SCAN
South East Scotland Cancer Network

NHS SCOTLAND

Working regionally to improve cancer services

SOUTH EAST SCOTLAND CANCER NETWORK
PROSPECTIVE CANCER AUDIT

UROLOGICAL CANCER 2011

COMPARATIVE AUDIT REPORT

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SOUTH EAST SCOTLAND CANCER NETWORK (SCAN)
Urological Cancer Annual Comparative Report
Report on Patients diagnosed
1st January - 31st December 2011

1 Introduction & Methods

This report presents data collected on urological cancer patients diagnosed in SCAN health boards between 1st January and 31st December 2011. Lead clinician Mr Prasad Bollina, Consultant Surgeon

Data supplied by Audit Facilitator Lauren Aitken (SCAN & Lothian), Yvonne Chapman (Fife) and Lynn Smith (Borders). Dumfries and Galloway was unable to supply data because of audit resource problems.

Actions for Improvement
After final sign off, the process is for the report to be sent to the Clinical Governance groups within the four health boards and to the Regional Cancer Planning Group. Action plans and progress with plans will be highlighted to the groups. The report will be placed on the SCAN website once it has been fully signed-off and checked for any disclosive material.

1.1 Datasets and Definitions

The dataset collected is the National Minimum dataset for Urological Cancers as published by ISD Scotland (July 2005). The definitions were developed by ISD Scotland in collaboration with the Regional Cancer Networks.

Quality of data and Results presented

Estimated Case Ascertainment: See Section 1 for estimate of case ascertainment compared with the latest information available from the Scottish Cancer Registry. High estimated case ascertainment provides confidence in the completeness of the number of patients included in audit and therefore in the reliability of the results shown.

Most patients are identified through referral to the weekly multidisciplinary team meeting. Checks are also made against Pathology lists and GRO Death Lists.

SCAN participates in the external quality assurance (QA) programme undertaken by ISD Scotland. No formal QA of Urological cancer data has yet been undertaken.

Clinical sign-off: Data from reports prepared for individual hospitals is signed off as accurate following review between the lead clinicians from each service and the audit staff. Once collated into a draft comparative report it has been reviewed by a group of clinicians, with comments added as appropriate, before final sign-off is agreed.

1.2 Audit Processes

Capture of patient referral, investigation, diagnosis, pathology and surgery data is based around the preparation of information for the weekly multidisciplinary meeting (MDM). Oncology data is obtained from clinical records (electronic systems and casenotes).

Most data is recorded and entered to the urology cancer database from the patient record of referral, investigation, and treatment (electronic systems and paper case notes). In NHS Lothian (also covering NHS Borders and Dumfries & Galloway) a summary of data is printed from the database and supplied to the MDM. Meeting decisions are also recorded on the database. NHS Fife operates a separate MDM

1.3 Analysis of Data

The report provides mainly descriptive data about the patients diagnosed with urological cancers in SCAN in 2011. There are currently no detailed nationally-agreed standards for measuring the quality of care for urological cancers, but the SCAN Urology Group has agreed a draft set of clinical effectiveness measures, based on the Scottish Core Cancer standards (published March 2008), and on SIGN Guidelines 85 (Bladder cancer).

Results have been categorised by stage and level of risk. In Prostate Cancer for example results have been divided into four groups, localised, locally advanced, nodal involvement and distant metastases.

The SCAN audit facilitator completes a risk assessment for any potential or actual risk of disclosive information. Any data identified as high risk was amended using disclosure control techniques.

Further Information and Comment

For further information or comment on the measures used and analysis of data, please contact:

Lauren Aitken, SCAN Cancer Audit Facilitator

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Document History

Version	Events	Date	Actions
Version 1	SCAN Audit staff receive individual signed-off health board results and collate these into Comparative Report Version 1 (reference back to local audit and clinical staff as necessary). Circulation of Version 1 to the full SCAN Group membership and any other appropriate clinical staff for "sense check".	**18/10/2012**	
Version 2	Re-circulation, Version 2 to SCAN Group for final views with 14 day deadline. To include commentary by the Chair of Group. Incorporate responses from appropriate clinicians about any significant outliers identified.	**01/03/2013**	Improvements to formatting & layout and inclusion of some explanatory notes. Inclusion criteria clarified. The report was drawn to the attention of the Regional Cancer Planning Group (RCPG) at its meeting on 21 March 2013
Version 3	Circulation to Lead Clinicians and Audit Staff: Obtain explanations of any significant outliers from appropriate clinicians.	**01/03/2013**	Some minor changes to terminology and clarification of oncological treatments.
Version 4	Tumour-specific Group Sign-off Confirmed, Report Numbered, lodged in Audit Index. Disseminate to local Clinical Governance Groups and Lead Managers and Chairs with deadline for responses. Report to Regional Cancer Planning Group & Report to Regional Cancer Advisory Group.	**25/04/2013**	No amendments required.
Version 4 (W)	Prepare report for publication including check for Disclosive Information.	**20/05/2013**	It was decided that cancer was not a sensitive topic. At auditor discretion some data was supressed or shown as SCAN rather than by individual health board to further reduce the risk of patient identification.

Comment by Chair of the SCAN Urology Group

This report presents information on the 1363 patients diagnosed with urological cancers South East of Scotland Cancer Network (SCAN) in 2011. The report provides very comprehensive descriptive statistics of the numbers, presentation and characteristics of patients diagnosed with one of the six types of cancers comprising the group of urological cancers within the health board areas of NHS Lothian, Fife, and Borders. Unfortunately Dumfries & Galloway have again been unable to contribute data to this report although we hope that they will be able to contribute to comparative reporting in 2013.

We remain very grateful to all the audit staff in Lothian, Borders and Fife for their hard work and commitment in recording and reporting this high quality data, in particular recognising the lead role of our SCAN Audit Facilitator, Lauren Aitken, in bringing together all the data for this report.

Results have been categorised by stage and level of risk, what treatment they have received and the levels of mortality at one year. The data allows us to compare results and promote equity of treatment for patients in each of the participating health board areas.

Currently there are no national agreed standards for urological cancers. In this report we show some results for bladder cancer measured against SIGN Guidelines which were published some time ago.

The Scottish Cancer Taskforce's Quality Performance Indicators (QPIs) for Renal and Prostate Cancer were published in 2012 and data collection of the accompanying dataset implemented for patients diagnosed from 1 January and 1 July 2012 respectively. Bladder Cancer QPIs are under development and Testicular Cancers will follow in 2013. Development of these QPIs has involved significant time and input over the past year from both clinicians and audit staff in SCAN but we are looking forward to the opportunity in the future to measure our results so as to demonstrate the high quality outcomes and quality of care which are the purpose and mission of the SCAN Urology Group.

Prasad Bollina
Consultant Urologist
SCAN Chair

Abbreviations

ADJ	Adjuvant
AM	Active Monitoring
AS	Active Surveillance
BCG	Bacille Calmette-Guerin
BGH	Borders General Hospital
BRACHY	Brachytherapy
CHEMO	Chemotherapy
Cis	Carcinoma in situ
CNS	Clinical nurse specialist
CT	Computed tomography
EBRT	External Beam Radiotherapy
G	Grade (Tumour differentiation)
GP	General Practitioner
GRO	General Register of Scotland
Gy	Gray (measurement unit, radiotherapy)
HIS	Healthcare Improvement Scotland
HT	Hormone Therapy
ISD	Information Services Division
MDM	Multi-Disciplinary Meeting
MMC	Mitomycin C
MRI	Magnetic resonance imaging
MTI	Malignant Teratoma Intermediate
MTU	Malignant Teratoma Undifferentiated
NAT	No Active Treatment
NEO-ADJ	Neo-Adjuvant
NICE	National Institute for Health and Clinical Excellence
PALL	Palliative/ Palliation
PLND	Pelvic lymph nodes dissection
PSA	Prostate-Specific Antigen
pT	Pathological tumour stage
QA	Quality Assurance
RFA	Radio Frequency Ablation
RT	Radiotherapy
SCAN	South East of Scotland Cancer Network
SCC	Squamous Cell Carcinoma
SCT	Scottish Cancer Task Force
SIGN	Scottish Intercollegiate Guidelines Network
TCC	Transitional cell carcinoma
TNM	Tumour, node, metastasis
TUR	Transurethral resection
TURBT	Transurethral resection of bladder tumour
WGH	Western General Hospital
WHO	World Health Organisation
WW	Watchful Waiting

2 All Urological Cancers

2.1 Summary of Patients by Key Categories

2.1.1 Incidence by Tumour Site

Number of cancers diagnosed between 01/01/2011 and 31/12/2011

	Borders	Lothian	Fife	SCAN
Prostate	70	493	207	**770**
Bladder	44	200	97	**341**
Kidney	10	110	43	**163**
Testicular	0	26	10	**36**
Renal pelvis & Ureter	1	22	12	**35**
Penile	2	11	5	**18**
Total	**127**	**862**	**374**	**1363**

10 Lothian patients and 5 Fife patients were diagnosed with prostate cancer incidentally at Cystoprostatectomy for Bladder cancer and are excluded from reporting in the following tables, unless otherwise stated.

36 Synchronous primary (including 15 incidental prostate cancer diagnoses)

Breakdown of Bladder cancer inclusion to allow comparison with national data. National incidence and case ascertainment figures do not include patients diagnosed with carcinoma in-situ (Cis) or Non-invasive papillary carcinoma

Bladder tumour morphology detail	Borders	Lothian	Fife	SCAN
Carcinoma in- situ (pTis/ Cis)	1	3	2	**6**
Non-invasive papillary carcinoma (pTa, G1/2)	28	106	33	**167**
Non- pTa and Non- pTis	15	91	62	**168**
Total	**44**	**200**	**97**	**341**

2.1.2 Estimate of numbers recorded in audit in 2011 in comparison with Scottish Cancer Registry

	ISD 5 year average (2006- 2010)	SCAN Audit Registrations 2011	2011 % of Cancer Registry
Borders	150	127	85%
Lothian	728	862	118%
Fife	324	374	115%
Total	**1,202**	**1,363**	**113%**

Percentage of Registry average was calculated using registrations over 5 years (2006 to 2010) and SCAN Audit registrations of all cancers including synchronous and incidental cancers as well as those with renal pelvis, ureter, urethra & bladder pTa/ pTis diagnoses.

2.2 Referral category & timeline

	Borders	Lothian	Fife	SCAN
Urgent	77	427	199	**703**
Non-Urgent	50	435	175	**660**
Total	**127**	**862**	**374**	**1363**

Timelines	Borders Median (days)	Lothian Median (days)	Fife Median (days)	SCAN **Median (days)**
Referral to Diagnosis	19	34	24	**30**
Referral to First Treatment	67*	98	64	**85**
Diagnosis to First Treatment	32.5*	56	34	**47**
Diagnosis to First Surgery	35	56.5	27	**41**

* 1 patient from Borders was excluded from the analysis due to a missing date

Comment:

The field 'Urgent with suspicion of cancer' which is now used as the basis for reporting of national cancer waiting times targets is not included in national audit datasets. It may be locally collected at the discretion of individual health boards but is not included for reporting.

Timelines shown above differ from those submitted by health boards for measurement of the national Cancer Waiting Times targets. These timelines include patients referred from any source with any urgency and there are no exclusions for reasons such as patient induced delay, clinical complexity etc.

2.3 Patient Management

NHS QIS Cancer Core Standard 2a states that "All patients with cancer are managed by a multidisciplinary process" as there is evidence that the multidisciplinary management of patients increases their satisfaction and overall outcome. (Multidisciplinary meeting= MDT)

	Borders		Lothian		Fife		SCAN	
Yes	122	96%	826	96%	374	100%	**1323**	**97%**
No	5	4%	36	4%	0	0%	**41**	**3%**
Total	**127**	**100%**	**862**	**100%**	**374**	**100%**	**1363**	**100%**

Comments: Overall the SCAN percentage of patients discussed at MDM is high. There is a small group of patients who are not discussed. This may be because they have very low risk cancer. It is recognised that in order to optimise patient care as well as collection of incidence and diagnostic details, every patient must at least be registered with a treatment plan.

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2.4 Outcomes

2 patients died within 30 days of Radical Surgery (1 Laparoscopic Radical Prostatectomy: Small bowel obstruction and 1 Laparoscopic Radical Nephrectomy: Post operative pneumonia)

SCAN Mortality	**Borders**	**Lothian**	**Fife**	**SCAN**
Total Deceased ≤ 180 days post diagnosis	**5**	**43**	**17**	**65**
Diagnosis to Death (Median) days	80	88	91	**91**
Diagnosis to Death (Range) days	28-176	19 - 179	6-178	**6 - 179**
Age at Diagnosis (Median) years	83	75	70	**75**
Age at Diagnosis (Range) years	76-87	55 - 95	29-90	**29 - 95**

SCAN Mortality	**Bladder**	**Prostate**	**Kidney**	**Penile**	**RP & Ureter**	**ALL**
Total Deceased	**24**	**21**	**16**	**1**	**3**	**65**
Diag- Death (Median) days	105	75	86.5	38*	123	**91**
Diag- Death (Range) days	20- 172	6- 179	19- 178	38*	25- 153	**6- 179**
Age at Diag (Median) years	74	75	75	71*	90	**75**
Age at Diag (Range) years	29- 95	58- 87	48- 90	71*	86- 91	**29- 95**

Diag: Diagnosis

**Actual number of days as insufficient number to calculate a median*

Comment:
The table above shows patients who were diagnosed in SCAN during 2011 and were recorded as deceased within 180 days of diagnosis date.
This is an all-cause of death comparison so may include patients where cancer was not their primary cause of death.

3 Prostate Cancer

3.1 Incidence & Timeline

Age	Borders	Lothian	Fife	SCAN
<50	1	8	0	**9**
50-54	3	10	4	**17**
55-59	7	50	14	**71**
60-64	15	83	35	**133**
65-69	22	119	43	**184**
70-74	9	87	40	**136**
75-79	7	78	39	**124**
80-84	5	41	19	**65**
85-89	0	15	10	**25**
>90	1	2	3	**6**
Total	**70**	**493**	**207**	**770**
Total (Minus Cystoprostatectomy)	**70**	**483**	**202**	**755**

10 Lothian patients and 5 Fife patients were diagnosed incidentally at Cystoprostatectomy for Bladder cancer and so will be excluded from any further analysis.

3.2 Diagnosis & Staging

3.2.1 Number of patients categorised by risk group

Risk Group	Borders	Lothian	Fife	SCAN
Localised				
Low risk	9	82	37	**128**
Intermediate risk	22	172	50	**244**
High risk	17	107	53	**177**
Locally Advanced				
PSA <50	1	12	12	**25**
PSA >50	3	29	11	**43**
Nodal Involvement	0	16	4	**20**
Distant Mets +/- nodes	18	65	35	**118**
Total	**70**	**483**	**202**	**755**

3.3 Treatment by risk group

3.3.1 Localised Prostate Cancer

Localised Prostate cancer is defined here as: organ confined, non-metastatic with PSA < 50 Treatment success can be estimated by risk group.

Low Risk T1 - T2b ,Gleason <7 Diagnosis PSA <10	**Borders**	**Lothian**	**Fife**	**SCAN**
Surgery	1	19	1	**21**
Radiotherapy	0	3	1	**4**
Brachytherapy	0	2	0	**2**
Hormone Therapy	0	1	0	**1**
WW/ AM/ AS	8	55	35	**98**
Other	0	2	0	**2**
Total	**9**	**82**	**37**	**128**

Intermediate Risk T2b, Gleason 7 Diagnosis PSA 10 - 19	**Borders**	**Lothian**	**Fife**	**SCAN**
Surgery	8	58	7	**73**
Radiotherapy	3	31	21	**55**
Brachytherapy	7	26	1	**34**
Hormone Therapy	1	5	3	**9**
WW/ AM/ AS	3	51	18	**72**
Other	0	1	0	**1**
Total	**22**	**172**	**50**	**244**

High Risk Gl >7 (8 - 10) , T3a Diagnosis PSA >20 (<50)	**Borders**	**Lothian**	**Fife**	**SCAN**
Surgery	2	16	6	**24**
Radiotherapy	9	53	20	**82**
Brachytherapy	0	3	1	**4**
Hormone Therapy	6	18	10	**34**
WW/ AM/ AS	0	16	16	**32**
Other	0	1	0	**1**
Total	**17**	**107**	**53**	**177**

AM= Active Monitoring, WW= Watchful Waiting, HT= Hormone Therapy, EBRT= External Beam Radiotherapy, RT= Radiotherapy

3.3.2 Locally Advance & Metastatic Cancer

Locally Advanced PSA<50	Borders	Lothian	Fife	SCAN
Surgery	1	0	1	**2**
Radiotherapy	0	8	7	**15**
HT	0	4	4	**8**
Total	**1**	**12**	**12**	**25**

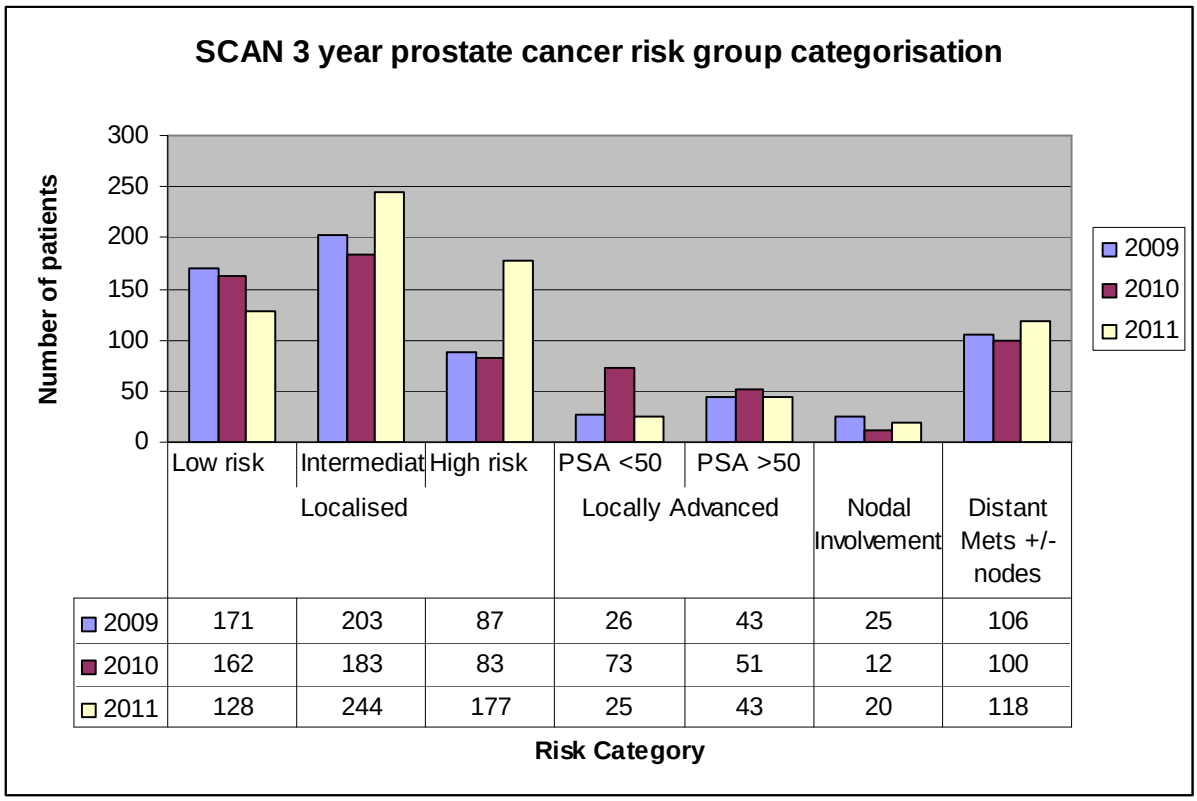
Locally Advanced PSA>50	Borders	Lothian	Fife	SCAN
Radiotherapy	1	13	8	**22**
HT	2	15	3	**20**
Other	0	1	0	**1**
Total	**3**	**29**	**11**	**43**

Nodal Involvement	Borders	Lothian	Fife	SCAN
Radiotherapy	0	2	1	**3**
HT	0	13	3	**16**
Surgery	0	1	0	**1**
Total	**0**	**16**	**4**	**20**

Metastatic	Borders	Lothian	Fife	SCAN
Surgery (Orchidectomy)	0	1	0	**1**
Pall RT	2	2	0	**4**
Hormone Therapy	12	62	32	**106**
Clinical Trial	3	0	1	**4**
Died before treatment / NAT	1	0	2	**3**
Total	**18**	**65**	**35**	**118**

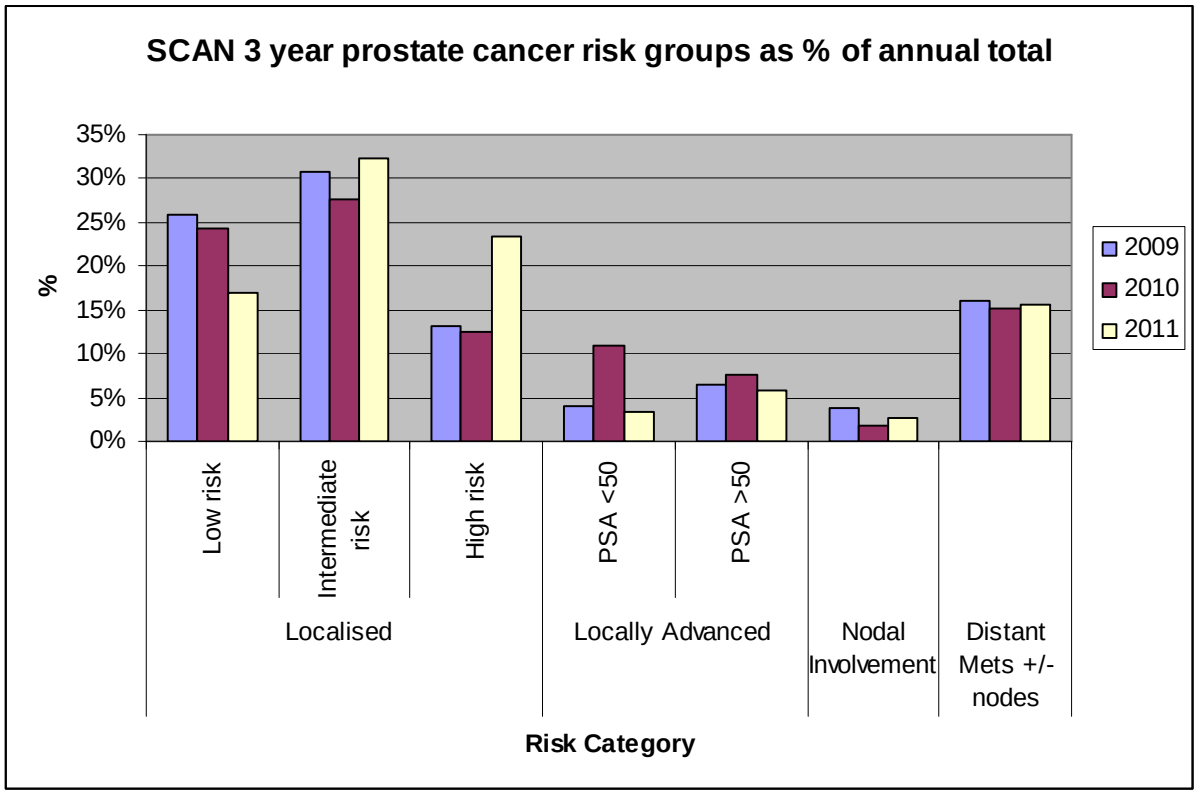
HT= Hormone Therapy, Pall RT= Palliative Radiotherapy, NAT= No active treatment

Table 1- SCAN 3 year prostate cancer risk group categorisation



	Low risk	Intermediat	High risk	PSA <50	PSA >50	Nodal Involvement	Distant Mets +/- nodes
2009	171	203	87	26	43	25	106
2010	162	183	83	73	51	12	100
2011	128	244	177	25	43	20	118

Table 2- SCAN 3 year prostate cancer risk groups as % of annual total



3.4 Prostatectomy Approach

3.4.1 Patients diagnosed in SCAN in 2011

All patients who were diagnosed in Borders and some from Fife have Radical Surgery performed in Lothian. This table includes patients diagnosed in 2011 and had surgery before May 2012.

Type of procedure	**Borders**	**Lothian**	**Fife**	**SCAN**
Open	2	0	8	**10**
Laparoscopic	10	94	7	**111**
Total	**12**	**94**	**15**	**121**

3.4.2 Operations in NHS Lothian

Number of prostatectomies carried out in SCAN during 2011

This includes those diagnosed on any date and in any health board and surgeries carried out in the private setting.

	Out of region/ private	**Dumfries**	**Borders**	**Lothian**	**Fife**	**SCAN**
Open	0	1	0	0	0	**1**
Lap	31	8	14	110	5	**168**
Total	**31**	**9**	**14**	**110**	**5**	**169**

Comment:
Table 3.4.1 shows 10 open procedure cases while Table 3.4.2 shows 1 case- this can be explained by difference in cohort as the Table 3.4.1 includes patients who were diagnosed in 2011 but may have had surgery in 2012 while Table 3.4.2 contains only patients who had surgery in 2011 regardless of diagnosis date.

3.5 Edinburgh Cancer Centre- Radiotherapy

Oncologists based at the Edinburgh Cancer Centre serve the entire SCAN region and a proportion of patients from other boards for specialist procedures. Below is a summary of radiotherapy service activity which is based on number of Bladder and Prostate cancer patients seen by each oncologist by calendar year (does not include duplicate patients within the year but does include patients twice if seen in both years).

Prostate Cancer- Radical Radiotherapy Patients receive 3 months of hormone therapy prior to radiation so may begin treatment the year following their diagnosis. Some also defer starting oncological treatment (from months to years) and may undergo radiotherapy post-surgery or as part of a clinical trial which can intentionally be some time after diagnosis. There are also a significant number of patients receiving radiotherapy for a recurrence/ spread of cancer or with a palliative intent e.g. Bone metastases.

SCAN reporting focuses on patients diagnosed within a year who are then followed for recording of definitive treatment. A small proportion of patients who have not yet started or completed definitive treatment at time of analysis may not be included in the figures for patients receiving radiotherapy.

3.6 Outcome - Mortality

SCAN Mortality	**Borders**	**Lothian**	**Fife**	**SCAN**
Total Deceased ≤ 180 days post diagnosis	0	16	5	**21**
Diagnosis to Death (Median) days	n/a	109	19	**75**
Diagnosis to Death (Range) days	n/a	21 - 179	6-172	**6 - 179**
Age at Diagnosis (Median) years	n/a	75	79	**75**
Age at Diagnosis (Range) years	n/a	57 - 87	66-87	**57 - 87**

Comment:
The table above shows patients who were diagnosed in SCAN during 2011 and were recorded as deceased within 180 days of diagnosis date.
This is an all-cause of death comparison so may include patients where cancer was not their primary cause of death.

4 Bladder Cancer

4.1 Incidence & Timeline

Note: The inclusion criteria for national prospective cancer audit datasets includes superficial and in situ cancers

Age	Borders	Lothian	Fife	SCAN
<50	3	5	1	**9**
50-54	2	11	1	**14**
55-59	5	17	5	**27**
60-64	3	22	5	**30**
65-69	5	35	16	**56**
70-74	9	34	19	**62**
75-79	8	25	21	**54**
80-84	7	24	18	**49**
85-89	2	21	6	**29**
>90	0	6	5	**11**
Total	**44**	**200**	**97**	**341**

	Borders	Lothian	Fife	SCAN
Timelines	Median (days)	Median (days)	Median (days)	Median (days)
Referral to Diagnosis	30	34	22	30
Referral to First Treatment	65.5	74	47	64
Diagnosis to First Treatment	31	35	23	29
Diagnosis to First Surgery	29	32.5	22.5	28

4.2 Tumour Type & Staging

	Borders	Lothian	Fife	SCAN
TCC/ Urothelial	42	181	79	**302**
SCC/ SCC Cis	0	5	3	**8**
Cis	1	2	2	**5**
Adenocarcinoma	0	1	0	**1**
Clinical TCC	0	5	4	**9**
Metastatic TCC (incl. clinical- 1 Fife)	1	4	1	**6**
Diathermy destroyed	0	2	0	**2**
TCC cis	0	0	6	**6**
Small Cell	0	0	2	**2**
Total	**44**	**200**	**97**	**341**

4.3 Treatment by Tumour Grade/ Stage

	Criteria	Number of Diagnoses
Non Muscle Invasive Bladder Cancer (NMIBC) – Ta, T1, Tis, N0, M0		
Low risk NMIBC ***(L)***	G1/ G2 Ta, single tumour <3 cm	**125**
Intermediate risk NMIBC ***(I)***	All other Ta/T1	**41**
High risk NMIBC ***(H)***	Any G3 (incl Ta/T1), Any T1 or CIS	**68**
Muscle Invasive Bladder Cancer (MIBC) – T2- T4, N0, M0		
Localised MIBC ***(LM)***	T2	**48**
Locally Advanced MIBC ***(LA)***	T3, T4	**3**
Advanced Bladder Cancer – N+, M+		
Nodal Disease ***(N+)***	N1, N2 (can be cTNM or pTNM)	**15**
Metastatic Disease ***(M+)***	M1 (can be cTNM or pTNM)	**17**
Inapplicable (Inapp)	Clinical diagnosis, pTx, Not recorded	**24**

Most Definitive treatment in SCAN separated by Risk Group Stratification Criteria

	NMIBC			MIBC		Advanced		Inapp	Total
SCAN	**L**	**I**	**H**	**LM**	**LA**	**N+**	**M+**	**Clin / pTx**	
BCG/ MMC	1	2	10	0	0	0	0	2	**15**
TURBT/diathermy (+/- MMC)	122	38	51	14	0	5	3	11	**244**
Cystectomy (including PC)	0	0	5	15	0	1	0	1	**22**
Radical radiotherapy	0	0	1	9	2	2	1	2	**17**
Radical chemotherapy	1	0	0	1	0	2	1	0	**5**
Radical chemotherapy & RT	0	0	0	2	0	0	0	0	**2**
Palliative (incl. RT & Chemo)	0	0	0	2	0	1	5	1	**9**
Other (NR, NAT, refused)	1	0	1	2	0	1	1	6	**12**
Palliative	0	1	0	3	1	3	6	1	**15**
Total	**125**	**41**	**68**	**48**	**3**	**15**	**17**	**24**	**341**

PC= Partial Cystectomy

4.4 Edinburgh Cancer centre- Radiotherapy

Please see point 3.5 of the Prostate Cancer chapter for Radiotherapy at the Edinburgh Cancer Centre data and detail (Page 16)

4.5 Outcome –Mortality (180 Days)

This table shows patients who were diagnosed in SCAN during 2011 and were recorded as deceased within 180 days of diagnosis date.
This is an all-cause of death comparison so may include patients where cancer was not their primary cause of death.

SCAN Mortality	Borders	Lothian	Fife	SCAN
Total Deceased ≤ 180 days post diagnosis	**5**	**11**	**8**	**24**
Diagnosis to Death (Median) days	80	105	110	**105**
Diagnosis to Death (Range) days	28-176	20 - 172	43-144	**20 - 176**
Age at Diagnosis (Median) years	83	70	70	**74**
Age at Diagnosis (Range) years	76-87	60 - 95	29-82	**29 - 95**

4.6 Clinical Effectiveness Measures

These measures are based on selected guidelines from the SIGN Guideline No. 85 for Management of Transitional Cell Carcinoma (TCC) of the Bladder. There are no formally-defined measurement criteria for these guidelines e.g. to clarify appropriate exclusions, which may affect compliance achievements.

SIGN 85 3.1.3

100% of patients diagnosed with a pT2-4 (N0, M0) tumour should have a cystectomy within three months of diagnosis (Diagnosis defined as first positive histology)

These results relate to patients diagnosed in Lothian between 01/01/2011 and 31/12/2011. Cystectomies were also performed in Lothian on patients from other health boards, on those whose initial pathology did not meet above criteria, and also those who were initially diagnosed outside the 2011 cohort. This measure does not include SCC or urethral cancer.

	Borders	**Lothian**	**Fife**	**SCAN**
Total numbers diagnosed with pT2 – 4, N0, M0	8	26	14	**48**
Number of those patients undergoing Radical cystectomy (partial cystectomy excluded)	1	9	4	**14**
<93d from diagnosis to cystectomy	n/a	8	4	**12**
>93d from diagnosis to cystectomy	1	1	0	**2**
Median time from diagnosis to cystectomy	210*	20	63	**58**
Range from diagnosis to cystectomy	210*	29 -153	42-77	**29 - 210**
Compliance	**0%**	**89%**	**100%**	**86%**

*Actual number of days as insufficient numbers to calculate a median

Both patients >93d from diagnosis to cystectomy received Neo-Adjuvant Chemotherapy.

Specifics of Patients who met diagnosis criteria but did not proceed to cystectomy within cohort:

Lothian:
10 had Radical Radiotherapy, 4 Died before treatment, 2 received supportive care, 1 chemotherapy

Fife:
3 suitable for local control only, 2 had an Illeal conduit and radiotherapy, 2 were unfit for surgery, 2 had TURBT and Palliative radiotherapy, 1had inoperable disease (Fixed)

SIGN 85.4.6.1

Cis patients should have BCG (Bacillus Calmette-Guerin) treatment

	Borders	**Lothian**	**Fife**	**SCAN**
Patients diagnosed with Cis alone	1	3	2	**6**
Patients receiving BCG	1	3	2	**6**
Compliance	**100%**	**100%**	**100%**	**100%**

5 Kidney Cancer

5.1 Incidence & Timeline

	MALE- Age Distribution			FEMALE- Age Distribution			SCAN	
	Borders	**Lothian**	**Fife**	**Borders**	**Lothian**	**Fife**	**Male**	**Female**
<50	2	8	1	0	3	3	**11**	**6**
50-54	1	4	0	0	1	0	**5**	**1**
55-59	0	11	8	0	4	3	**19**	**7**
60-64	1	8	4	0	6	1	**13**	**7**
65-69	2	7	5	0	3	1	**14**	**4**
70-74	0	12	3	0	9	3	**15**	**12**
75-79	1	8	4	1	7	2	**13**	**10**
80-84	0	9	1	1	6	3	**10**	**10**
85-89	0	1	0	0	2	1	**1**	**3**
>90	0	0	0	1	1	0	**0**	**2**
Total	**7**	**68**	**26**	**3**	**42**	**17**	**101**	**62**

Timelines	**Borders** Median (days)	**Lothian** Median (days)	**Fife** Median (days)	**SCAN Median (days)**
Referral to Diagnosis	0	3	14.5	**3**
Referral to First Treatment	82	94	57	**81**
Diagnosis to First Treatment	75	76	42.5	**64**
Diagnosis to First Surgery	86	108.5	43	**86**

5.2 Tumour Type & Staging

Tumour Morphology	**Borders**	**Lothian**	**Fife**	**SCAN**
Renal Cell Carcinoma (Biopsy or Nephrectomy)	7	67	30	**104**
Clinical Diagnosis only	3	36	13	**52**
Other	0	7	0	**7**
Total	**10**	**110**	**43**	**163**

(Other: Chromophobe/TCC/ PNET/ sarcomatoid/ oncocytic neoplasm/ spindle cell/ papillary carcinoma)

Pathological Tumour Size in mm (Surgical Pathology)	**Borders**	**Lothian**	**Fife**	**SCAN**
Number with Size recorded	7	59	23	**89**
Range	34-70	15 - 151	20-150	**15 - 151**
Median	46	53	60	**53**

5.3 Treatment

Fuhrman Grade	Surgery	Palliative Radiotherapy / Chemotherapy	WW	Sutent	Other	NAT, Died before treatment, NR	**SCAN Total**
Borders							
Grade 1	0	0	0	0	0	0	**0**
Grade 2	4	0	0	0	0	0	**4**
Grade 3	1	0	0	0	0	0	**1**
Grade 4	1	0	0	0	0	0	**1**
NR	0	0	0	0	0	0	**0**
N/a	1	0	3	0	0	0	**4**
Lothian							
Grade 1	3	0	1	0	0	0	**4**
Grade 2	31	0	0	2	0	0	**33**
Grade 3	12	1	0	1	0	0	**14**
Grade 4	8	0	0	0	0	0	**8**
NR	3	2	0	1	0	0	**6**
N/a	7	5	11	4	2	16	**45**
Fife							
Grade 1	2	0	0	0	0	0	**2**
Grade 2	14	0	0	0	2	0	**16**
Grade 3	7	0	0	1	0	0	**8**
Grade 4	1	0	0	0	0	0	**1**
NR	1	0	0	1	0	0	**2**
N/a	0	1	7	1	5	0	**14**
SCAN Total	**96**	**9**	**22**	**11**	**9**	**16**	**163**

Other: (RFA, Cryotherapy +/- palliative surgery)
Palliative Radiotherapy/ Chemotherapy (+/- palliative surgery)
Sutent (+/- palliative surgery)
NAT (No active treatment), DIED (Died before treatment), NR (Not Recorded)

5.4 Surgery Type

Number of patients diagnosed in 2011 having surgery in 2011

Type of Surgery on primary tumour site	**Borders**	**Lothian**	**Fife**	**SCAN**
Laparoscopic Nephrectomy (3 private surgery)	6	40	12	**58**
Open Nephrectomy	0	9	7	**16**
Partial Nephrectomy (open)	1	12	3	**16**
Palliative Nephrectomy	0	2	0	**2**
Laparoscopic Nephroureterectomy	0	1	1	**2**
Open Nephroureterectomy	0	0	2	**2**
Total	**7**	**64**	**25**	**96**

1 Fife patient was treated by excision of metastases

Number of Nephrectomies carried out in NHS Lothian during 2011
(Includes patients diagnosed in other cohorts and/or in health boards outside SCAN)

Surgery Type	Number Operations
Laparoscopic Nephroureterectomy	18
Open Radical Nephrectomy	16
Open Partial Nephrectomy	19
Laparoscopic Radical Nephrectomy	60
Total	**113**

5.5 Outcome- Mortality (180 Days)

SCAN Mortality	**SCAN**
Total Deceased ≤ 180 days post diagnosis	**16**
Diagnosis to Death (Median) days	**86.5**
Diagnosis to Death (Range) days	**19 - 178**
Age at Diagnosis (Median) years	**75**
Age at Diagnosis (Range) years	**48 - 90**

Comment:
The table above shows patients who were diagnosed in SCAN during 2011 and were recorded as deceased within 180 days of diagnosis date. This is an all-cause of death comparison so may include patients where cancer was not their primary cause of death.

6 Testicular Cancer

6.1 Incidence

Age Distribution				
Age	**Borders**	**Lothian**	**Fife**	**SCAN**
<26	0	3	0	**3**
26-30	0	3	0	**3**
31-35	0	2	2	**4**
36-40	0	4	2	**6**
41-45	0	6	3	**9**
46-50	0	5	3	**8**
>50	0	3	0	**3**
Total	**0**	**26**	**10**	**36**

Timelines	**Borders** Median (days)	**Lothian** Median (days)	**Fife** Median (days)	**SCAN Median (days)**
Referral to Diagnosis	N/A	0	10	**3.5**
Referral to First Treatment	N/A	15	18.5	**16**
Diagnosis to First Treatment	N/A	9.5	6.5	**8**
Diagnosis to First Surgery	N/A	10	6.5	**8**

6.2 Tumour Type

Tumour Types	**Borders**	**Lothian**	**Fife**	**SCAN**
Seminoma NOS	0	16	10	**26**
Embryonal & Mixed embryonal Carcinoma	0	2	0	**2**
Mixed germ cell tumour (seminoma + teratoma)	0	5	0	**5**
Intertubular Germ Cell Neoplasia Unclassified. CIS	0	1	0	**1**
Leydig Cell Tumour	0	2	0	**2**
Total	**0**	**26**	**10**	**36**

6.3 Treatment by Tumour Stage

SCAN	Surgery	EBRT	**SCAN Total**
Tis	0	1	**1**
T1	26	0	**26**
T2	9	0	**9**
SCAN Total	**35**	**1**	**36**

20 Surgery & Active Surveillance, 12 Surgery & Adjuvant Chemotherapy, 2 Surgery & Chemotherapy for nodal metastases, 2 Surgery & Adjuvant EBRT

Patients on an active surveillance programme will be monitored for a further 6-10 years and may progress onto further treatment such as chemotherapy if there are any signs of relapse.

7 Renal Pelvis & Ureteric Cancers

7.1 Incidence & Timeline

Age Distribution				
Age	**Borders**	**Lothian**	**Fife**	**SCAN**
<50	0	2	0	**2**
50-59	0	0	0	**0**
60-64	0	1	1	**2**
65-69	1	2	2	**5**
70-74	0	6	3	**9**
75-79	0	5	1	**6**
80-84	0	1	3	**4**
85-89	0	3	1	**4**
>90	0	2	1	**3**
Total	**1**	**22**	**12**	**35**

Timelines	**Borders** Median (days)	**Lothian** Median (days)	**Fife** Median (days)	**SCAN Median (days)**
Referral to Diagnosis	n/a	28	14	19
Referral to First Treatment	n/a	195	58	144.5
Diagnosis to First Treatment	n/a	121	44.5	86
Diagnosis to First Surgery	n/a	110	66	86

Borders patient removed from table as number was insufficient to calculate a median.

7.2 Tumour Type & Staging

Tumour Type	**Borders**	**Lothian**	**Fife**	**SCAN**
TCC / Urothelial cell carcinoma	1	17	7	**25**
Ductal adenocarcinoma	0	1	0	**1**
Clinical TCC/ RCC/ Metastatic	0	4	5	**9**
Total	**1**	**22**	**12**	**35**

Clinical T Stage	**Borders**	**Lothian**	**Fife**	**SCAN**
T1	0	4	0	**4**
T3	0	3	0	**3**
Not Recorded	1	15	12	**28**
Total	**1**	**22**	**12**	**35**

Clinical T stage is not routinely recorded prior to tissue diagnosis.

7.3 Treatment by Tumour Stage

Pathological T Stage	Surgery	Chemotherapy	Endoscopic treatment/ Laser Ablation	No active treatment/ Pt died/ Pt refused/ WW	**SCAN Total**
pTx	2	0	0	0	**2**
pTa	10	0	4	0	**14**
pT1	1	0	0	1	**2**
pT2	4	0	0	0	**4**
pT3	2	0	0	0	**2**
pT4	1	1	0	0	**2**
Clinically diagnosed	0	0	0	9	**9**
SCAN Total	**20**	**1**	**4**	**10**	**35**

7.4 Surgery Type

Surgery	**Borders**	**Lothian**	**Fife**	**SCAN**
Nephroureterectomy (1 converted open in Lothian)	0	11	3	**14**
Cystectomy	0	2	0	**2**
Nephrectomy	0	1	1	**2**
Ureterectomy (Partial/ Radical)	0	0	2	**2**
Total	**0**	**14**	**6**	**20**

7.5 Outcome- Mortality (180 days)

SCAN Mortality	**SCAN**
Total Deceased ≤ 180 days post diagnosis	**3**
Diagnosis to Death (Median) days	**123**
Diagnosis to Death (Range) days	**25 - 153**
Age at Diagnosis (Median) years	**90**
Age at Diagnosis (Range) years	**85 - 91**

Comment:
The table above shows patients who were diagnosed in SCAN during 2011 and were recorded as deceased within 180 days of diagnosis date. This is an all-cause of death comparison so may include patients where cancer was not their primary cause of death.

8 Penile Cancer

8.1 Incidence & Timeline

Age at diagnosis	Borders	Lothian	Fife	SCAN
<50	0	3	0	**3**
51-55	0	0	2	**2**
56-60	1	2	3	**6**
61-65	0	2	0	**2**
66-70	0	0	0	**0**
71+	1	4	0	**5**
Total	**2**	**11**	**5**	**18**

Timelines	Borders Median (days)	Lothian Median (days)	Fife Median (days)	SCAN **Median (days)**
Referral to Diagnosis	n/a	19	47	23
Referral to First Treatment	n/a	39.5	112	62
Diagnosis to First Treatment	n/a	16	41	22
Diagnosis to First Surgery	n/a	22	40	39

Borders patient removed from table due to insufficient number to calculate median.

8.2 Tumour Morphology

Tumour Type	Borders	Lothian	Fife	SCAN
Intraepithelial Neoplasia	0	1	0	**1**
Squamous cell carcinoma NOS	1	6	4	**11**
Carcinoma in situ (cis)	0	2	1	**3**
Squamous cell keratinising	0	1	0	**1**
Squamous cell carcinoma in-situ	1	1	0	**2**
Total	**2**	**11**	**5**	**18**

8.3 Treatment by Tumour Stage and Grade for SCAN

Grade	Glansectomy/ partial penectomy	Topical chemo or Supportive	Excision of lesion / Circumcision	**Total**
G1	3	0	2	**5**
G2	2	1	2	**5**
G3	1	0	2	**3**
G9/ G10	3	1	1	**5**
SCAN Total	**9**	**2**	**7**	**18**

pT Stage	Glansectomy/ partial penectomy	Topical chemo or Supportive	Excision of lesion / Circumcision	**Total**
Tis	3	0	0	**3**
T1	1	0	5	**6**
T2	1	0	0	**1**
T3	1	0	0	**1**
T9	3	2	2	**7**
SCAN Total	**9**	**2**	**7**	**18**

8.4 Follow-up in SCAN

Further intervention recorded within 12 months of first treatment

pT Stage	First Treatment	3 months post-treatment	6 months post-treatment	12 months post-treatment
pT1 (n=6)	6 Circumcision/ excision	2 LND, 1 Topical chemotherapy, 1 Circumcision	1 Radical lymphadenectomy post LND	Nil
pT2 (n=1)	1 Penectomy (incl. partial)	LND	Nil	Nil
pT3 (n=2)	2 Penectomy (incl. partial)	2 LND	1 Supportive care	Nil
pT not recorded (n=5)	1 Chemotherapy, 1 Supportive care, 3 Glansectomy	1 Deceased	1 Circumcision	Nil
pT x/ is (n=4)	4 Glansectomy	Nil	Nil	Nil

LND= Bilateral sentinel inguinal lymph node biopsy

Summary: 18 penile cancer patients diagnosed across SCAN; 28% proceeded to LND within 3 months which led to 1 radical lymphadenectomy within 6 months. 55% patients were diagnosed with a pT1/ x/ is tumour. 17% were treated with immediate radical surgery (penectomy or partial penectomy and lymph node biopsy) after diagnosis of pT2/3 disease, one of which was considered incurable within 6 months (deceased >12 months).

	Number patients alive with no further treatment at 6 months post treatment/ diagnosis	
pT Stage	Number patients	% of total
1 (n=6)	4	67%
2 (n=1)	1	100%
3 (n=2)	1	50%
9 (n=5)	3	60%
X / is (n=4)	4	100%
Total (n=18)	**13**	**72%**

8.5 Outcome - Mortality (180 days post diagnosis)

Patient was known to have significant co-morbidities. Time from diagnosis to death was 38 days, Aged 71.

Comment:
The table above shows patients who were diagnosed in SCAN during 2011 and were recorded as deceased within 180 days of diagnosis date. This is an all-cause of death comparison so may include patients where cancer was not their primary cause of death.