%	54%	12500	28%
NESHA	6877	355	5%	47%	28519	21%
NWSHA	11321	708	6%	46%	33200	20%
SCSHA	6477	242	4%	39%	20947	25%
SECSHA	6066	253	4%	44%	18800	20%
SWSHA	9063	333	4%	41%	22808	24%
WMSHA	6480	412	6%	38%	17167	19%
Y&HSHA	11039	522	5%	40%	38622	25%
Total	81415	3721	5%	46%	235391	23%

The pro formal also requested data on the number of new Gastroenterology (including liver) outpatient referrals to the Trust per annum and the proportion of these that were new liver patients. Again, there was a proportion of missing data so the figures should be interpreted with caution. However, there was a very close correlation between these estimates and information collated centrally from HES for outpatient liver codes.

The census estimated more than 235,000 new Gastroenterology (including Hepatology) patients are seen per annum in England and almost a quarter (23%) of these were thought to be new liver patients (=54,000). It is thought that the FU:New ratio for these patients, some of whom require follow up for chronic liver disease or its complications, is between 3-4:1 i.e. up to 200,000 follow up visits to secondary care per annum. .

7. Caveats

Some data was missing and much of the data relied on subjective evaluation or estimates but there appeared to be some internal consistency to these.

The purpose of this census was to understand current service provision – no attempt was made to validate hepatology training or standards. However, it is noteworthy that most but not all Gastroenterologists and Hepatologists in this survey are members of the British Society of Gastroenterology (BSG) and most but not all of the 122 people designated as hepatologists¹³ were listed as members of the British Association for the

¹³ 102 Consultants are listed on RCP workforce census as 'Hepatologists' and names did not always align with the 122 identified by this exercise

Study of the Liver (BASL) but only 5% were listed by AASLD and an unknown number are members of EASL.

Almost 40% of hepatologists are in six transplant centres and a further 30% in 15 'tertiary' referral non-transplant centres. Fewer than 50 hospitals including the six transplant centres have a hepatologist and although half of the remainder have a Gastroenterologist with an interest in hepatology, the other half seem to have no particular arrangements for looking after patients with liver disease despite having similar workloads.

For the 23% Gastroenterologists who were considered to have an interest in hepatology (GIH: gastroenterologist interested in hepatology, defined by having at least specialist clinics), personal interview indicated that some were 'reluctant GIH' and provided a service where no one else took it on, some were enthusiastic GIH but in a location where they had to deliver a significant level of GI service and some had limited dedicated liver clinics or treatment services but most did not have a separate liver practice. Rarely were these individuals members of BASL, EASL or AASLD but some had been to an occasional meeting but most were members of BSG.

This census has designated Liver centres on the basis of current functional practice. There are discrepancies with the categorisation described in the BSG-BASL liver plan because all services are not neatly aligned in individual Trusts. This is particularly so in terms of the relationship between surgical and HPB centres and liver centres. Commissioners may wish to examine whether there could be advantages locally in aligning these services.

8. Further information:

Further limited information was collected on the following:

- Surgical liver centres (defined as undertaking resectional surgery)
- Paediatric liver centres
- Infectious Disease units undertaking significant hepatitis B&C treatment

From this the following comments can be made.

1. Surgical centres do not always seem to have significant hepatology expertise 'in-house'. There may be local arrangements for this or such centres may concentrate their work on colo-rectal metastatic disease rather than on primary liver cancer but further investigation may be warranted.
2. Paediatric liver services are few and no information was available on whether or which have transition arrangements with adult services for younger people with chronic liver disease and this should be considered in light of recent guidance on this topic¹⁴
3. Infectious disease units treating hepatitis B&C appear to be concentrated in Northern England and there may be historic reasons for their development here. However, a previous survey¹⁵ seemed to indicate that they account for possibly <15% of treatment for these conditions and consideration should be

¹⁴ see <http> for transition clinics

¹⁵ Parkes et al 2003 (presently being repeated 2011)

given to ensuring they are affiliated with hepatology centres.

Appendix A: Survey pro forma

What is the purpose of this exercise:

1. To assess the current capacity and infrastructure for delivery of Hepatology services in England
2. To identify which pathways for referral & management already exist
3. To assess future training needs & capacity for Liver services

Who is being asked to complete the survey:

We are asking for the help of all known Consultant Gastroenterologists and Hepatologists identified through the BSG, BASL, BLT, EASL, AASLD and RCP.

How will this information be used:

1. We will use the information to inform work streams involved in developing a National Strategy for Liver services.
2. The information may be collated into a report which may be published.
3. Individuals will not be identified by name but we need contact details in order to get further information where necessary.
4. NB: there is no intention to use this information for any form of regulation or stricture on individuals' practice.

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Notes for collection of data:

1. We would like to have a definitive list of Hepatologists and those Gastroenterologists who have no interest in liver disease: the data on individuals (purple & yellow headings) is crucial for this and should be as comprehensive as possible
2. For other data concerning centres and services, you may be able to collect all or most of the data from an individual rather than asking everyone in the same hospital the same questions

Addressograph	.SHA	Which SHA	
	.Deanery	Which Training Deanery	
	.Organisation Name	Name of Trust/Hospital	
	.Surname	Surname consultant: only clinically active please!	
	Title	Dr/Prof	
	First Name		
	Position	Official job title	
	Organisation Name		
	Address Line 1		
	Address Line 2		
	Address Line 3		
	Address Line 4		
	City		
	County		
	Postcode		
	Business Number	optional phone	
	Business 2 Number		
	Fax Number		
	Email	for future contact or more info	
	Specialist Area 1	really only interested in Hep topics here: if no hep please indicate PURE GASTRO	
Specialist Area 2			
Specialist Area 3			
About you	Hepatologist? Y N	Do you consider yourself a Gastroenterologist, a Gastroenterologist with an interest in Hepatology or a Hepatologist*?. *Hepatologist spends >50% or their clinical Face-to-face time in Liver practice (can incl. HBP)	
	Gastro interest int Hep Y N		
	Gastro ONLY Y N		
	HPB? Y N	Regardless of response do you undertake ERCP or HPB-EUS.	
	CD/Lead Y N	Are you a clinical director or lead of service with whom we can correspond	
	Training Y N	Do you personally train SpRs/SpNs in any aspect of liver disease (0=no; 1= routine patients in clinics or ward rounds but not specific liver sessions; 2= specific liver clinics or wards)	
	Number Defined liver sessions	How many sessions (3-4hrs) do you spend in clinical hepatology (incl HPB): only include Face-to-Face sessions (WR, Clinics, Procedures)	
	BSG Liver Section	List (Y or blank) any professional groups to which you subscribe	
	BSG member		
	BASL member		
	BVHG member		
	EASL member		
	AASLD member		
About your Service	Poplulation served	What local size population does your hospital serve: give thousands e.g. 250 = 250,000	
	Hospital type	1=DGH; 2=Univ; 3=Liver Unit	
	Beds number	What is the total bed number in your hospital	
	Beds number gastro-hep	What number of beds is allocated to Gastroenterology & Hepatology in your hospital	
	Beds proportion liver	What proportion of the Gastro-Hep beds are occupied by liver patients (approx %)	
	Consultants n	How many consultant physicians in your hospital	
	Gastroenterologist n	How many Consultant Gastroenterologists (including	

		hepatologists) in your hospital	
	Gastro interest int Hep n	How many Consultant Gastroenterologists have an interest in liver disease in your hospital	
	Hepatologist n	How many consultants participate in Liver service (incl ERCP or HPBEUS) for >50% of their clinical time	
	New Gastro pa	How many Gastroenterology including liver NEW patients per annum are referred as outpatients to your hospital	
	New Liver pa	How many NEW LIVER patients per annum are referred as outpatients to your hospital or give % of above who are liver patients and mark with %	
	Liver cancer primary	Does your hospital provide surgery or RFA for primary liver cancer	
	Refer OUT FOR	What liver services/procedures (other than cancer) do you refer patients elsewhere for? E.g. OLT/TIPS/TJBx/VarEndo/HCV or HBV treatment/alc Hep/all liver	
	Refer OUT TO	Which Hospital do you refer to mostly (excluding cancer or transplant)	
	Refer IN FOR	What liver services/procedures (other than cancer) do you get patients referred to you from other secondary care for? E.g. OLT/TIPS/TJBx/VarEndo/HCV or HBV treatment/alc Hep/all liver	
	Refer IN FROM	Other than primary liver cancer, if you regularly take referrals from other hospitals is this number <3, 4-8 or >9 (as appropriate record 0, 3, 6 or 9)	
	Network 1	Do you work within a formal network of hospitals for Liver Disease (i.e. you have service level agreements)? Y or N	
	Network 2	Do you work within a Informal network of hospitals for Liver Disease (i.e. just on basis of personal clinician contacts)? Y or N	
	Outreach	Do you run an outreach liver service to another hospital (not a Trust satellite!) Y or N	
	IVDU Tx	Do you have named person to refer to within an IVDU treatment service? Y or N	
	ALC Tx	Do you have a named person to refer to within an alcohol treatment (addiction) service? Y or N	
	Psychi or Addiction	Have you adequate support for relevant patients from psychiatry or addiction services Y or N	
	Infectious Disease (including GUM/STD)	Do you have a named person to work with in your local Infectious Disease centre? Y or N	
Databases kept for chronic liver diseases	Dbase Y/N	Do you keep a database for each of these Liver conditions: if not skip next section Y or N	
	HCV: how many do you actually treat per annum	If possible and willing please record numbers, otherwise Y if database kept but no numbers available or X if no such database kept	
	HBV: how many on anti-viral treatment		
	PBC		
	PSC		
	Haemochromatosis		
	HCC diagnosed cases (give number per annum)		
	HCC surveillance register (6m USS)		
	AIH		
	Alcoholic liver disease		
	Alc Hepatitis patients		
	NAFLD/NASH		
Liver transplant active follow up in your unit			

	Liver biopsies undertaken per annum		
	Auditable Y or N	Is your database in an auditable format if we come back for more info	
Specialist Liver Nurses	Total number of Liver nurses in your unit (if any)	List the total number of nurses in your hospital who have anything to do with liver disease - may include alcohol nurses even if they are not part of your unit and hepatitis nurses even if they 'belong' to Infectious Diseases: then tick Y or N in the disease categories in which those nurses work	
	Alcohol		
	HCV		
	HBV		
	HCT		
	CLD		
	HCC		
	HPB		
	Alcohol Specialist Nurses	If there are alcohol specialist nurses in your hospital do they work in Hepatology-Gastroenterology (H), Acute Medicine (M) or Other (O)	
Nurse Contact / Lead for your specialist nurses	If possible provide email for lead nurse whom we could ask for more information		

Procode5_Description	SHA name	Type of liver service	No. hepatologists (>=50% clinical time in hep)	G I H	G I o n l y	ID unit treating Hep B & C? (Peter Moss list)	Liver resect	Panc resection	Trans plantation	Liver Histo path ology EQA (no. cons mem bers)
QUEEN ELIZABETH HOSPITAL	West Midlands	Transplant Centre	11	3	3	No	Y	Y	Y	
ROYAL FREE HOSPITAL	London	Transplant Centre	11	0	4	Yes	Y	Y	Y	5
KING'S COLLEGE HOSPITAL (DENMARK HILL)	London	Transplant Centre	8	1	4	No	Y	Y	Y	1
THE NEWCASTLE UPON TYNE HOSPITALS NHS FOUNDATION T	North East	Transplant Centre	8	0	6	Yes	Y	Y	Y	
LEEDS GENERAL INFIRMARY	Yorkshire and Humber	Transplant Centre	4	2	6	Yes	Y	Y	Y	3
ADDENBROOKE'S HOSPITAL	East of England	Transplant Centre	4	0	6	No	Y	Y	Y	2
IMPERIAL: ST MARY'S HOSPITAL & HAMMERSMITH	London	Tertiary Liver Centre	8	4	8	Yes	Y	Y	N	2
BARTS AND THE LONDON NHS TRUST	London	Tertiary Liver Centre	4	2	8	No	Y	Y	N	3
THE ROYAL LIVERPOOL UNIVERSITY HOSPITAL	North West	Tertiary Liver Centre	4	1	9	yes	N	Y	N	3
NOTTINGHAM UNIVERSITY HOSPITALS NHS TRUST - QUEEN'	East Midlands	Tertiary Liver Centre	3	3	11	Yes	Y	Y	N	3
MANCHESTER Royal infirmary	North West	Tertiary Liver Centre	3	2	2	No	N	N	N	
OXFORD RADCLIFFE HOSPITALS NHS TRUST	South Central	Tertiary Liver Centre	3	2	9	No	Y	Y	N	2
UNITED BRISTOL HEALTHCARE NHS TRUST	South West	Tertiary Liver Centre	3	1	5	No	Y	Y	N	2
GUY'S AND ST THOMAS' NHS TRUST	London	Tertiary Liver Centre	3	0	6	No	N	N	N	
SOUTHAMPTON UNIVERSITY HOSPITALS NHS TRUST	South Central	Tertiary Liver Centre	3	0	9	No	Y	Y	N	5
PLYMOUTH HOSPITALS NHS TRUST	South West	Tertiary Liver Centre	3	0	6	No	Y	Y	N	3
DERBY HOSPITALS NHS FOUNDATION TRUST	East Midlands	Gastro with Hepatology plus	5	0	5	No	Y	N	N	
AINTREE UNIVERSITY HOSPITALS NHS FOUNDATION TRUST	North West	Gastro with Hepatology plus	2	1	4	No	Y	N	N	2
BRADFORD TEACHING HOSPITALS NHS FOUNDATION TRUST	Yorkshire and Humber	Gastro with Hepatology plus	2	1	6	No	N	N	N	1
UNIVERSITY HOSPITALS OF LEICESTER NHS TRUST	East Midlands	Gastro with Hepatology plus	2	0	11	Yes	Y	Y	N	2
NORFOLK AND NORWICH UNIVERSITY HOSPITAL NHS TRUST	East of England	Gastro with Hepatology plus	2	0	9	No	Y	N	N	3
ST GEORGE'S HEALTHCARE NHS TRUST	London	Gastro with Hepatology plus	2	0	6	No	N	N	N	1
THE ROYAL BOURNEMOUTH AND CHRISTCHURCH HOSPITALS N	South West	Gastro with Hepatology	2	0	4	No	N	N	N	1

NORTHERN & HALLAMSHIRE SHEFFIELD HOSPITAL	Yorkshire and Humber	plus Gastro with Hepatology plus	2	0	1	1	Yes	Y	Y	N	
UNIVERSITY HOSPITAL OF NORTH DURHAM	North East	Gastro w interest Hepatology	1	4	4		NO	N	N	N	
ROYAL SUSSEX COUNTY HOSPITAL	South East Coast	Gastro w interest Hepatology	1	4	2		No	N	N	N	
UNIVERSITY COLLEGE HOSPITAL	London	Gastro w interest Hepatology	1	3	8		No	N	N	N	
WORTHING AND SOUTHLANDS HOSPITALS NHS TRUST	South East Coast	Gastro w interest Hepatology	1	3	3		No	N	N	N	
LINCOLN COUNTY HOSPITAL	East Midlands	Gastro w interest Hepatology	1	2	5		No	N	N	N	1
CHELSEA AND WESTMINSTER HOSPITAL NHS FOUNDATION TR	London	Gastro w interest Hepatology	1	2	5		No	N	N	N	
WIRRAL UNIVERSITY TEACHING HOSPITAL NHS FOUNDATION	North West	Gastro w interest Hepatology	1	2	5		No	N	N	N	2
ROYAL CORNWALL HOSPITALS NHS TRUST	South West	Gastro w interest Hepatology	1	2	5		No	N	N	N	1
HEARTLANDS HOSPITAL	West Midlands	Gastro w interest Hepatology	1	2	7		Yes	N	N	N	1
NORTH STAFFORDSHIRE ROYAL INFIRMARY	West Midlands	Gastro w interest Hepatology	1	2	3		No	N	Y	N	2
HULL AND EAST YORKSHIRE HOSPITALS NHS TRUST	Yorkshire and Humber	Gastro w interest Hepatology	1	2	6		Yes	N	Y	N	
BASILDON UNIVERSITY HOSPITAL	East of England	Gastro w interest Hepatology	1	1	4		No	N	N	N	
BASINGSTOKE AND NORTH HAMPSHIRE HOSPITAL	South Central	Gastro w interest Hepatology	1	1	2		No	Y	N	N	
FRIMLEY PARK HOSPITAL	South East Coast	Gastro w interest Hepatology	1	1	3		No	N	N	N	1
ROYAL SURREY COUNTY HOSPITAL	South East Coast	Gastro w interest Hepatology	1	1	1		No	Y	Y	N	
UNIVERSITY HOSPITALS COVENTRY AND WARWICKSHIRE NHS	West Midlands	Gastro w interest Hepatology	1	1	5		No	Y	Y	N	
PETERBOROUGH AND STAMFORD HOSPITALS NHS FOUNDATION	East of England	Gastro w interest Hepatology	1	0	3		No	N	N	N	
PORTSMOUTH HOSPITALS NHS TRUST	South Central	Gastro w interest Hepatology	1	0	8		No	N	N	N	
ROTHERHAM DISTRICT GENERAL HOSPITAL	Yorkshire and Humber	Gastro w interest Hepatology	1	0	2		No	N	N	N	
NORTHUMBRIA HEALTHCARE NHS FOUNDATION TRUST	North East	Gastro w interest Hepatology	0	6	4		NO	N	N	N	
GATESHEAD HEALTH NHS FOUNDATION	North East	Gastro w	0	4	0		NO	N	N	N	

TRUST		interest Hepatology									
PENNINE ACUTE HOSPITALS NHS TRUST	North West	Gastro w interest Hepatology	0	4	7	Yes	N	N	N		
EAST SUSSEX HOSPITALS NHS TRUST	South East Coast	Gastro w interest Hepatology	0	4	1	No	N	N	N		
ROYAL DEVON AND EXETER NHS FOUNDATION TRUST	South West	Gastro w interest Hepatology	0	4	3	No	N	N	N		4
CITY HOSPITAL	West Midlands	Gastro w interest Hepatology	0	4	6	No	N	N	N		
WORCESTERSHIRE ACUTE HOSPITALS NHS TRUST	West Midlands	Gastro w interest Hepatology	0	4	3	Yes	N	N	N		
CHASE FARM HOSPITAL	London	Gastro w interest Hepatology	0	3	3	No	N	N	N		
NORTH TEES AND HARTLEPOOL NHS TRUST	North East	Gastro w interest Hepatology	0	3	5	No	N	N	N		
WHISTON HOSPITAL	North West	Gastro w interest Hepatology	0	3	1	No	N	N	N		
WINCHESTER AND EASTLEIGH HEALTHCARE NHS TRUST	South Central	Gastro w interest Hepatology	0	3	1	No	N	N	N		
BUCKINGHAMSHIRE HOSPITALS NHS TRUST	South Central	Gastro w interest Hepatology	0	3	2	No	N	N	N		
PEMBURY HOSPITAL	South East Coast	Gastro w interest Hepatology	0	3	3	No	N	N	N		
DARTFORD AND GRAVESHAM NHS TRUST	South East Coast	Gastro w interest Hepatology	0	3	0	No	N	N	N		
TAUNTON AND SOMERSET NHS TRUST	South West	Gastro w interest Hepatology	0	3	3	No	N	N	N		
SOUTH DEVON HEALTHCARE NHS FOUNDATION TRUST	South West	Gastro w interest Hepatology	0	3	3	No	N	N	N		
AIREDALE NHS TRUST	Yorkshire and Humber	Gastro w interest Hepatology	0	3	0	No	N	N	N		
KING'S MILL HOSPITAL	East Midlands	Gastro w interest Hepatology	0	2	5	No	N	N	N		
CHESTERFIELD ROYAL HOSPITAL	East Midlands	Gastro w interest Hepatology	0	2	2. 5	No	N	N	N		
NORTHAMPTON GENERAL HOSPITAL NHS TRUST	East Midlands	Gastro w interest Hepatology	0	2	3	No	N	N	N		
KETTERING GENERAL HOSPITAL NHS TRUST	East Midlands	Gastro w interest Hepatology	0	2	2	No	N	N	N		
EAST AND NORTH HERTFORDSHIRE NHS TRUST	East of England	Gastro w interest Hepatology	0	2	6	No	N	N	N		
NEWHAM UNIVERSITY HOSPITAL NHS TRUST	London	Gastro w interest Hepatology	0	2	2	No	N	N	N		

NORTH WEST LONDON HOSPITALS NHS TRUST	London	Gastro w interest Hepatology	0	2	1 0	No	N	N	N	
SUNDERLAND ROYAL HOSPITAL	North East	Gastro w interest Hepatology	0	2	5	NO	N	N	N	
SOUTH TYNESIDE NHS FOUNDATION TRUST	North East	Gastro w interest Hepatology	0	2	0	NO	N	N	N	
BLACKPOOL, FYLDE AND WYRE HOSPITALS NHS TRUST	North West	Gastro w interest Hepatology	0	2	2	No	N	N	N	
COUNTESS OF CHESTER HOSPITAL NHS FOUNDATION TRUST	North West	Gastro w interest Hepatology	0	2	2	No	N	N	N	
CUMBERLAND INFIRMARY	North West	Gastro w interest Hepatology	0	2	0	No	N	N	N	
UNIVERSITY HOSPITALS OF MORECAMBE BAY NHS TRUST	North West	Gastro w interest Hepatology	0	2	5	No	N	N	N	
ROYAL BERKSHIRE HOSPITAL	South Central	Gastro w interest Hepatology	0	2	5	No	N	N	N	
WILLIAM HARVEY HOSPITAL (ASHFORD)	South East Coast	Gastro w interest Hepatology	0	2	2	No	N	N	N	
YEOVIL DISTRICT HOSPITAL NHS FOUNDATION TRUST	South West	Gastro w interest Hepatology	0	2	1	No	N	N	N	
ROYAL UNITED HOSPITAL BATH NHS TRUST	South West	Gastro w interest Hepatology	0	2	4	No	N	N	N	1
POOLE GENERAL HOSPITAL	South West	Gastro w interest Hepatology	0	2	2	No	N	N	N	1
WALSALL HOSPITALS NHS TRUST	West Midlands	Gastro w interest Hepatology	0	2	2	No	N	N	N	
SOUTH WARWICKSHIRE GENERAL HOSPITALS NHS TRUST	West Midlands	Gastro w interest Hepatology	0	2	2	No	N	N	N	
THE ROYAL WOLVERHAMPTON HOSPITALS NHS TRUST	West Midlands	Gastro w interest Hepatology	0	2	4	No	N	N	N	
CALDERDALE ROYAL HOSPITAL	Yorkshire and Humber	Gastro w interest Hepatology	0	2	2	No	N	N	N	
LUTON AND DUNSTABLE HOSPITAL NHS FOUNDATION TRUST	East of England	Gastro Unit	0	1	3	No	N	N	N	
SOUTHEND HOSPITAL	East of England	Gastro Unit	0	1	2	No	N	N	N	
JAMES PAGET HOSPITAL	East of England	Gastro Unit	0	1	4	No	N	N	N	
IPSWICH HOSPITAL NHS TRUST	East of England	Gastro Unit	0	1	4	No	N	N	N	
MID ESSEX HOSPITAL SERVICES NHS TRUST	East of England	Gastro Unit	0	1	2	No	N	N	N	
QUEEN MARY'S HOSPITAL	London	Gastro Unit	0	1	3	No	N	N	N	
UNIVERSITY HOSPITAL LEWISHAM	London	Gastro Unit	0	1	4	No	N	N	N	
HOMERTON UNIVERSITY HOSPITAL NHS FOUNDATION TRUST	London	Gastro Unit	0	1	3	No	N	N	N	
NORTH MIDDLESEX HOSPITAL	London	Gastro Unit	0	1	4	No	N	N	N	1
WEST MIDDLESEX UNIVERSITY HOSPITAL NHS TRUST	London	Gastro Unit	0	1	4	No	N	N	N	1

WHIPPS CROSS UNIVERSITY HOSPITAL	London	Gastro Unit	0	1	5	No	N	N	N	
THE WHITTINGTON HOSPITAL	London	Gastro Unit	0	1	2	No	N	N	N	
THE JAMES COOK UNIVERSITY HOSPITAL	North East	Gastro Unit	0	1	4	Yes	N	N	N	
MACCLESFIELD DISTRICT GENERAL HOSPITAL	North West	Gastro Unit	0	1	2	No	N	N	N	
UNIVERSITY HOSPITAL OF SOUTH MANCHESTER NHS FOUNDATION TRUST	North West	Gastro Unit	0	1	5	No	N	N	N	
SALFORD ROYAL NHS FOUNDATION TRUST	North West	Gastro Unit	0	1	7	No	N	N	N	
BOLTON HOSPITALS NHS TRUST	North West	Gastro Unit	0	1	3	No	N	N	N	
STOCKPORT NHS FOUNDATION TRUST	North West	Gastro Unit	0	1	1	No	N	N	N	2
NORTH CHESHIRE HOSPITALS NHS TRUST	North West	Gastro Unit	0	1	2	No	N	N	N	
BLACKBURN HOSPITALS	North West	Gastro Unit	0	1	4	No	N	N	N	1
WRIGHTINGTON, WIGAN AND LEIGH NHS TRUST	North West	Gastro Unit	0	1	4	No	N	N	N	
MILTON KEYNES HOSPITAL NHS FOUNDATION TRUST	South Central	Gastro Unit	0	1	2	No	N	N	N	
MEDWAY NHS TRUST	South East Coast	Gastro Unit	0	1	2	No	N	N	N	
ROYAL WEST SUSSEX NHS TRUST	South East Coast	Gastro Unit	0	1	2	No	N	N	N	
SURREY AND SUSSEX HEALTHCARE NHS TRUST	South East Coast	Gastro Unit	0	1	2	No	N	N	N	
ASHFORD AND ST PETER'S HOSPITALS NHS TRUST	South East Coast	Gastro Unit	0	1	1	No	N	N	N	
DORSET COUNTY HOSPITAL	South West	Gastro Unit	0	1	2	No	N	N	N	
GLOUCESTERSHIRE HOSPITALS NHS FOUNDATION TRUST	South West	Gastro Unit	0	1	6	No	N	N	N	
FRENCHAY HOSPITAL	South West	Gastro Unit	0	1	4	No	N	N	N	
NORTHERN DEVON HEALTHCARE NHS TRUST	South West	Gastro Unit	0	1	2	No	N	N	N	
STAFFORDSHIRE GENERAL HOSPITAL	West Midlands	Gastro Unit	0	1	4	No	N	N	N	
ROYAL SHREWSBURY HOSPITAL	West Midlands	Gastro Unit	0	1	2	No	N	N	N	
GEORGE ELIOT HOSPITAL NHS TRUST	West Midlands	Gastro Unit	0	1	1	No	N	N	N	
DUDLEY GROUP OF HOSPITALS NHS TRUST	West Midlands	Gastro Unit	0	1	2	No	N	N	N	
HEREFORD HOSPITALS NHS TRUST	West Midlands	Gastro Unit	0	1	1	No	N	N	N	
YORK HOSPITALS NHS TRUST HQ	Yorkshire and Humber	Gastro Unit	0	1	4	No	N	N	N	
SCARBOROUGH AND NORTH EAST YORKSHIRE HEALTH CARE N	Yorkshire and Humber	Gastro Unit	0	1	1	No	N	N	N	
BARNESLEY HOSPITAL NHS FOUNDATION TRUST	Yorkshire and Humber	Gastro Unit	0	1	2	No	N	N	N	
NORTHERN LINCOLNSHIRE AND GOOLE HOSPITALS NHS FOUNDATION TRUST	Yorkshire and Humber	Gastro Unit	0	1	2	No	N	N	N	
DONCASTER ROYAL INFIRMARY	Yorkshire and Humber	Gastro Unit	0	1	4	No	N	N	N	
PINDERFIELDS GENERAL HOSPITAL	Yorkshire and Humber	Gastro Unit	0	1	3	No	N	N	N	
BEDFORD HOSPITAL NHS TRUST	East of England	Gastro Unit	0	0	3	No	N	N	N	
THE QUEEN ELIZABETH HOSPITAL KING'S LYNN NHS TRUST	East of England	Gastro Unit	0	0	2	No	N	N	N	
COLCHESTER GENERAL HOSPITAL	East of England	Gastro Unit	0	0	3	No	N	N	N	
WEST SUFFOLK HOSPITALS NHS TRUST	East of England	Gastro Unit	0	0	3	No	N	N	N	
HINCHINGBROOKE HEALTH CARE NHS TRUST	East of England	Gastro Unit	0	0	4	No	N	N	N	

PRINCESS ALEXANDRA HOSPITAL	East of England	Gastro Unit	0	0	3	No	N	N	N	
WEST HERTFORDSHIRE HOSPITALS NHS TRUST	East of England	Gastro Unit	0	0	6	No	N	N	N	
MAYDAY HEALTHCARE NHS TRUST	London	Gastro Unit	0	0	3	No	N	N	N	
KINGSTON HOSPITAL	London	Gastro Unit	0	0	3	No	N	N	N	
QUEEN'S HOSPITAL	London	Gastro Unit	0	0	1	No	N	N	N	
EALING HOSPITAL	London	Gastro Unit	0	0	4	No	N	N	N	1
THE HILLINGDON HOSPITAL NHS TRUST	London	Gastro Unit	0	0	3	No	N	N	N	
ORMSKIRK AND DISTRICT GENERAL HOSPITAL	North West	Gastro Unit	0	0	2	No	N	N	N	
THE MID CHESHIRE HOSPITALS NHS TRUST	North West	Gastro Unit	0	0	3	No	N	N	N	
TRAFFORD HEALTHCARE NHS TRUST	North West	Gastro Unit	0	0	2	No	N	N	N	1
TAMESIDE GENERAL HOSPITAL	North West	Gastro Unit	0	0	3	No	N	N	N	
HEATHERWOOD AND WEXHAM PARK HOSPITALS NHS FOUNDATI	South Central	Gastro Unit	0	0	3	No	N	N	N	
EPSOM AND ST HELIER UNIVERSITY HOSPITALS NHS TRUST	South East Coast	Gastro Unit	0	0	8	No	N	N	N	
WESTON AREA HEALTH NHS TRUST	South West	Gastro Unit	0	0	2	No	N	N	N	
SALISBURY HEALTH CARE NHS TRUST	South West	Gastro Unit	0	0	5	No	N	N	N	
QUEEN'S HOSPITAL, BURTON UPON TRENT	West Midlands	Gastro Unit	0	0	2	No	N	N	N	
HARROGATE & DISTRICT NHS FOUNDATION TRUST	Yorkshire and Humber	Gastro Unit	0	0	3	No	N	N	N	
FRIARAGE HOSPITAL	Yorkshire and Humber	Gastro Unit	0	0	1	No	N	N	N	

Centre	Liver resection	Pancreas resection	Transplantation
Basingstoke	Yes	No	No
Birmingham	Yes	Yes	Yes
Blackburn	Yes	Yes	No
Bristol	Yes	Yes	No
Cambridge	Yes	Yes	Yes
Coventry	Yes	Yes	No
Guildford	Yes	Yes	No
Hammersmith	Yes	Yes	No
Hull	No	Yes	No
Ipswich	Yes	No	No
Kings Colege	Yes	Yes	Yes
Leeds	Yes	Yes	Yes
Leicester	Yes	Yes	No
Liverpool	Yes	Yes	No
Manchester	Yes	Yes	No
Newcastle	Yes	Yes	Yes
Norwich	Yes	No	No
Nottingham	Yes	Yes	No
Oxford	Yes	Yes	No
Plymouth	Yes	Yes	No
Royal London	Yes	Yes	No
Royal marsden	Yes	Yes	No
Sheffield	Yes	Yes	No
Southampton	Yes	Yes	No
Stoke	No	Yes	No
UCH Royal Free	Yes	Yes	Yes

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