

**THE BRITISH ASSOCIATION OF
UROLOGICAL SURGEONS
Section of Oncology**

Analyses of Radical Prostatectomies performed between

January 1st and December 31st 2017

AUDIT RESULTS SUMMARY – Radical Prostatectomy dataset

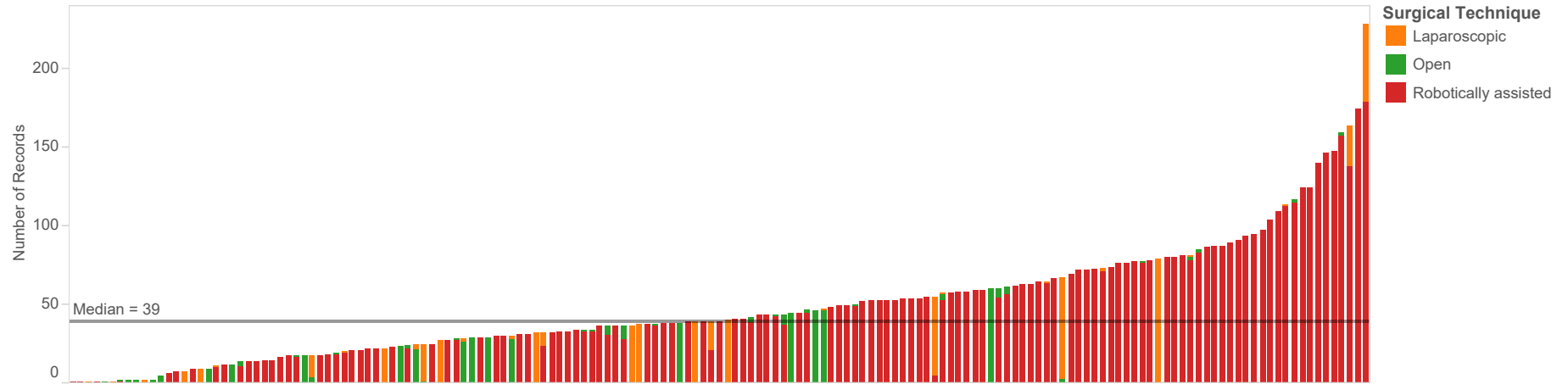
All the data presented here are a summary of the data extracted from the web-based database on 23rd July 2018 and relate to operations performed during the whole of 2017. Once extracted the data was transferred to an Access™ database for validation before being imported into Tableau™ for generation of the analyses. The validation mainly comprised checks for duplicate and / or empty entries and invalid / inappropriate dates.

The data collection period was from 1 January 2017 to 31 December 2017.

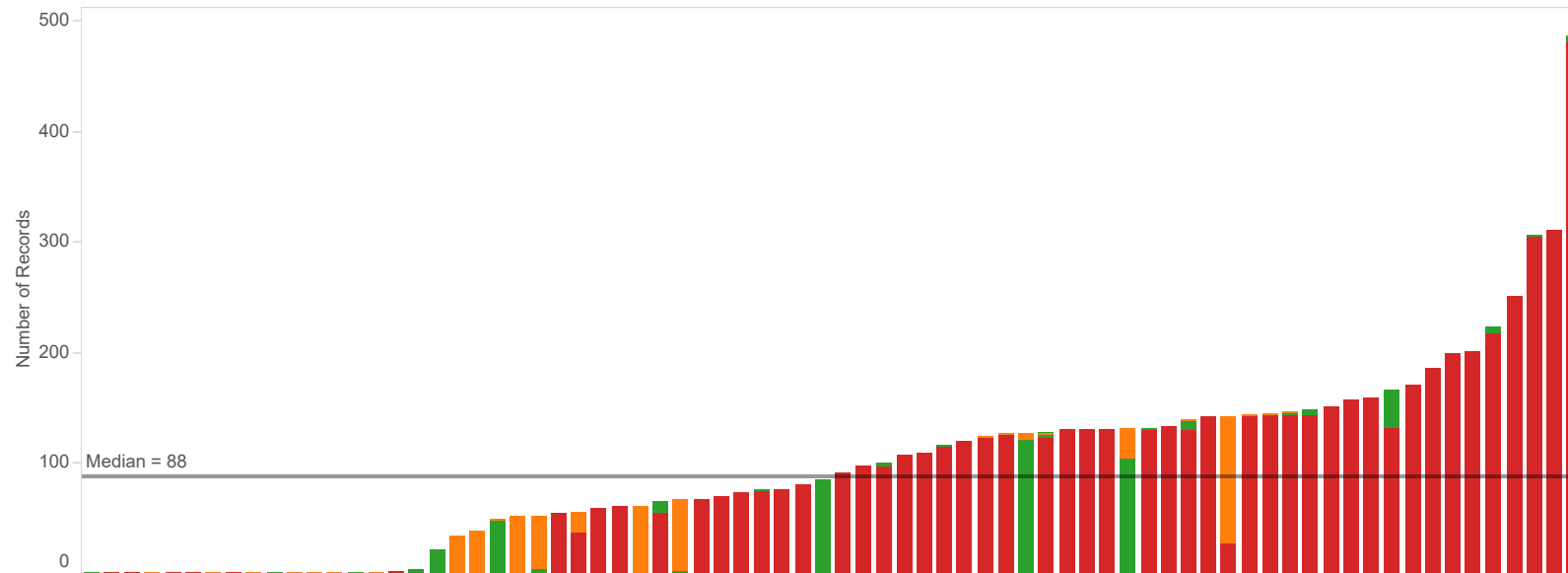
- 7,962 cases were submitted in total, of which 7,344 were from England; these 7,962 cases came from 163 consultants at 74 sites, and include 704 private patients from 74 consultants.
- Median number of cases per consultant: 39 (range 1 - 228)
- Median number of cases per centre: 88 (range 1 - 487)
- The overall transfusion rate was 0.3% By technique, the transfusion rates were: open 2.2%, laparoscopic 0.17% and robotic 0.18%.
- 7,496 of the entries recorded whether there had been adverse post operative events. The total post-operative complication rate was **7.6%** (567/7496). Of these 567 cases, 560 recorded the **Clavien Dindo grade** (i.e. 7 or 1.2% did not). Complications classified as Clavien Dindo Grade III or above were seen in **1.5%** of cases.
- Hospital Episode Statistics (HES) for 2017 indicate that there were 7,607 radical prostatectomies undertaken in England so we collected data on 88% of the NHS funded radical prostatectomies undertaken in England during 2017.

2017 Radical Prostatectomies - 7,962 cases reported by 163 consultants at 74 NHS sites (including 704 private cases from 74 consultants)

Total by Consultant



Total by Centre



Reason for Prostatectomy

Reason For Prostatectomy	N	% of Total
Primary treatment of cancer	6,608	82.99%
Previous active surveillance	998	12.53%
Salvage therapy	100	1.26%
Not recorded	256	3.22%
Grand Total	7,962	100.00%

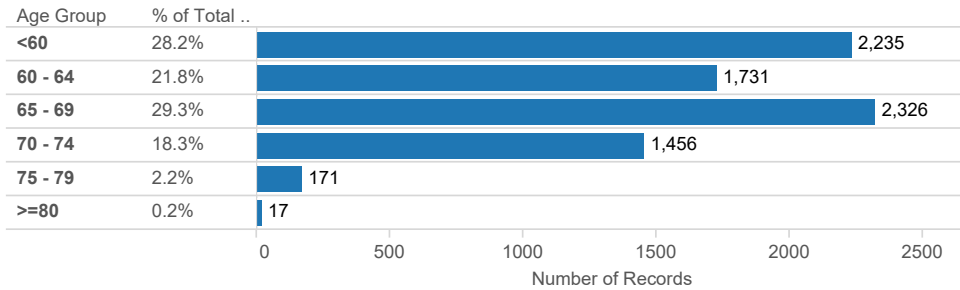
Reason if Previous Active surveillance

If Previous Active Surveillan..	N	% of Total
Clinical progression	101	10.1%
Clinical progression + Other	60	6.0%
Gleason progression	274	27.5%
Gleason progression + Other	109	10.9%
PSA progression	271	27.2%
PSA progression +/- other	21	2.1%
Patient decision	128	12.8%
Not recorded	34	3.4%
Grand Total	998	100.0%

Previous Management

Previous Management	N	% of Total
None	7,186	90.25%
Brachytherapy	15	0.19%
HIFU	30	0.38%
Radiotherapy	49	0.62%
TURP	103	1.29%
Cryotherapy	1	0.01%
Hormonal suppression ther..	137	1.72%
Not recorded	441	5.54%
Grand Total	7,962	100.00%

Age



Surgical Technique

Surgical Technique	N	% of Total
Open	510	6.41%
Laparoscopic	600	7.54%
Robotically assisted	6,852	86.06%
Grand Total	7,962	100.00%

Median Age

Surgical Technique	N	Median Age	Min. Age	Max. Age
Open	496	66	44	75
Laparoscopic	590	65	40	75
Robotically assisted	6,756	64	40	75
Grand Total	7,842	64	40	75

BMI

Surgical Technique	BMI											
	Underweight		Normal		Overweight		Obese		Not Recorded		Grand Total	
	% Total Number	N	% Total Number	N	% Total Number	N	% Total Number	N	% Total Number	N	% Total Number	N
Open	16.08%	82	10.59%	54	29.22%	149	23.33%	119	20.78%	106	100.00%	510
Laparoscopic	0.17%	1	12.00%	72	35.67%	214	19.33%	116	32.83%	197	100.00%	600
Robotically assisted	0.54%	37	15.05%	1,031	42.09%	2,884	21.69%	1,486	20.64%	1,414	100.00%	6,852
Grand Total	1.51%	120	14.53%	1,157	40.78%	3,247	21.62%	1,721	21.56%	1,717	100.00%	7,962

ASA Grade

Asa Grade	N	% of Total
ASA 1	1,632	20.50%
ASA 2	5,383	67.61%
ASA 3	302	3.79%
ASA 4	1	0.01%
Not recorded	644	8.09%
Grand Total	7,962	100.00%

Clinical T stage

Clinical T Stage (gro..	N	% of Total
0	11	0.14%
1	1,064	13.36%
2	4,819	60.52%
3	1,629	20.46%
4	4	0.05%
Not recorded/Known	435	5.46%
Grand Total	7,962	100.00%

Comparison of Clinical and Pathological T stage

Clinical T Stage (group)	Pathological T Stage (group) 1											
	0		2		3		4		Not recorded/ Known		Grand Total	
	% Total Number	N	% Total Number	N	% Total Number	N	% Total Number	N	% Total Number	N	% Total Number	N
0			81.82%	9	9.09%	1			9.09%	1	100.00%	11
1	0.09%	1	61.28%	652	29.32%	312	0.09%	1	9.21%	98	100.00%	1,064
2	0.06%	3	54.72%	2,637	39.16%	1,887	0.04%	2	6.02%	290	100.00%	4,819
3			26.34%	429	68.51%	1,116	0.18%	3	4.97%	81	100.00%	1,629
4					75.00%	3			25.00%	1	100.00%	4
Not recorded..			37.70%	164	22.53%	98			39.77%	173	100.00%	435
Grand Total	0.05%	4	48.87%	3,891	42.92%	3,417	0.08%	6	8.09%	644	100.00%	7,962

Clinical Stage by Pre-op PSA

Clinical T Stage (group) 1	Pre-operative PSA										Grand Total	
	0-5		6-10		11-20		21-50		>50		N	% Total Number
	N	% Total Number	N	% Total Number	N	% Total Number	N	% Total Number	N	% Total Number		
0	1	9.1%	7	63.6%	3	27.3%					11	100.0%
1	241	23.2%	567	54.5%	199	19.1%	32	3.1%	2	0.2%	1,041	100.0%
2	912	19.0%	2,477	51.7%	1,165	24.3%	214	4.5%	26	0.5%	4,794	100.0%
3	244	15.1%	716	44.3%	456	28.2%	182	11.2%	20	1.2%	1,618	100.0%
4	1	25.0%			1	25.0%			2	50.0%	4	100.0%
Not recorded/Known	68	21.3%	160	50.2%	68	21.3%	21	6.6%	2	0.6%	319	100.0%
Grand Total	1,467	18.8%	3,927	50.4%	1,892	24.3%	449	5.8%	52	0.7%	7,787	100.0%

Median pre-operative PSA

Surgical Technique	N	% of Total	Average	Median
Open	469	6.2%	9	8
Laparoscopic	571	7.5%	9	7
Robotically assisted	6,537	86.3%	9	8
Grand Total	7,577	100.0%	9	8

Pathological Staging by Pre-op PSA

Pathological T Stage (gro..	Pre-operative PSA										Grand Total	
	0-5		6-10		11-20		21-50		>50		N	% Total Number
	N	% Total Number	N	% Total Number	N	% Total Number	N	% Total Number	N	% Total Number		
0			3	75.00%	1	25.00%					4	100.00%
2	875	22.69%	2,095	54.33%	762	19.76%	117	3.03%	7	0.18%	3,856	100.00%
3	482	14.25%	1,545	45.68%	1,011	29.89%	304	8.99%	40	1.18%	3,382	100.00%
4	1	16.67%	2	33.33%	2	33.33%	1	16.67%			6	100.00%
Not recorded..	109	20.22%	282	52.32%	116	21.52%	27	5.01%	5	0.93%	539	100.00%
Grand Total	1,467	18.84%	3,927	50.43%	1,892	24.30%	449	5.77%	52	0.67%	7,787	100.00%

Age at Operation by Biopsy Gleason Sum

Age Group	Biopsy Gleason Sum Score						Grand Total	
	5 - 6		7		8 - 10		N	% Total Number
	N	% Total Number	N	% Total Number	N	% Total Number		
<60	346	15.75%	1,573	71.60%	278	12.65%	2,197	100.00%
60 - 64	225	13.20%	1,292	75.82%	187	10.97%	1,704	100.00%
65 - 69	251	11.01%	1,662	72.93%	366	16.06%	2,279	100.00%
70 - 74	152	10.54%	1,072	74.34%	218	15.12%	1,442	100.00%
75 - 79	11	6.67%	124	75.15%	30	18.18%	165	100.00%
>=80	1	5.88%	14	82.35%	2	11.76%	17	100.00%
Grand Total	986	12.63%	5,737	73.51%	1,081	13.85%	7,804	100.00%

Age at Operation by Surgical Gleason Sum Score

Age Group	Surgical Gleason Sum Score						Grand Total	
	5 - 6		7		8 - 10		N	% Total Number
	N	% Total Number	N	% Total Number	N	% Total Number		
<60	195	9.64%	1,610	79.58%	218	10.78%	2,023	100.00%
60 - 64	121	7.73%	1,267	80.96%	177	11.31%	1,565	100.00%
65 - 69	117	5.56%	1,700	80.72%	289	13.72%	2,106	100.00%
70 - 74	82	6.15%	1,058	79.31%	194	14.54%	1,334	100.00%
75 - 79	5	3.27%	124	81.05%	24	15.69%	153	100.00%
>=80	1	6.25%	13	81.25%	2	12.50%	16	100.00%
Grand Total	521	7.24%	5,772	80.20%	904	12.56%	7,197	100.00%

Operating Surgeon

Grade Of Main Operating Surgeon	Supervised Training Operation						Grand Total	
	No		Yes		Null		N	% Total Number
	N	% Total Number	N	% Total Number	N	% Total Number		
Consultant	782	10.80%	133	1.84%	6,328	87.37%	7,243	100.00%
SpR	6	1.34%	432	96.64%	9	2.01%	447	100.00%
Other					39	100.00%	39	100.00%
Not recorded					233	100.00%	233	100.00%
Grand Total	788	9.90%	565	7.10%	6,609	83.01%	7,962	100.00%

Conversions

Surgical Technique	Converted						Grand Total	
	Yes		No		Null		N	% Total..
	N	% Total..	N	% Total..	N	% Total..		
Open			3	0.59%	507	99.41%	510	100.00%
Laparoscopic	2	0.33%	570	95.00%	28	4.67%	600	100.00%
Robotically assisted	16	0.23%	6,506	94.95%	330	4.82%	6,852	100.00%
Grand Total	18	0.23%	7,079	88.91%	865	10.86%	7,962	100.00%

Duration of Operation by Technique

Duration Of Operation	Surgical Technique						Grand Total	
	Open		Laparoscopic		Robotically assisted		N	% Total Number
	N	% Total Number	N	% Total Number	N	% Total Number		
<2.0 hours	120	7.43%	135	8.36%	1,359	84.20%	1,614	100.00%
2.0-3.9 hours	340	6.29%	384	7.11%	4,680	86.60%	5,404	100.00%
4.0-5.9 hours	22	4.53%	57	11.73%	407	83.74%	486	100.00%
>= 6.0 hours			1	7.14%	13	92.86%	14	100.00%
Not recorded	28	6.31%	23	5.18%	393	88.51%	444	100.00%
Grand Total	510	6.41%	600	7.54%	6,852	86.06%	7,962	100.00%

Nerve Sparing

Nerve Sparing	N	% of Total
None	2,743	34.45%
Bilateral	2,601	32.67%
Unilateral	2,138	26.85%
Not recorded	480	6.03%
Grand Total	7,962	100.00%

Lymph Node Dissection

Lymph Node Dissection	N	% of Total
None	4,614	57.95%
Extended	1,833	23.02%
Obturator fossae	1,015	12.75%
Not recorded	500	6.28%
Grand Total	7,962	100.00%

KnownTransfusionRate

Transfused	N % of Total	
Not transfused	7,870	99.70%
Transfused	24	0.30%
Grand Total	7,894	100.00%

Tranfusions by Surgical Technique

Blood Units Transfused	Surgical Technique						Grand Total	
	Open		Laparoscopic		Robotically assisted		N	% Total Number
	N	% Total Number	N	% Total Number	N	% Total Number		
Nil	491	6.24%	592	7.52%	6,787	86.24%	7,870	100.00%
Minor (<3 units)	8	50.00%	1	6.25%	7	43.75%	16	100.00%
Moderate (3-6 units)	3	60.00%			2	40.00%	5	100.00%
Major (>6 units)					3	100.00%	3	100.00%
Not recorded	8	11.76%	7	10.29%	53	77.94%	68	100.00%
Grand Total	510	6.41%	600	7.54%	6,852	86.06%	7,962	100.00%

TransfusionRatebyAge

Age Group	Transfused					
	Transfused		Not transfused		Grand Total	
	N	% Total Number	N	% Total Number	N	% Total Number
<60	4	0.18%	2,215	99.82%	2,219	100.00%
60 - 64	4	0.23%	1,715	99.77%	1,719	100.00%
65 - 69	6	0.26%	2,296	99.74%	2,302	100.00%
70 - 74	8	0.55%	1,437	99.45%	1,445	100.00%
75 - 79	2	1.20%	164	98.80%	166	100.00%
>=80			17	100.00%	17	100.00%
Grand Total	24	0.31%	7,844	99.69%	7,868	100.00%

TransfusionRatebyTechnique

Surgical Technique	Transfused					
	Transfused		Not transfused		Grand Total	
	% Total Number	N	% Total Number	N	% Total Number	N
Open	2.19%	11	97.81%	491	100.00%	502
Laparoscopic	0.17%	1	99.83%	592	100.00%	593
Robotically assisted	0.18%	12	99.82%	6,787	100.00%	6,799
Grand Total	0.30%	24	99.70%	7,870	100.00%	7,894

TransfusionRatebyASA

Asa Grade	Transfused					
	Transfused		Not transfused		Grand Total	
	N	% Total Number	N	% Total Number	N	% Total Number
ASA 1	7	0.43%	1,619	99.57%	1,626	100.00%
ASA 2	13	0.24%	5,353	99.76%	5,366	100.00%
ASA 3	1	0.33%	298	99.67%	299	100.00%
ASA 4			1	100.00%	1	100.00%
Not recorded	3	0.50%	599	99.50%	602	100.00%
Grand Total	24	0.30%	7,870	99.70%	7,894	100.00%

KnownIntraopCompRate

Intra Operative Complic..	N	% of Total
Complication recorded	367	4.75%
None	7,353	95.25%
Grand Total	7,720	100.00%

Known Post-operative Complication rate

PostOperativ..	N	% of Total
Complication	567	7.56%
None	6,929	92.44%
Grand Total	7,496	100.00%

Clavien Dindo Grade of Post-Operative Complications by Technique

Surgical Technique

Clavien Dindo Grad..	Laparoscopic		Open		Robotically assisted		Grand Total	
	N	% of Total	N	% of Total	N	% of Total	N	% of Total
Grade I	25	4.34%	124	24.90%	193	3.01%	342	4.56%
Grade II	14	2.43%	13	2.61%	160	2.49%	187	2.49%
Grade III plus	8	1.39%	20	4.02%	85	1.32%	113	1.51%
Not recorded / NA	529	91.84%	341	68.47%	5,984	93.18%	6,854	91.44%
Grand Total	576	100.00%	498	100.00%	6,422	100.00%	7,496	100.00%

Specific Intraoperative Complications

Intra Operative Complications	N	% of Total
Difficult dissection	247.0	67.30%
Problematic bleeding	41.0	11.17%
Problematic bleeding,Difficult dissection	23.0	6.27%
Rectal injury	13.0	3.54%
Ureteric injury	6.0	1.63%
Vascular injury	2.0	0.54%
Robotic device failure	7.0	1.91%
Port complications	4.0	1.09%
Difficult dissection,Rectal injury	3.0	0.82%
Difficult dissection,Small bowel injury	3.0	0.82%
Nerve injury	4.0	1.09%
Difficult dissection,Nerve injury	1.0	0.27%
Adhesions	2.0	0.54%
Difficult dissection,Ureteric injury	1.0	0.27%
Small bowel injury	10.0	2.72%
Grand Total	367.0	100.00%

Specific Post operative complications

PostOperativeComplication..	N	% of Total
Anastomotic Leak + others	52.0	9.17%
Chest infection + others	21.0	3.70%
Haematuria + others	37.0	6.53%
Haemorrhage + Others	22.0	3.88%
Ileus	42.0	7.41%
Ileus,Lymphocoele, Ileus,Ot..	7.0	1.23%
Pelvic haematoma, Pelvic h..	24.0	4.23%
Sepsis	39.0	6.88%
Urine leak	46.0	8.11%
Wound infection	24.0	4.23%
PE / DVT, PE / DVT,Ileus, PE..	10.0	1.76%
Return to theatre, Return to ..	16.0	2.82%
Sepsis,Anastomotic leak, S..	8.0	1.41%
Urine leak,Anastomotic leak..	5.0	0.88%
Wound infection,Anastomot..	6.0	1.06%
Others	208.0	36.68%
Grand Total	567.0	100.00%

LOSbyTechnique

Surgical Tec..	N	Median	Avg.	Min.	Max.
Open	502	3.0	4	0	33
Laparoscopic	578	2.0	2	0	39
Robotically a..	6,504	1.0	2	0	58
Grand Total	7,584	1.0	2	0	58

pT2 Positive Surgical Margin Rate

Margins (group) 1	N	% of Total
Positive	601	15.63%
Negative	3,244	84.37%
Grand Total	3,845	100.00%

pT2 Margins by Technique

Surgical Technique	Margins (group) 1					
	Positive		Negative		Grand Total	
	N	% Total Number	N	% Total Number	N	% Total Number
Open	47	18.58%	206	81.42%	253	100.00%
Laparoscopic	49	14.33%	293	85.67%	342	100.00%
Robotically assisted	505	15.54%	2,745	84.46%	3,250	100.00%
Grand Total	601	15.63%	3,244	84.37%	3,845	100.00%

Positive Lymph Nodes

Number Of Lymph Nodes Sampled - group	Number Of Positive Lymph Nodes (group)													
	0		1 - 5		6 - 10		11 - 20		Not recorded		> 20		Grand Total	
	N	% Total Number	N	% Total Number	N	% Total Number	N	% Total Number	N	% Total Number	N	% Total Number	N	% Total Number
1 - 5	689	91.02%	43	5.68%	1	0.13%			24	3.17%			757	100.00%
6 - 10	637	87.14%	76	10.40%	1	0.14%			17	2.33%			731	100.00%
11 - 20	764	83.77%	132	14.47%	5	0.55%			10	1.10%	1	0.11%	912	100.00%
> 20	273	81.25%	53	15.77%	5	1.49%	1	0.30%	3	0.89%	1	0.30%	336	100.00%
Grand Total	2,363	86.37%	304	11.11%	12	0.44%	1	0.04%	54	1.97%	2	0.07%	2,736	100.00%

Patients followed up

Follow up	N	% of Total
Followed up	1,875	23.55%
Not followed up	6,087	76.45%
Grand Total	7,962	100.00%

Current Status

Current Status	TimetoFu months								Grand Total	
	0 - 3		4 - 6		7 - 12		> 12		N	% of Total
	N	% of Total	N	% of Total	N	% of Total	N	% of Total		
Alive with no evidence of prostate cancer	687	67.95%	338	85.14%	299	81.47%	84	84.85%	1,408	75.13%
Alive with local recurrence of prostate cancer	25	2.47%	6	1.51%	9	2.45%	3	3.03%	43	2.29%
Alive with lymph node involvement by prostate cancer	7	0.69%	5	1.26%			1	1.01%	13	0.69%
Alive with metastatic disease	2	0.20%	1	0.25%	5	1.36%			8	0.43%
Discharged to GP / Other consultant	191	18.89%	14	3.53%	7	1.91%			212	11.31%
Not recorded	99	9.79%	33	8.31%	47	12.81%	11	11.11%	190	10.14%
Grand Total	1,011	100.00%	397	100.00%	367	100.00%	99	100.00%	1,874	100.00%

Participating Hospital Centres 2017

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

Aberdeen Royal Infirmary
Addenbrooke's Hospital, Cambridge
Alexandra Hospital, Redditch
Arrowe Park Hospital, Wirral
Barking, Havering & Redbridge University Hospital
Bradford Royal Infirmary
Castle Hill Hospital, Hull
Charing Cross Hospital, London
Cheltenham General Hospital
Christie Hospital
Churchill Hospital, Oxford
Colchester General Hospital
Darent Valley Hospital, Kent
Derriford Hospital, Plymouth
Dorset County Hospital, Dorchester
Eastbourne District General Hospital
Freeman Hospital, Newcastle
Guy's & Thomas's Hospital
Heartlands Hospital, Birmingham
James Cook University Hospital, Middlesbrough
Kent & Canterbury Hospital
King's Mill Hospital, Nottinghamshire
Leicester General Hospital
Lincoln County Hospital
Lister Hospital, Stevenage

Maidstone Hospital
Manchester Royal Infirmary
Medway Maritime Hospital, Gillingham
Monklands District General Hospital, Airdrie
Morrison Hospital, Swansea
Musgrove Park Hospital, Taunton
New Cross Hospital, Wolverhampton
Ninewells Hospital, Dundee
Norfolk & Norwich University Hospital
Nottingham City Hospital
Pinderfields General Hospital, Wakefield
Princess Alexandra Hospital, Harlow
Princess Elizabeth Hospital, Guernsey
Queen Alexandra Hospital, Portsmouth
Queen Elizabeth Hospital, Birmingham
Queen Elizabeth University Hospital
Royal Blackburn Hospital
Royal Berkshire Hospital, Reading
Royal Bournemouth General Hospital
Royal Derby Hospital
Royal Devon & Exeter Hospital
Royal Hallamshire Hospital, Sheffield
Royal Liverpool University Hospital
Royal Marsden Hospital, London
Royal Preston Hospital
Royal Shrewsbury Hospital

Royal Stoke University Hospital
Royal Surrey County Hospital, Guildford
Royal United Hospital, Bath
Salford Royal Hospital
Southampton General Hospital
Southend Hospital
Southmead Hospital, Bristol
St George's Hospital, London
St James's University Hospital, Leeds
St Mary's Hospital, London
Stepping Hill Hospital, Stockport
Sunderland Royal Hospital
University College Hospital, London
University Hospital of Wales, Cardiff
Walsgrave Hospital, Coventry
Western General Hospital, Edinburgh
Wycombe Hospital, High Wycombe