

**THE BRITISH ASSOCIATION OF  
UROLOGICAL SURGEONS  
SECTION of ONCOLOGY**

**Analyses of Nephrectomy Dataset**

**January 1<sup>st</sup> – 31<sup>st</sup> December 2013**

**September 2014**

**MEMBERS OF THE EXECUTIVE COMMITTEE**

J Adshead	S Brewster	D Cahill	J Cresswell	S Khan
A McNeill	H Mostafid	T O'Brien	E Rowe	

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Please contact Mrs Sarah Fowler (E-mail: [sarah@sarahfowler.org](mailto:sarah@sarahfowler.org))

**PRODUCED FOR BAUS SECTION OF ONCOLOGY**

**by**

**Sarah Fowler**

**Manager BAUS data & audit project**

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## GENERAL INTRODUCTION

In 2013 nephrectomy became the first urological procedure for which surgeon level outcome data was published nationally. In actual fact, the results, when published, attracted very little media scrutiny, perhaps because they showed that on the whole nephrectomy is performed well by UK urologists. Despite initial reservations, it is hoped that the majority of urologists performing nephrectomy and taking part in the audit have been reassured that the process is fair, informative and, perhaps most importantly in the era of intense media scrutiny, they are doing a 'good job'. Indeed the 6042 cases reported in 2012 represents one of the largest nephrectomy series in the literature and resulted in many international presentations raising the international profile of British Urology.

This year the overwhelmingly positive effect of the previous audit is reflected in a large increase in returns from 6042 in 2012 to 7591 in 2013 with the number of consultants reporting up from 310 to 341. There is a modest but encouraging increase in median nephrectomies per surgeon from 14 to 16 and a similar increase from 35 to 39 per centre. It is hoped that this is the result of increasing subspecialisation. In 2012 data on about 75% of nephrectomies undertaken in England were returned based on HES figures for procedures performed by a urologist whilst in 2013 the figure has risen to 90%.

Surgeons performing nephrectomy deserve congratulations. They perform safe, high quality surgery and now have the data to prove it. This should motivate urologists performing radical pelvic surgery to participate in the 2014 audit on radical prostatectomy and cystectomy.

Hugh Mostafid

September 2014

## **AUDIT RESULTS SUMMARY - Nephrectomy dataset (January 1<sup>st</sup> – December 31<sup>st</sup> 2013)**

- 7591 Nephrectomies reported by 341 consultants from 145 centres (including 168 private patients from 48 consultants)
  - 95% of the data (7181/7591) was individually entered by hand as oppose to being bulk imported
  - 24.5% have 1 or more follow up
  - Median per consultant = 16, range 1 – 118
  - Median per centre = 39, range 1 – 295
  - 59% males (4466/7562 recorded); Median Age at operation = 65, range 15 - 93

### **How were the data analysed?**

All the data presented here are a summary of the data extracted from the web-based database on 25<sup>th</sup> July 2014 and relate to operations performed during the whole of 2013. Once extracted the data was transferred to an Access<sup>TM</sup> database for validation before being imported into Tableau<sup>TM</sup> for generation of the analyses. The validation mainly comprised checks for duplicate and / or empty entries and invalid / inappropriate dates.

For each of the ranked charts the individual consultant or centre identification numbers were removed and replaced with rank numbers starting at 1. A unique, confidential "Ranking Sheet" has been prepared for each surgeon to enable them to identify their rank in every chart. For those charts where overall figures for the entire database are shown the ranking sheet displays the consultant's individual figures. No one else can identify the results of an individual consultant. The ranked charts comprise single bars and are ranked from left to right in the ascending order of the data item being measured. Where percentages are included figures have been rounded up to one decimal point.

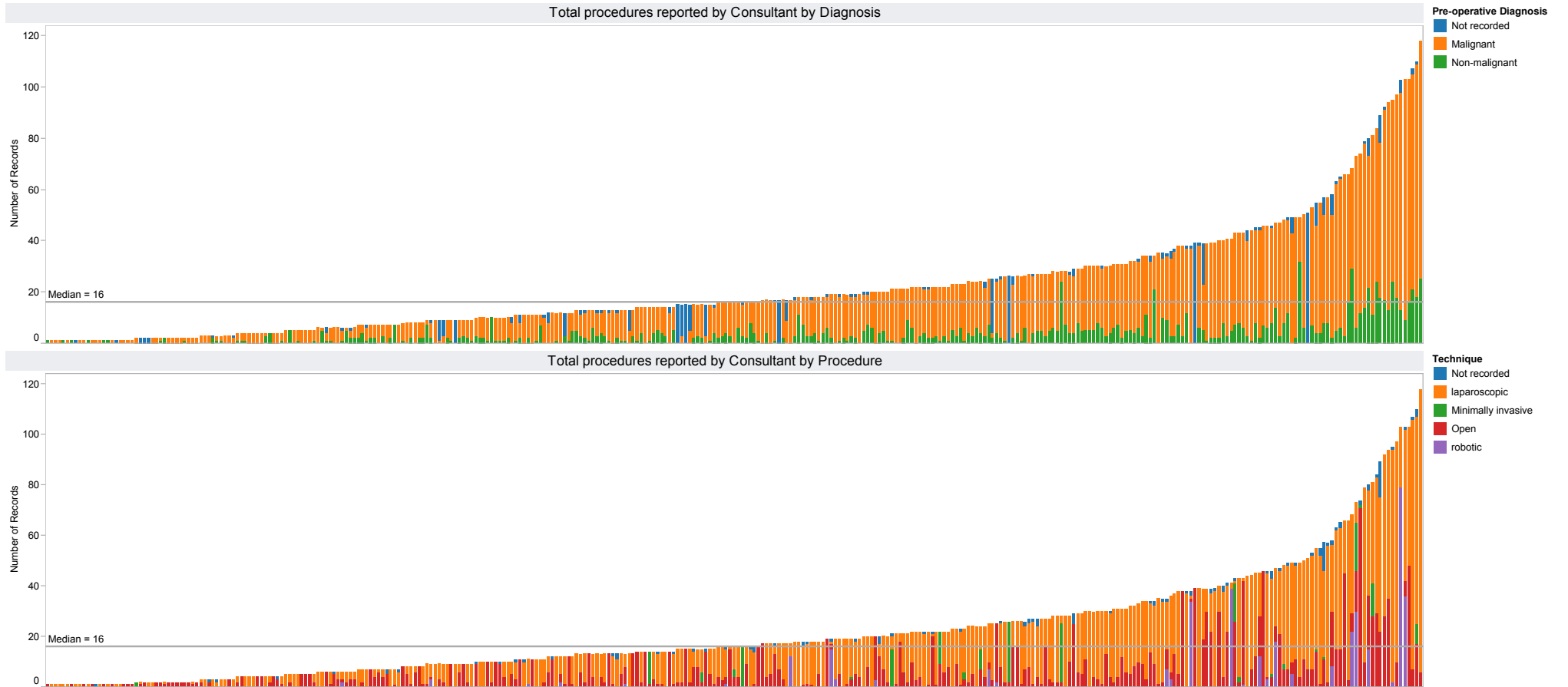
A personal ranking sheet for each consultant registering three or more tumours is available individually to go with this document. Centres or cancer networks that have returned sufficient data may request a copy of these analyses filtered to contain only that data.

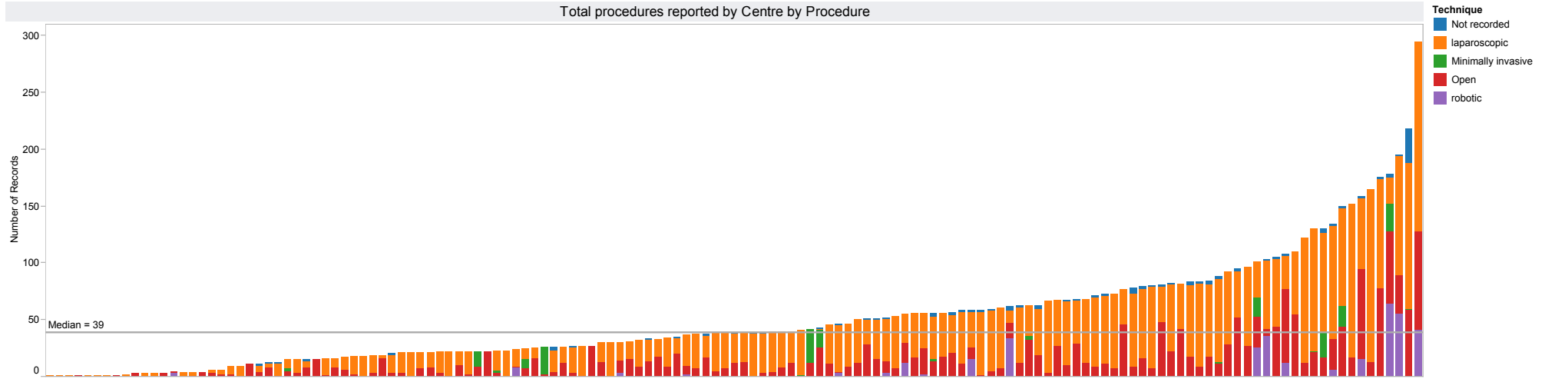
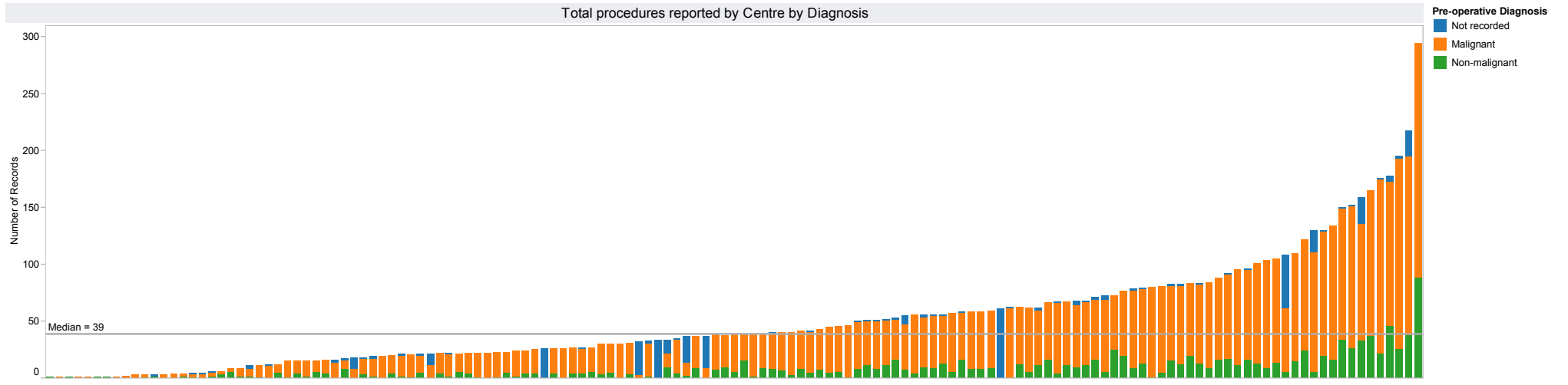
Sarah Fowler

BAUS Data & Audit Project Manager

September 2014

Total Returns for Procedures performed between 01/01/2013 and 31/12/2013  
7591 procedures from 341 consultants at 145 centres in the UK

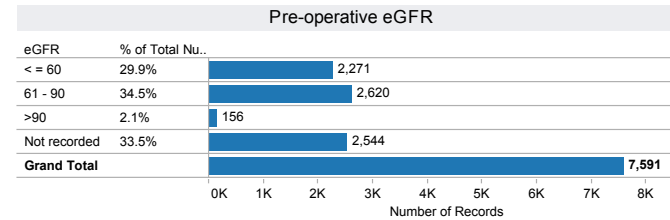
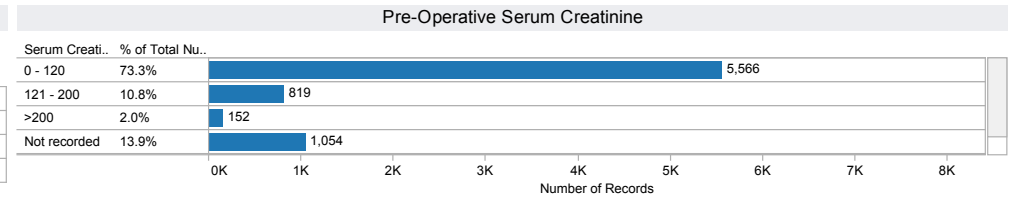
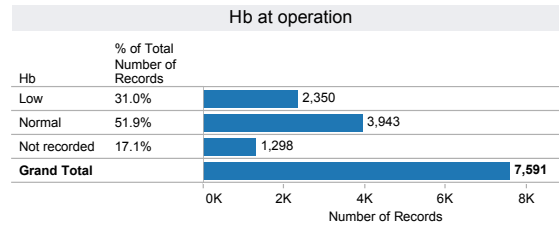
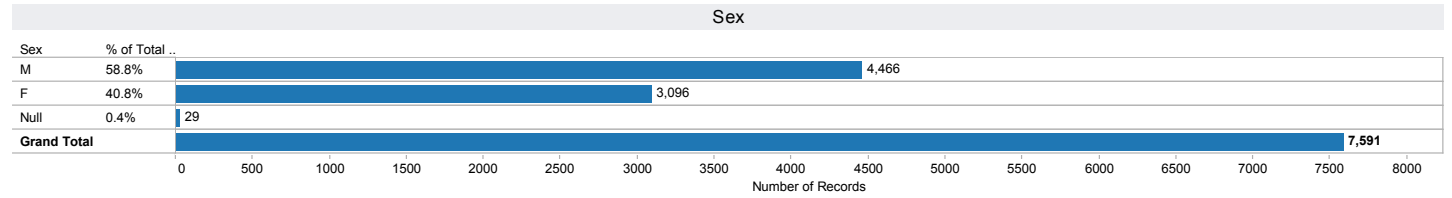




Pre-op Presentation		
1: Pre-Op Presentation	Number of Records	% of Total
Haematuria	1,906	25.1%
Incidental finding with no symptoms	2,809	37.0%
Other	2,371	31.2%
Not recorded	505	6.7%
<b>Grand Total</b>	<b>7,591</b>	<b>100.0%</b>

Age				
Number of Records	% of Total	Median Actual age at op	Min. Actual age at op	Max. Actual age at op
7,526	100.0%	65	15	93

WHO Performance status		
8: WHO performance status	Number of Records	% of Total
0	3,411	44.9%
1	2,066	27.2%
2	589	7.8%
3	122	1.6%
4	15	0.2%
Not recorded	1,388	18.3%
<b>Grand Total</b>	<b>7,591</b>	<b>100.0%</b>





### Diagnosis

Pre-operative Diagnosis	Number of Records	% of Total
Malignant	5,943	78.3%
Non-malignant	1,224	16.1%
Not recorded	424	5.6%
<b>Grand Total</b>	<b>7,591</b>	<b>100.0%</b>

### Non-Malignant Diagnoses

15: Non-malignant Diagnosis	Number of Records	% of Total
Non-functioning kidney	596	11.7%
Stone disease	145	2.8%
Oncocytoma	83	1.6%
Being performed as a donor	98	1.9%
Polycystic	35	0.7%
Pyelonephritis	110	2.2%
Other	157	3.1%
Not recorded	3,887	76.1%
<b>Grand Total</b>	<b>5,111</b>	<b>100.0%</b>

### Final Post-operative Histological Diagnosis

Pre-operative Diagnosis	105: Post-operative (Final) Histological Diagnosis	Number of Records	% of Total	
Malignant	Clear Cell Renal Cell ca	3,607	47.5%	
	TCC	905	11.9%	
	Sarcoma	24	0.3%	
	Papillary	417	5.5%	
	Chromophobe	201	2.6%	
	Collecting duct	12	0.2%	
	Other Cancer	85	1.1%	
	Angiomyolipoma	34	0.4%	
	Oncocytoma	187	2.5%	
	Other benign	98	1.3%	
	Not recorded	373	4.9%	
Non-malignant	Clear Cell Renal Cell ca	20	0.3%	
	TCC	3	0.0%	
	Papillary	3	0.0%	
	Chromophobe	1	0.0%	
	Other Cancer	2	0.0%	
	Angiomyolipoma	12	0.2%	
	Oncocytoma	18	0.2%	
	Other benign	642	8.5%	
	Not recorded	523	6.9%	
	Not recorded	Clear Cell Renal Cell ca	124	1.6%
		TCC	26	0.3%
Sarcoma		40	0.5%	
Papillary		17	0.2%	
Chromophobe		6	0.1%	
Other Cancer		23	0.3%	
Oncocytoma		4	0.1%	
Other benign		6	0.1%	
Not recorded	178	2.3%		
<b>Grand Total</b>		<b>7,591</b>	<b>100.0%</b>	

T stage (pathological category if available else clinical category used)

Tstage (group)	Number of Records	% of Total
0	9	0.5%
1	889	50.1%
2	244	13.7%
3	487	27.4%
4	34	1.9%
a	75	4.2%
X or not recorded	37	2.1%
<b>Grand Total</b>	<b>1,775</b>	<b>100.0%</b>

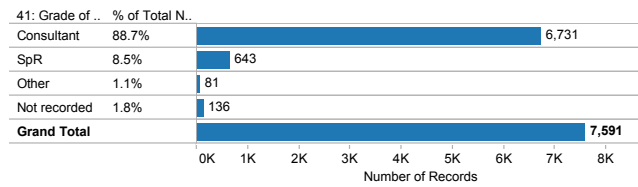
N stage (pathological category if available else clinical category used)

Nstage	Number of Records	% of Total
0	917	51.7%
1	32	1.8%
2	35	2.0%
3	3	0.2%
X	753	42.4%
Null	35	2.0%
<b>Grand Total</b>	<b>1,775</b>	<b>100.0%</b>

M stage (pathological category if available else clinical category used)

Mstage	Number of Records	% of Total
0	866	48.8%
1	71	4.0%
X	781	44.0%
Null	57	3.2%
<b>Grand Total</b>	<b>1,775</b>	<b>100.0%</b>

Grade of Operating Surgeon



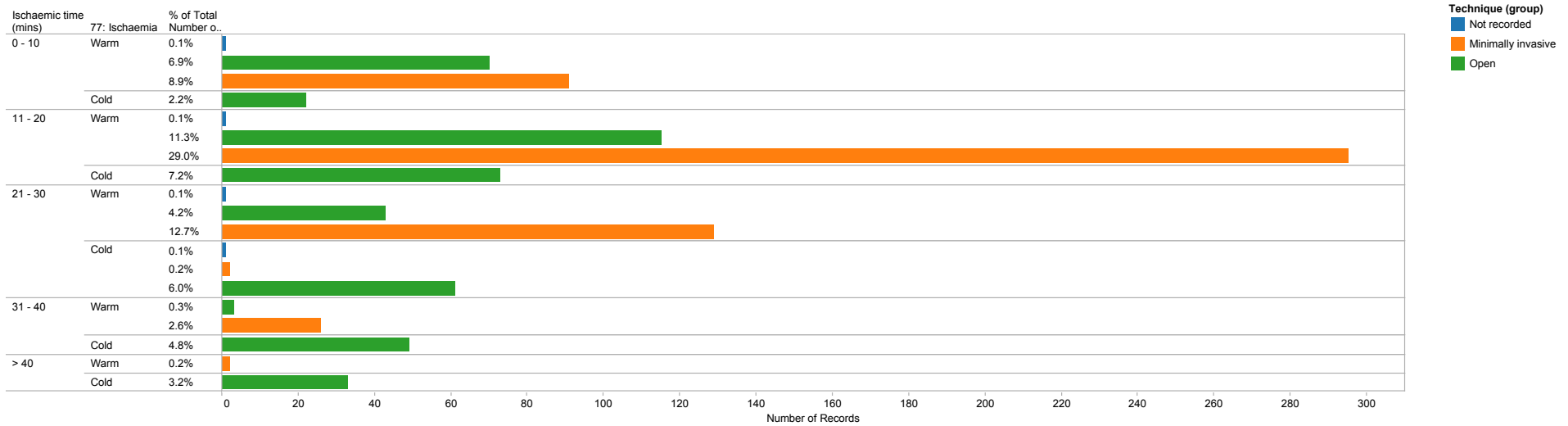
Procedure by Technique

Procedure	Technique (group)						Grand Total	
	Open Number of Records	% of Total Number of..	Minimally invasive Number of Records	% of Total Number of..	Not recorded Number of Records	% of Total Number of..	Number of Records	% of Total Number of..
Radical	1,018	26.2%	2,819	72.6%	45	1.2%	3,882	100.0%
Simple	138	14.4%	819	85.2%	4	0.4%	961	100.0%
Partial	677	46.4%	764	52.4%	17	1.2%	1,458	100.0%
Nephroureterectomy	160	14.2%	950	84.4%	16	1.4%	1,126	100.0%
Other	60	57.7%	38	36.5%	6	5.8%	104	100.0%
Not recorded	6	10.0%	23	38.3%	31	51.7%	60	100.0%
<b>Grand Total</b>	<b>2,059</b>	<b>27.1%</b>	<b>5,413</b>	<b>71.3%</b>	<b>119</b>	<b>1.6%</b>	<b>7,591</b>	<b>100.0%</b>

### Indication for Partial Nephrectomies

Partial - Indication	Technique (group)						Grand Total	
	Open		Minimally invasive		Not recorded		Number of Records	% of Total
	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total		
Elective NOS	284	41.9%	377	49.3%	3	17.6%	664	45.5%
Elective (<4.5cm, normal contr..	115	17.0%	200	26.2%	3	17.6%	318	21.8%
Elective (>4.5cm, normal contr..	31	4.6%	18	2.4%	1	5.9%	50	3.4%
Imperative (bilateral , single ki..	58	8.6%	10	1.3%			68	4.7%
Absolute	41	6.1%	11	1.4%	1	5.9%	53	3.6%
Relative	64	9.5%	43	5.6%			107	7.3%
VHL	5	0.7%					5	0.3%
Not recorded	79	11.7%	105	13.7%	9	52.9%	193	13.2%
<b>Grand Total</b>	<b>677</b>	<b>100.0%</b>	<b>764</b>	<b>100.0%</b>	<b>17</b>	<b>100.0%</b>	<b>1,458</b>	<b>100.0%</b>

### Partial Nephrectomies - Ischaemia



Tumour size by Procedure and Technique employed

Maximum Diameter of Tumour (cm)	Technique (group)	Procedure													
		Radical		Simple		Partial		Nephroureterectomy		Other		Not recorded		Grand Total	
		Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total
<= 4	Open	65	1.7%	1	0.1%	341	23.4%	53	4.7%	2	1.9%	2	3.3%	464	6.1%
	Minimally invasive	568	14.6%	8	0.8%	494	33.9%	390	34.6%	14	13.5%	7	11.7%	1,481	19.5%
	Not recorded	5	0.1%			8	0.5%	7	0.6%	4	3.8%			24	0.3%
> 4 - 7.0	Open	159	4.1%			148	10.2%	24	2.1%			1	1.7%	332	4.4%
	Minimally invasive	1,002	25.8%	7	0.7%	100	6.9%	153	13.6%	1	1.0%	4	6.7%	1,267	16.7%
	Not recorded	11	0.3%			5	0.3%	2	0.2%			1	1.7%	19	0.3%
> 7 - 10.0	Open	260	6.7%			21	1.4%	12	1.1%					293	3.9%
	Minimally invasive	534	13.8%	2	0.2%	7	0.5%	42	3.7%					585	7.7%
	Not recorded	9	0.2%			1	0.1%	1	0.1%					11	0.1%
> 10.0	Open	347	8.9%	1	0.1%	21	1.4%	6	0.5%	4	3.8%	1	1.7%	380	5.0%
	Minimally invasive	220	5.7%			8	0.5%	19	1.7%	1	1.0%			248	3.3%
	Not recorded	7	0.2%											7	0.1%
Not recorded	Open	187	4.8%	136	14.2%	146	10.0%	65	5.8%	54	51.9%	2	3.3%	590	7.8%
	Minimally invasive	495	12.8%	802	83.5%	155	10.6%	346	30.7%	22	21.2%	12	20.0%	1,832	24.1%
	Not recorded	13	0.3%	4	0.4%	3	0.2%	6	0.5%	2	1.9%	30	50.0%	58	0.8%
<b>Grand Total</b>		3,882	100.0%	961	100.0%	1,458	100.0%	1,126	100.0%	104	100.0%	60	100.0%	7,591	100.0%

Operating Time by Procedure & Technique

80: Operating time (skin to skin)	Technique (group)	Procedure													
		Radical		Simple		Partial		Nephroureterectomy		Other		Not recorded		Grand Total	
		Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total
< 60 mins	Open	15	0.4%	3	0.3%	26	2.1%	1	0.1%					45	0.7%
	Minimally invasive	119	3.4%	49	5.7%	1	0.1%	11	1.1%	1	1.1%	1	3.7%	182	2.7%
	Not recorded										1	3.7%		1	0.0%
1 - 2 hours	Open	177	5.1%	43	5.0%	181	14.6%	14	1.4%	10	10.9%	2	7.4%	427	6.3%
	Minimally invasive	805	23.0%	234	27.2%	163	13.1%	122	12.1%	13	14.1%	5	18.5%	1,342	19.9%
	Not recorded	6	0.2%			5	0.4%			2	2.2%			13	0.2%
2 - 3 hours	Open	376	10.7%	55	6.4%	270	21.8%	56	5.6%	19	20.7%	2	7.4%	778	11.6%
	Minimally invasive	1,095	31.3%	302	35.1%	330	26.6%	296	29.4%	9	9.8%	10	37.0%	2,042	30.4%
	Not recorded	14	0.4%	1	0.1%	3	0.2%	4	0.4%	2	2.2%			24	0.4%
3 - 4 hours	Open	212	6.1%	18	2.1%	91	7.3%	41	4.1%	16	17.4%	1	3.7%	379	5.6%
	Minimally invasive	413	11.8%	110	12.8%	112	9.0%	274	27.2%	5	5.4%	3	11.1%	917	13.6%
	Not recorded	4	0.1%			1	0.1%	1	0.1%	1	1.1%			7	0.1%
4 - 6 hours	Open	105	3.0%	7	0.8%	10	0.8%	26	2.6%	5	5.4%			153	2.3%
	Minimally invasive	123	3.5%	34	4.0%	42	3.4%	143	14.2%	2	2.2%	2	7.4%	346	5.1%
	Not recorded	3	0.1%					2	0.2%					5	0.1%
> 6 hours	Open	26	0.7%			1	0.1%	4	0.4%	6	6.5%			37	0.6%
	Minimally invasive	9	0.3%	4	0.5%	4	0.3%	11	1.1%	1	1.1%			29	0.4%
<b>Grand Total</b>		3,502	100.0%	860	100.0%	1,240	100.0%	1,006	100.0%	92	100.0%	27	100.0%	6,727	100.0%

**Blood Loss by Procedure & Technique**

82: Measured blood loss (mls)	Technique (group)	Procedure													
		Radical		Simple		Partial		Nephroureterectomy		Other		Not recorded		Grand Total	
		Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total
< 500	Open	466	13.9%	83	10.0%	452	36.5%	89	9.1%	15	17.0%	2	7.7%	1,107	17.0%
	Minimally invasive	2,328	69.2%	688	82.8%	583	47.0%	779	79.5%	31	35.2%	19	73.1%	4,428	67.8%
	Not recorded	16	0.5%	1	0.1%	4	0.3%	7	0.7%	5	5.7%	1	3.8%	34	0.5%
> 500 - 1000	Open	171	5.1%	18	2.2%	82	6.6%	31	3.2%	9	10.2%	3	11.5%	314	4.8%
	Minimally invasive	114	3.4%	24	2.9%	54	4.4%	51	5.2%	2	2.3%	1	3.8%	246	3.8%
	Not recorded	4	0.1%			4	0.3%							8	0.1%
> 1000 - 2000	Open	126	3.7%	6	0.7%	30	2.4%	7	0.7%	18	20.5%			187	2.9%
	Minimally invasive	39	1.2%	6	0.7%	19	1.5%	10	1.0%					74	1.1%
	Not recorded	2	0.1%					1	0.1%					3	0.0%
> 2000 - 5000	Open	59	1.8%	3	0.4%	5	0.4%	2	0.2%	7	8.0%			76	1.2%
	Minimally invasive	14	0.4%	1	0.1%	4	0.3%	3	0.3%					22	0.3%
	Not recorded	1	0.0%											1	0.0%
> 5000	Open	20	0.6%			3	0.2%			1	1.1%			24	0.4%
	Minimally invasive	2	0.1%	1	0.1%									3	0.0%
<b>Grand Total</b>		3,362	100.0%	831	100.0%	1,240	100.0%	980	100.0%	88	100.0%	26	100.0%	6,527	100.0%

**Blood Transfused by Procedure & Technique**

84: Number of units of blood transfused related to sur

Technique (group)	Procedure	Nil		Minor (<= 2)		Moderate (>2 - 6)		Major (> 6)		Grand Total	
		Number of Records	% of Total Number of Records ..	Number of Records	% of Total Number of Records ..	Number of Records	% of Total Number of Records ..	Number of Records	% of Total Number of Records ..	Number of Records	% of Total Number of Records ..
Open	Radical	597	70.3%	125	14.7%	97	11.4%	30	3.5%	849	100.0%
	Simple	98	83.8%	14	12.0%	3	2.6%	2	1.7%	117	100.0%
	Partial	540	93.8%	28	4.9%	8	1.4%			576	100.0%
	Nephroureterectomy	111	86.0%	15	11.6%	3	2.3%			129	100.0%
	Other	24	43.6%	15	27.3%	10	18.2%	6	10.9%	55	100.0%
	Not recorded	5	100.0%							5	100.0%
Minimally invasive	Radical	2,422	95.7%	74	2.9%	30	1.2%	6	0.2%	2,532	100.0%
	Simple	722	97.7%	11	1.5%	3	0.4%	3	0.4%	739	100.0%
	Partial	644	95.0%	20	2.9%	12	1.8%	2	0.3%	678	100.0%
	Nephroureterectomy	801	94.8%	34	4.0%	7	0.8%	3	0.4%	845	100.0%
	Other	31	96.9%	1	3.1%					32	100.0%
	Not recorded	20	95.2%	1	4.8%					21	100.0%
Not recorded	Radical	20	80.0%	3	12.0%	2	8.0%			25	100.0%
	Simple	2	100.0%							2	100.0%
	Partial	8	100.0%							8	100.0%
	Nephroureterectomy	8	88.9%	1	11.1%					9	100.0%
	Other	5	100.0%							5	100.0%
	Not recorded	1	100.0%							1	100.0%
<b>Grand Total</b>		6,059	91.4%	342	5.2%	175	2.6%	52	0.8%	6,628	100.0%

Conversions

74: Conversion Reason	Procedure										Grand Total			
	Radical		Simple		Partial		Nephroureterectomy		Other				Not recorded	
	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total
Adhesions	8	5.8%	2	6.5%			4	12.9%			1	33.3%	15	6.3%
Difficult dissection	25	18.0%	7	22.6%	17	53.1%	8	25.8%	1	100.0%	1	33.3%	59	24.9%
Failure to progress	20	14.4%	8	25.8%	3	9.4%	6	19.4%					37	15.6%
Haemorrhage	46	33.1%	10	32.3%	8	25.0%	4	12.9%					68	28.7%
Patient obesity	6	4.3%											6	2.5%
Size of tumour / mass	19	13.7%					3	9.7%					22	9.3%
Other	11	7.9%	2	6.5%	3	9.4%	4	12.9%			1	33.3%	21	8.9%
Not recorded	4	2.9%	2	6.5%	1	3.1%	2	6.5%					9	3.8%
<b>Grand Total</b>	<b>139</b>	<b>100.0%</b>	<b>31</b>	<b>100.0%</b>	<b>32</b>	<b>100.0%</b>	<b>31</b>	<b>100.0%</b>	<b>1</b>	<b>100.0%</b>	<b>3</b>	<b>100.0%</b>	<b>237</b>	<b>100.0%</b>

Clavien Dindo Grade of Complication(s)

69: Clavien-Dindo grade(s) of comp..	Procedure	Technique (group)							
		Open		Minimally invasive		Not recorded		Grand Total	
		Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total
Grade I	Radical	57	11.7%	121	16.2%			178	14.3%
	Simple	9	1.9%	31	4.1%			40	3.2%
	Partial	31	6.4%	29	3.9%			60	4.8%
	Nephroureterectomy	9	1.9%	55	7.3%			64	5.1%
	Other			1	0.1%			1	0.1%
Grade II	Not recorded	1	0.2%	1	0.1%			2	0.2%
	Radical	87	17.9%	116	15.5%	3	30.0%	206	16.5%
	Simple	19	3.9%	22	2.9%			41	3.3%
	Partial	54	11.1%	35	4.7%	1	10.0%	90	7.2%
	Nephroureterectomy	16	3.3%	61	8.1%			77	6.2%
Grade IIIa	Other	4	0.8%					4	0.3%
	Radical	16	3.3%	12	1.6%			28	2.2%
	Simple	1	0.2%	8	1.1%			9	0.7%
	Partial	14	2.9%	17	2.3%			31	2.5%
	Nephroureterectomy	8	1.6%	10	1.3%			18	1.4%
Grade IIIb	Other	1	0.2%					1	0.1%
	Radical	8	1.6%	26	3.5%	1	10.0%	35	2.8%
	Simple	2	0.4%	6	0.8%			8	0.6%
	Partial	17	3.5%	19	2.5%			36	2.9%
	Nephroureterectomy	2	0.4%	13	1.7%			15	1.2%
Grade IVa	Other	4	0.8%					4	0.3%
	Radical	15	3.1%	9	1.2%	1	10.0%	25	2.0%
	Simple			5	0.7%			5	0.4%
	Partial	5	1.0%	1	0.1%			6	0.5%
	Nephroureterectomy	2	0.4%	5	0.7%			7	0.6%
Grade IVb	Other	3	0.6%					3	0.2%
	Radical	2	0.4%	3	0.4%			5	0.4%
	Simple			1	0.1%			1	0.1%
	Partial	3	0.6%					3	0.2%
	Nephroureterectomy			2	0.3%			2	0.2%
Grade V (death)	Radical	11	2.3%	8	1.1%	1	10.0%	20	1.6%
	Simple	1	0.2%	2	0.3%			3	0.2%
	Partial	1	0.2%					1	0.1%
	Nephroureterectomy	1	0.2%	3	0.4%			4	0.3%
	Other	2	0.4%					2	0.2%
Not recorded	Radical	40	8.2%	67	8.9%	3	30.0%	110	8.8%
	Simple	1	0.2%	13	1.7%			14	1.1%
	Partial	30	6.2%	21	2.8%			51	4.1%
	Nephroureterectomy	4	0.8%	25	3.3%			29	2.3%
	Other	4	0.8%	1	0.1%			5	0.4%
<b>Grand Total</b>		<b>486</b>	<b>100.0%</b>	<b>749</b>	<b>100.0%</b>	<b>10</b>	<b>100.0%</b>	<b>1,245</b>	<b>100.0%</b>



### Length of Stay

Procedure	Technique (group)	Number of Records	% of Total	Average	Median	Minimum	Maximum
Radical	Open	945	13.1%	8	6	0	108
	Minimally invasive	2,699	37.5%	5	4	0	108
	Not recorded	39	0.5%	8	6	0	62
Partial	Open	633	8.8%	8	6	0	104
	Minimally invasive	735	10.2%	4	3	0	60
	Not recorded	15	0.2%	5	5	2	10
Simple	Open	127	1.8%	9	6	0	98
	Minimally invasive	780	10.8%	4	3	0	79
	Not recorded	4	0.1%	3	3	2	3
Nephroureterectomy	Open	157	2.2%	9	7	0	49
	Minimally invasive	913	12.7%	7	5	0	67
	Not recorded	16	0.2%	4	4	1	7
Other	Open	56	0.8%	14	10	0	93
	Minimally invasive	37	0.5%	3	2	1	8
	Not recorded	5	0.1%	1	1	1	2
Not recorded	Open	6	0.1%	12	7	3	35
	Minimally invasive	21	0.3%	3	3	0	6
	Not recorded	11	0.2%	4	3	2	14
<b>Grand Total</b>		<b>7,199</b>	<b>100.0%</b>	<b>6</b>	<b>4</b>	<b>0</b>	<b>108</b>

### Grade of Urothelial Tumours

112: Grade of tumour (urothelial)	Number of Records	% of Total
G1	36	0.5%
G2	318	4.2%
G3	501	6.6%
Not recorded	6,736	88.7%
<b>Grand Total</b>	<b>7,591</b>	<b>100.0%</b>

### Nuclear Grade of Parenchymal tumours

108: Nuclear grade	109: Margins						<b>Grand Total</b>	
	Positive		Negative		Not recorded		Number of Records	% of Total
	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total		
G1	4	6.9%	60	5.1%	1	0.2%	65	3.7%
G2	12	20.7%	479	40.4%	11	2.1%	502	28.3%
G3	21	36.2%	445	37.5%	15	2.8%	481	27.1%
G4	14	24.1%	133	11.2%	6	1.1%	153	8.6%
Not recorded	7	12.1%	70	5.9%	497	93.8%	574	32.3%
<b>Grand Total</b>	<b>58</b>	<b>100.0%</b>	<b>1,187</b>	<b>100.0%</b>	<b>530</b>	<b>100.0%</b>	<b>1,775</b>	<b>100.0%</b>



**Late Complications at most recent Follow-up (all cases)**

38: Late complications (group)	Number of Records	% of Total
None	1,603	86.5%
Wound	22	1.2%
Wound hernia	22	1.2%
Wound pain	22	1.2%
Renal impairment	61	3.3%
DVT	3	0.2%
Other	53	2.9%
Not recorded	68	3.7%
<b>Grand Total</b>	<b>1,854</b>	<b>100.0%</b>

**Follow - up**

**Intervention at most recent Follow-up (Malignancies only)**

28: Intervention / adjuvant treatment (group)	Number of Records	% of Total
None	892	57.3%
Immunotherapy	5	0.3%
Clinical trial	13	0.8%
Observation	227	14.6%
Other	32	2.1%
TKI's	39	2.5%
Not recorded	350	22.5%
<b>Grand Total</b>	<b>1,558</b>	<b>100.0%</b>

**Status at most recent Follow-up (All cases)**

54: Current Status	Time to most recent FU (months)						<b>Grand Total</b>	
	< 6 months		>= 6 months		No Follow up recorded			
	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total	Number of Records	% of Total
Alive with no evidence of renal cancer	904	11.9%	618	8.1%			1,522	20.1%
Alive with local recurrence of renal cancer	7	0.1%	6	0.1%			13	0.2%
Alive with lymph node involvement by renal c...	11	0.1%	9	0.1%			20	0.3%
Alive with metastatic disease	57	0.8%	56	0.7%			113	1.5%
Dead	11	0.1%	8	0.1%			19	0.3%
Discharged to GP / Other consultant	106	1.4%	12	0.2%			118	1.6%
Not recorded	32	0.4%	22	0.3%	5,732	75.5%	5,786	76.2%
<b>Grand Total</b>	<b>1,128</b>	<b>14.9%</b>	<b>731</b>	<b>9.6%</b>	<b>5,732</b>	<b>75.5%</b>	<b>7,591</b>	<b>100.0%</b>

## Participating Hospital Centres 2013

We are grateful to consultants from the following Centres / trusts who returned data for these analyses:

Aberdeen Royal Infirmary

Addenbrooke's Hospital

Aintree Hospital NHS Foundation Trust

Airedale General Hospital

Alexandra Hospital; Kidderminster General Hospital; Worcester Royal Infirmary

Altnagelvin Area Hospital

Arrowe Park Hospital

Ashford Hospital; St Peter's Hospital

Barking, Havering and Redbridge University Hospitals NHS Trust

Barnet & Chase Farm Hospital

Barnsley Hospital NHS Foundation Trust

Basildon Hospital

Bedford Hospital

Belfast City Hospital

Blackpool Victoria Hospital

Bradford Teaching Hospitals

Broomfield Hospital

Buckinghamshire Hospitals NHS Trust

Castle Hill Hospital

Causeway Hospital

Chelsea & Westminster Hospital

Cheltenham General Hospital

Christie Hospital

Churchill Hospital

City Hospital NHS Trust B'ham

City Hospitals Sunderland NHS Foundation Trust

Colchester Hospital University NHS Foundation Trust

Craigavon Area Hospital

Cwm-Taf LHB (Royal Glamorgan/Prince Charles)

Darent Valley Hospital

Derby Hospitals NHS Foundation Trust

Derriford Hospital

Doncaster & Bassetlaw Hospitals NHS Trust

Dorset County Hospital

Dudley Group of Hospitals NHS Trust

East Lancashire Hospitals NHS Trust

East Surrey Hospital

East Sussex Hospitals NHS Trust

Epsom and St Helier University Hospitals

Freeman Hospital

Frimley Park Hospital

Gartnavel General Hospital

George Eliot Hospital

Glan Clwyd Hospital

Great Western Hospital, Swindon

Guy's & Thomas's Hospital

Heart of England NHS FoundationTrust

Heatherwood & Wexham Park NHS Trust

Hereford Hospitals NHS Trust

Huddersfield Royal Infirmary

Imperial College Healthcare NHS Trust

James Cook University Hospital

James Paget University Hospital

Kent & Canterbury Hospital

Kettering General Hospital

King's College Hospital

King's Mill Hospital

Kingston Hospital

Leicester General Hospital

Leighton Hospital

Lincoln & Louth NHS Trust

Lister Hospital; Queen Elizabeth II Hospital, Welwyn

Luton & Dunstable Hospital

Maidstone & Tunbridge Wells NHS Trust

Manchester Royal Infirmary

Medway Maritime Hospital

Monklands District General Hospital

Morrison Hospital

New Cross Hospital, Wolverhampton

Noble's Isle of Man Hospital  
Norfolk & Norwich Hospital  
North Bristol NHSTrust (Southmead)  
North Cumbria University Hospitals  
North Hampshire Hospital  
North Manchester General Hospital  
North Middlesex Hospital  
Northampton General Hospital  
Northern Lincolnshire & Goole Hospitals NHS  
Foundation Trust  
Northwick Park Hospital; Central Middlesex  
Hospital  
Nottingham City Hospital  
Peterborough and Stamford Hospitals NHS  
Foundation Trust  
Pinderfields Hospital  
Portsmouth Hospitals NHS Trust  
Princess Alexandra Hospital, Harlow  
Princess Elizabeth Hospital, Guernsey  
Queen Elizabeth Hospital, B'ham  
Queen Elizabeth Hospital, King's Lynn  
Raigmore Hospital  
Rotherham NHS Foundation Trust  
Royal Alexandra Hospital (Paisley)  
Royal Berkshire NHS Foundation Trust  
Royal Bolton Hospital NHS Foundation Trust  
Royal Bournemouth Hospital  
Royal Cornwall Hospital

Royal Devon And Exeter Hospital  
Royal Free London NHS Foundation Trust  
Royal Hallamshire Hospital  
Royal Hampshire County Hospital  
Royal Liverpool University Hospital  
Royal Marsden Hospital  
Royal Preston Hospital  
Royal Shrewsbury Hospital  
Royal Surrey County Hospital  
Royal Sussex County Hospital  
Royal United Hospital, Bath  
Royal West Sussex NHS Trust, St Richard's  
Hospital  
Salford Royal NHS Foundation Trust  
Salisbury District Hospital  
Sandwell District General Hospital  
Scarborough Hospital  
Southampton General Hospital  
Southend University Hospital NHS Trust  
Southern General Hospital  
Southport & Ormskirk NHS Trust  
St Bartholomew's Hospital  
St Bartholomew's Hospital  
St George's Hospital  
St James' Hospital, Dublin  
St James's University Hospital  
Stepping Hill Hospital

Stirling Royal Infirmary / Forth Valley Royal  
Taunton And Somerset Hospital  
The Countess of Chester Hospital  
The Ipswich Hospital  
The Royal Oldham Hospital  
Torbay Hospital  
University College Hospital London  
University Hospital of North Stafford  
University Hospital of North Tees  
University Hospital Of Wales  
Victoria Hospital, Kirkcaldy  
Walsall Manor Hospital N H S Trust  
Walsgrave Hospital  
Warrington District General Hospital  
West Herts Hospitals NHS Trust  
West Suffolk Hospital  
Western General Hospital, Edinburgh  
Whipps Cross Hospital  
Whiston Hospital  
Worthing Hospital  
Wrexham Maelor Hospital  
Wrightington, Wigan and Leigh NHS  
Foundation Trust  
Wythenshawe Hospital  
York District Hospital  
Ysbyty Gwynedd Hospital