TOWER HAMLETS

Meeting of the

INNER NORTH EAST LONDON JOINT HEALTH OVERVIEW & SCRUTINY COMMITTEE

Tuesday, 30 April 2013 at 5.00 p.m.

A G E N D A

VENUE
C1, 1st Floor, Town Hall, Mulberry Place, 5 Clove Crescent, London E14 2BG

If you require any further information relating to this meeting, would like to request a large print, Braille or audio version of this document, or would like to discuss access arrangements or any other special requirements, please contact: Sarah Barr, Tel: 0207 364 5954, E-mail: sarah.barr@towerhamlets.gov.uk

LONDON BOROUGH OF TOWER HAMLETS

INNER NORTH EAST LONDON JOINT HEALTH OVERVIEW & SCRUTINY COMMITTEE

Tuesday, 30 April 2013

5.00 p.m.

PARTICIPATING LOCAL AUTHORITIES

MAP OF LOCATION

1. APOLOGIES FOR ABSENCE AND ANNOUNCEMENT OF SUBSTITUTES

2. DECLARATIONS OF INTEREST

Any Member of the Committee or any other Member present in the meeting room, having any personal or prejudicial interest in any item before the meeting is reminded to make the appropriate oral declaration at the start of proceedings. At meetings where the public are allowed to be in attendance and with permission speak, any Member with a prejudicial interest may also make representations, answer questions or give evidence but must then withdraw from the meeting room before the matter is discussed and before any vote is taken.

3. MINUTES OF THE PREVIOUS MEETING AND MATTERS ARISING (Pages 5 - 14)

To agree the minutes of the meeting held on Friday 25th May 2012.

4. UROLOGICAL CANCER SERVICES (Pages 15 - 100)

5. ANY OTHER ORAL OR WRITTEN ITEMS WHICH THE CHAIR CONSIDERS URGENT

PARTICIPATING AUTHORITIES

Authority	Appointed Member
City of London Corporation	Common Councilman Vivienne Littlechild
London Borough of Hackney	Cllr Luke Akehurst
	Cllr Ann Munn
	Cllr Benzion Papier
London Borough of Newham	Cllr Terence Paul
	Cllr Ted Sparrowhawk
	Cllr Winston Vaughan
London Borough of Tower Hamlets	Cllr Denise Jones
	Cllr Rachel Saunders
	Cllr Lesley Pavitt

Please Note: *Membership for each borough is currently being reviewed and may change resulting with attendance at the meeting being different.*

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Travel to Tower Hamlets Town Hall Offices

By Bus

The site has excellent bus links which connect it to East and Central London and beyond.

The 277 bus route begins and ends at the site, and the 15 begins and ends a 3 minute walk away at Blackwall Station. There are a number of other bus stops close by.

Most local bus services are listed overleaf and shown on the map, with the closest bus stops clearly marked on the enlarged map below.

By DLR and Tube

East India and Blackwall DLR Stations are in the immediate vicinity of the Town Hall site, with many other DLR stations within a short walk.

The closest Tube stations are Canning Town or Canary Wharf (both Jubilee Line).

For further information visit www.tfl.gov.uk/journeyplanner

By Foot

An approximate 20 minute walk from the site is shown by the blue circle (on the map overleaf). Many DLR and both Tube stations are within this zone.

There is pedestrian access to the site from all directions, allowing good access to the surrounding area.

For more information on walking in Tower Hamlets see www.towerhamlets.gov.uk/walking

For walking directions see www.walkit.com

HEALTHY BOROUGH PROGRAMME

tower hamlets becoming a healthy borough

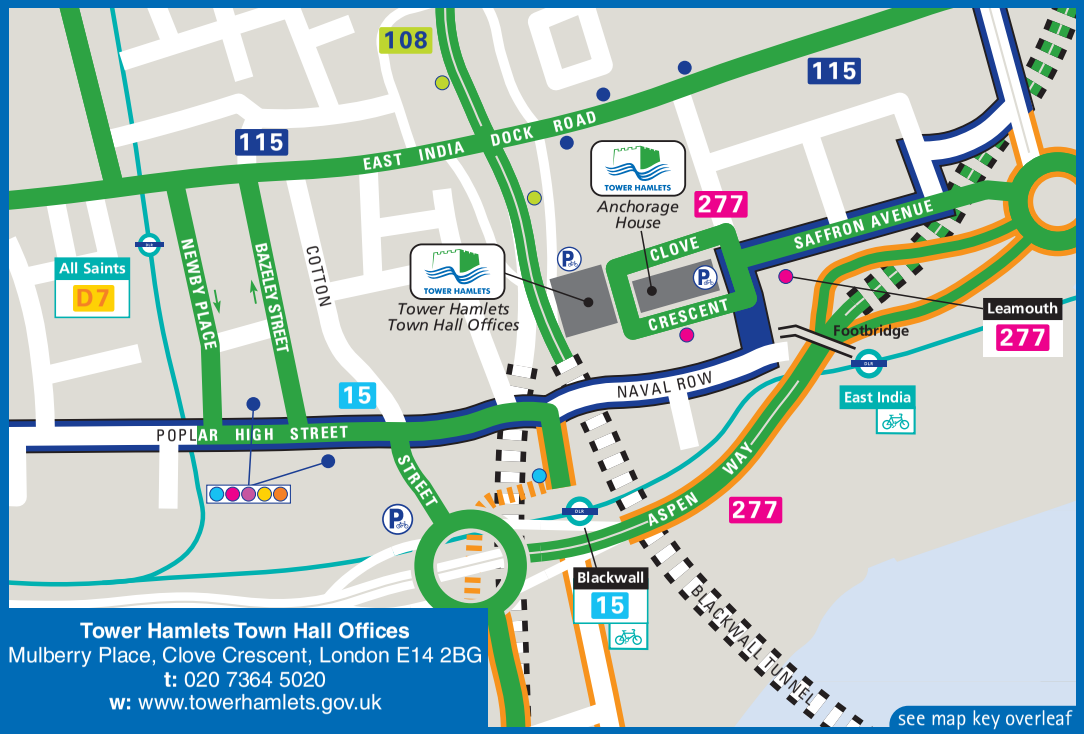
change 4 life

This map has been funded as part of the Tower Hamlets Council Travel Plan which aims to boost the number of staff and visitors travelling to the site by sustainable modes of transport.

Tower Hamlets is one of 9 areas designated as a 'Healthy Town' and has been awarded Government funding to tackle the environmental causes of overweight and obesity. Active Travel (cycling and walking) plays a major role in the programme.

www.towerhamletshealthyborough.co.uk

Design, digital cartography and print by Pindar www.pindar.com 03.10



Tower Hamlets Town Hall Offices
Mulberry Place, Clove Crescent, London E14 2BG
t: 020 7364 5020
w: www.towerhamlets.gov.uk

By Bike

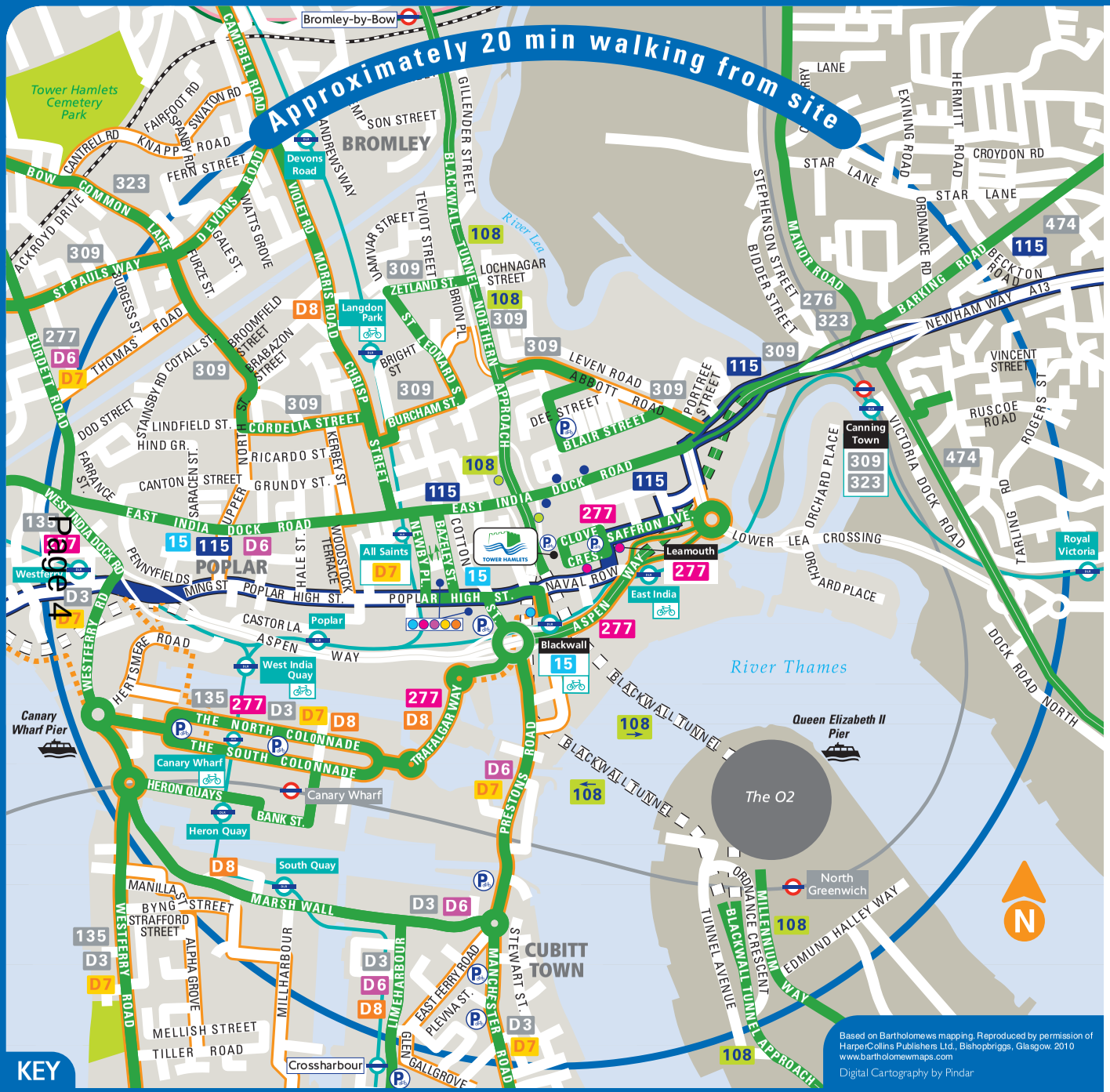
The site is well served by cycle routes, including Cycle Superhighway route 3 opening in 2010.

Cycle parking facilities for visitors are provided at ground level – see map (left).

Extensive cycling facilities are also available for staff who wish to cycle to work; email cycling@towerhamlets.gov.uk for details.

Further information on planning your journey by bike can be found at www.tflgov.uk/cyclejourneyplanner or visit www.towerhamlets.gov.uk/cycling for more information.

Map



Bus Frequencies

15 Blackwall - Paddington Basin — Daily

Blackwall DLR - All Saints DLR - Limehouse DLR ⇄ - Aldgate ⊖ - Fleet Street - Charing Cross ⊖ ⇄ - Oxford Circus ⊖ - Paddington ⊖ ⇄ - Paddington Basin

Monday - Friday daytime 6-10 minutes. Saturday daytime 6-10 minutes. Evenings and Sundays 6-10 minutes

Operated by East London

108 Lewisham - Stratford — 24 Hour

Lewisham DLR ⇄ - North Greenwich ⊖ - Blackwall Tunnel - Bromley-by-Bow ⊖ - Stratford ⊖ DLR ⇄

Monday - Friday daytime 8-10 minutes. Saturday daytime 10-14 minutes. Evenings and Sundays 20 minutes.

Operated by London General

115 East Ham - Aldgate — Daily

East Ham - Upton Park - Plaistow - Canning Town DLR ⊖ - All Saints DLR - Limehouse DLR ⇄ - Aldgate ⊖

Monday - Friday daytime 5-9 minutes. Saturday daytime 8-12 minutes. Evenings and Sundays 10-12 minutes.

Operated by East London

277 Leamouth - Highbury — 24 Hour

Leamouth - Canary Wharf DLR ⊖ - Westferry DLR - Mile End ⊖ - Hackney Central ⇄ - Highbury & Islington ⊖ ⇄

Monday - Friday daytime 5-8 minutes. Saturday daytime 6-10 minutes. Evenings and Sundays 9-12 minutes.

Operated by East London

D6 Hackney - Crossharbour — Daily

Hackney Central ⇄ - Cambridge Heath ⇄ - Bethnal Green ⊖ - Mile End ⊖ - All Saints DLR - Crossharbour DLR - Crossharbour ASDA

Monday - Friday daytime 6-10 minutes. Saturday daytime 7-11 minutes. Evenings and Sundays 15 minutes.

Operated by First

D7 All Saints - Mile End — Daily

All Saints DLR - Island Gardens DLR - Canary Wharf DLR ⊖ - Westferry DLR - Mile End ⊖

Monday - Friday daytime 8-12 minutes. Saturday daytime 7-10 minutes. Evenings and Sundays 15 minutes.

Operated by First

D8 Crossharbour - Stratford — Daily

Crossharbour - Canary Wharf DLR ⊖ - All Saints DLR - Bow Church DLR - Stratford DLR ⊖ ⇄

Monday - Friday daytime 9-13 minutes. Saturday daytime 11-12 minutes. Evenings and Sundays 20 minutes.

Operated by First

For further information call 020 7222 1234 or visit www.tfl.gov.uk

Inner North East London Joint Health Overview and Scrutiny Committee 30 April 2013 **Minutes of the previous meeting and matters arising**	Item No **3**

Outline

Attached are the draft minutes for the previous meeting of INEL JHOSC held on Friday 25 May 2012.

Action

The Committee is requested to agree the minutes.

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LONDON BOROUGHS OF TOWER HAMLETS, HACKNEY AND NEWHAM

MINUTES OF THE INNER NORTH EAST LONDON JOINT HEALTH OVERVIEW AND SCRUTINY COMMITTEE

HELD AT 3.30PM ON FRIDAY 25TH MAY 2012

C1, FIRST FLOOR, TOWN HALL, MULBERRY PLACE, 5 CLOVE CRESCENT, LONDONE14 2BG

Members present:

Councillor Lesley Pavitt (Tower Hamlets, Chair)

Councillor Ted Sparrowhawk (Newham)
Councillor Winston Vaughan (Newham)
Councillor Luke Akehurst (Hackney)
Councillor BenzionPapier (Hackney)
Common Councilman Vivienne Littlechild (City of London)

Other members present:

Councillor Ben Hayhurst (Hackney)
Councillor Peter Golds (Tower Hamlets)
Councillor Terry Paul (Newham)
Councillor Denise Jones (Tower Hamlets)

Guests present:

Sarah Mcilwane, Senior Programme Manager for Urgent Care, NHS North East London and the City
Dr Murray Ellender, NHS East London and the City
Dr Steve Ryan, Medical Drector, Barts Health NHS Trust
Adrienne Noon, Director of Communications and Engagement, Barts Health NHS Trust

Officers present:

Tracey Anderson, Overview and Scrutiny Officer, LB Hackney
Sarah Barr, Senior Strategy Policy and Performance Officer, LB Tower Hamlets
Neal Hounsell, Strategy and Performance Director, City of London
Clive Mentzel, Head of Overview and Scrutiny, LB Newham
JohanaFiserova, Scrutiny Manager, LB Newham

1. APOLOGIES FOR ABSENCE

Apologies for absence were received from Cllr Dr Emma Jones and Cllr Rachael Saunders (both Tower Hamlets). Cllr Papier gave apologies that he would have to leave the meeting early.

2. APPOINTMENT OF CHAIR AND VICE-CHAIR

Cllr Pavitt asked for nominations for Chair of the Committee. Cllr Luke Akehurst was nominated by Cllr Sparrowhawk and seconded by Cllr Jones. Cllr Akehurst accepted.

Cllr Akehurst took over as Chair of the meeting from Cllr Pavitt.

Cllr Akehurst asked for nominations for Vice-Chair of the Committee. Cllr Vaughan was nominated by Cllr Akehurst and seconded by Cllr Pavitt. Cllr Vaughan accepted.

3. DECLARATIONS OF INTEREST

No members had any interests to declare.

4. URGENT CARE SERVICE

The committee received a presentation from Sarah Mcilwaine, Programme Manager for Urgent Care at NHS North East London and the City and Dr Murray Ellender, NHS East London and the City on the introduction in east London of 111, a new national telephone service for contacting health services.

The current system for accessing urgent care is complicated, with lots of different services and access points. This can mean patients do nothing or use services they know – A&E, dial 999 – sometimes inappropriately. 111 aims to improve access and patient experience, helping them access the right service first time. It will also help in ensuring A&E and ambulances are only used by those who really need them.

111 is a freephone number, easy to remember and answered 24 hours a day, 365 days per year. Coverage will be national by April 2013, with east London being one of the last areas to join. NHS Direct will be 'turned off' at this point.

Calls will be answered locally by trained call handlers, who will direct callers to the most appropriate service. If the situation is an emergency the caller will be put straight through to the 999 service. Clinicians will also be available to help with calls. The service is supported by a comprehensive and up-to-date directory of services available in the area. Feedback from consultation has been positive, creating a clear system, particularly out of hours. The service will be particularly beneficial for carers, who often have to make difficult decisions about who to call.

NHS NELC are working with the local Clinical Commissioning Groups to develop the service specification for east London. Whilst there are national specifications, including the ability to call an ambulance straight away, and immediate transfer to a clinician (rather than the call-back system used by NHS Direct), there is also scope to develop local service specifications.
Questions from the Committee, with answers from Sarah McIlwaine and Dr Murray Ellender

Mrs Littlechild expressed surprise that there had only been positive feedback from the public, and ask what would happen if the clinician in the room was busy and needed on another call.

The feedback comments were taken from the Department of Health research, but there has been local engagement as well. The only concern so far is that there is still not one number but two – 999 and 111. Sarah McIlwaine and Dr Ellender said they would consider reflecting both positive and negative feedback as they continue developing the service and engaging people.

The service specification standards require that all calls are answered within 60 seconds and that there are enough clinicians in the room to support the service – there will be more than one clinician.

Cllr Pavitt asked if a GP will be informed when one of their patients calls 111, and what the strategy is for ensuring 111 is used (unlike 101 for non-urgent Police calls, which isn't well used).

Yes, GPs will be informed when their patients call 111. There will be a national marketing campaign to promote 111.

Cllr Hayhurst asked if data from NHS Direct can be used to estimate demand for 111.

The business case for 111 was done at a national level. It is expected that 37% of the population will call 111 within a year. Local and pilot data will also be used to estimate demand.

Cllr Jones asked (i) what the cost of the local 111 will be, (ii) what monitoring of the service will be done and (iii) if NHS Direct staff will move to 111 under TUPE.

The full costs of the service are not defined. East London one of the last areas to implement 111 so can learn from other areas. Costs are estimated at £7-15 per call. This will be offset by savings from closing NHS Direct, which costs £20 per call. 111 costs are lower as more people are expected to use the service.

NHS NELC are working with GPs to develop key performance indicators. They are currently trying to understand and capture baseline information. They will have indicators for speed, quality and patient experience. What's not currently clear is who will have responsibility for 111 going forward – CCGs or the National Commissioning Board.

Yes, NHS Direct staff will transfer across, under TUPE, ensuring that experience is not lost.

Cllr Vaughanwelcomed the new service, acknowledging that it should take the pressure of 999. He asked if they were working with local involvement networks (LINKs) to develop new pathways which incorporate 111.

Yes, all new services and pathways should be added to the 111 database. Every effort will be made to ensure the database used by 111 staff is robust.

Neal Hounsell asked what the 'out of area message' was.

This is an interim message for areas not yet part of 111. It will be used by areas until the whole country is online. Once the service is available everywhere, people will be able to enquire about services in another area – eg near their work.

Cllr Akehurst what provisions the 111 service would be making for people who do not speak English and community languagues.

Services will use existing services such as language line and will work closely with current out-of-ours services to address this issue.

5. BARTS HEALTH NHS TRUST

The committee received a presentation from Dr Steve Ryan, Medical Director, Professor Shona Brown, Director of Organisational Development and Adrienne Noon, Director of Communications and Engagement. They updated the committee on the merger project. Whilst most of the plans at the moment are 'business as usual' this can be difficult to achieve with such a large merger project. They are creating a new organisation and partner. They outlined the vision and values of the new organisation. These have been developed through consultation and engagement. They are currently working on a draft engagement programme and involvement model. This will be key to the journey to becoming a foundation trust.

Cllr Pavitt asked what 'ambulatory' medicine referred to, and raised the issue of Barts Health being honest in their engagement work – it can be tough but she would like to see more of it. She welcomed the proposal that senior staff will do 'walkabouts' basing themselves on wards 1 day a month but felt this was not enough.

Ambulatory is a US term, that can also be called 'office' medicine. It refers to services in clinics and health centres rather than hospitals. It often means outpatients and day care. Dr Ryan acknowledged it was not obvious what it meant.

Dr Ryan said senior nurse managers, including Kay Riley, would be based on wards much more often than once per month.

Cllr Vaughanexpressed concern that the name *Barts* Health indicated that the former Barts and The London Trust was dominating in relation to Newham and Whipps Cross.

Dr Ryan responded that world class means the best health care for all patients – great specialise care, connected to community care. No one hospital should dominate. And the best quality of care should also be available at Whipps Cross and Newham hospitals.

Mrs Littlechild was concerned that the Trust had set out wonderful plans and ideas, but they did not demonstrate respect for patients. Many staff are still in a mindset of service provision.

Professor Brown responded that determining the values of the new organisation was not a paper-based exercise. They had engaged with staff about what those values mean for behaviours, and challenging the issues which arose. Senior staff being role models for others will be an important part of this process.

Cllr Sparrowhawk asked when savings and changes to services would begin to be implemented.

Dr Ryan said they had to make £50million of savings for 4-5 years. This has to be focused on quality of services. Where savings can be made, particularly through procurement, they will be. But there are also changes like those made to stroke care locally, which have achieved better outcomes for patients and saved money. There are more of these sort of opportunities. Where services cannot be provided at all hospitals, Barts Health will provide transport. Significant changes will be consulted on, including coming to health scrutiny committees.

Cllr Pavitt asked two questions on behalf of Cllr Saunders. Where will health scrutiny committees fit in on changes to services at the Royal London? How can we ensure that Tower Hamlets Community Health Services are not forgotten about now they are part of such a big organisation?

Dr Ryan responded that health scrutiny committees will be consulted on changes to services at The Royal London Hospital. He added that Community Health Services are very important and something he is passionate about. He is leading the integration of services and believes the quality of services and the experience of patients, particularly for the elderly, children and end of life care, can be improved through integrated care. He is working closely with commissioners in Tower Hamlets on this, as well as with East London Foundation Trust.

Cllr Vaughan asked about what savings from economies of scale meant in practice.

The new trust will have fewer, but larger, laboratories. Evidence suggests these will have better outcomes, be quicker as well as saving money. This has not happened until now as hospitals were keen to protect their own laboratories. They are also looking at radiology for aneurisms. Each site currently has a separate rota, but clinical groups are looking into one rota for all sites.

Mrs Littlechild said she was a 'convert' to specialist treatment. Everyone wants the very best treatment and if that can't be delivered everywhere then people will travel to the sites where it is delivered. What is required is efficient and accessible transport between sites. She asked if any of the savings will go back into the transport system.

Dr Ryan said they were keen to hold onto cash from any additional savings made, rather than export them. However, they are keen to work closely with Transport for London on how visitors can best move between different hospitals if required.

6. NORTH EAST LONDON COMMISSIONING SUPPORT

The report was presented by Marie Price, North East London Commissioning Support Service (CSS). It set out the development of the organisation and how they intend to work with local Clinical Commissioning Groups (CCGs).

Cllr Sparrowhawk asked how they will work with CCGs when some CCGs haven't even agreed their governance arrangements yet.

All CCGs have got interim arrangements, and are starting to think about the transitions necessary and the support they need.

Cllr Pavitt asked Ms Price to explain how the North East London Commissioning Support Service had developed, who they were made up of and who 'owned' them. Cllr Pavitt also asked if local health scrutiny committees can influence the service level agreement between local CCG and the CSS, and what local variation there might be between boroughs.

The CSS is made up of 7 Primary Care Trusts, and they will become a new organisation once PCTs are abolished. The CSS staff are former PCT staff. After 2013, the CSS will be 'hosted' by the NHS Commissioning Board, with a view to becoming either a social enterprise or private organisation.

There is not huge scope for health scrutiny members to influence the SLA. However there are local authority representatives on the reference group (usually the director of adult social care). The SLA is between the CCS and the CSS. There will be a basic core offer to CCGs, but they wish to commission additional services dependent on their needs.

Cllr Vaughan asked if the CSS is a management group, managing CCG and what area they covered.

The CSS does not manage CCGs. The CCGs are the statutory organisation, and accountability for services will lie with them.

The CSS works across 7 PCT areas in north east central London. They have therefore been able to streamline management internally. The area they cover has 12 CCGs. There are separate CSSs for south and west London.

Cllr Paul asked what kind of social enterprise the CSS might become in 3 years, and if it was possible for them to be bought by a private company.

Becoming a social enterprise is one option for the CSS, but it is not yet clear what sort of organisation they will become. They are currently focused on developing the SLAs with CCGs, but will then need to shift their thinking.

Mrs Littlechild expressed concern that the CSS could become private, because that means they could go bankrupt and was concerned about protection for service users.

The CSS will not be providing clinical services, rather management support services to the CCG. CCGs can buy that support from wherever they want. The CCG has the responsibility for delivering clinical services. They are the NHS organisation.

Cllr Paul asked if TUPE arrangements will be honoured in the event of a takeover.

The CSS is in its very early stages of development and it's too soon to discuss those kind of eventualities.

7. INEL JOSC TERMS OF REFERENCE AND PROCEDURE RULES

The committee considered the draft terms of reference and procedure rules for the standing committee.

Cllr Pavitt suggested that as Barts Health NHS Trust also covers Waltham Forest, they should be invited to join. It was noted that the agenda for the INEL JOSC and for the Outer North East London JOSC are cross-circulated and members from other areas are welcome to attend both.

Whilst the standing committee has been set up to consider cross-borough issues as raised by providers, there is no reason why the committee could not to a piece of scrutiny review work if appropriate, provided the necessary officer support could be agreed.

There is nothing in the terms of reference on frequency of meetings – they will be called when required.

The committee agreed the terms of reference and procedure rules.

Duration of meeting: 3:30 – 5:30pm

Signed

Chair of Committee

Contact:
Tracey Anderson
020 8356 3312
tracey.anderson@hackney.gov.uk

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Inner North East London Joint Health Overview and Scrutiny Committee 30 April 2013 **Urological cancer services - case for change**	Item No **4**

OUTLINE

The Chair and Vice Chair of INEL JHOSC have convened this meeting of the committee in response to a request from NHS North and East London Commissioning Support Unit and London Cancer North and East to examine a proposed case for change to urological cancer services in North and East London.

Attending the meeting will be:

- **John Hines**, Consultant Urologist and Clinical Pathway Director, London Cancer
- **Neil Kennett-Brown**, Programme Director, Change Programmes, NHS North and East London Commissioning Support Unit
- **Steve Ryan**, Medical Director, Barts Health NHS Trust.

Attached please find the following documents:

a) Presentation on 'Urological cancers – whey we need to change"
b) Specialist urological cancer services - recommendation making process
c) Initial case for change proposal from London Cancer North and East
d) Specialist urological cancer centres – the clinical evidence

ACTION

The Committee is requested to give consideration to the proposals and make any recommendations as necessary.

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North and East London
Commissioning Support Unit

Urological cancers – why we need to change

INEL Joint Health Overview and Scrutiny Committee – 30 April 2013

Drivers for change

- **Pan-London case for change and model of care in 2010** found that more needed to be done to improve patient outcomes and patient experience of cancer services. Wide public engagement on the pan-London case for change and model of care was undertaken in 2010.
- The case for change stated it would be **necessary to consolidate some cancer care** in fewer specialist centres
- International evidence shows that for complex procedures, **a higher volume of patients results in fewer complications and better outcomes for patients**
- **Patient satisfaction surveys** tell us London's cancer care providers need to improve
- There is poor recruitment to **clinical trials** in many tumour types
- Institutionally focused **research** at insufficient scale
- Need to reflect **modern practices**
- Can achieve **'better value'** for the resources available

London Cancer's proposals

- Improve services at all hospitals providing urological cancer care
- Continue to provide less complex surgery for urological cancers at local centres
- Consolidate complex surgery for bladder and prostate cancer in one specialist centre
- Consolidate complex surgery for kidney cancer in one specialist centre
- Improve earlier diagnosis of urological cancers
- Improve support for people who are living with or beyond cancer

Scope:

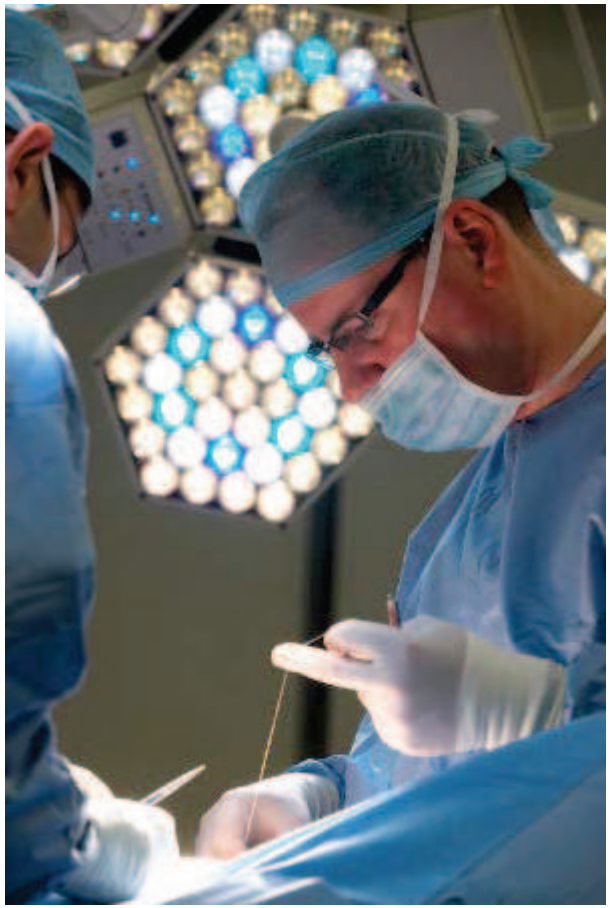
- Around two people a day in North East, North Central London and West Essex require complex urological cancer surgery
- Specialist treatment is only a small part of a urological cancer patient's care. The vast majority of patient care would always take place at local urological units and GP surgeries.

Role of local diagnostic and treatment units

- A significant role in caring for patients with urological cancers. **98% of care would continue to be delivered locally.**
- Provide all diagnostic tests, most elements of treatment including some types of surgery, the majority of post-treatment follow-up, and ongoing care and rehabilitation.
- The first point of contact for early specialist advice required by GPs.
- High quality medical and nursing care.
- Doctors and clinical nurse specialists would work jointly in both the specialist and local units to make sure that patients experience continuous excellent care.
- All existing urology units which meet standards of care would continue to provide local services.

Options considered

- **Two specialist centres** – three surgeons, on call 1:2.5, 200 operations per annum
- **One specialist centre** – six surgeons, on call 1:5, 400 operations per annum
- **More surgeons** – two centre model with four, five or six surgeons



Supporting the model of single centres

- London-wide recommendation – for bladder and prostate cancer each surgical centre should serve a population of at least two million (the London Cancer region covers 3.4 million)
- Improved outcomes – clinical evidence shows that for complex procedures, such as major cancer surgery, a higher volume of patients results in fewer complications, shorter lengths of stay and better outcomes for patients
- Expertise – a larger team of specialists who each perform large numbers of complex urological operations will ensure every patient receives care from a professional with specialist expertise. Specialists will have joint appointments and responsibilities at specified local hospitals so they can care for patients from diagnosis through surgery and provide follow up close to home
- Staff – a single centre provides improved training opportunities, development of expertise, increased team experience and enhanced on call facility (on call 1 in 5, compared to 1 in 2.5 in a two centre model), therefore attracting and retaining the most talented staff and be more visible to industry partners and international expert peers.
- Research – single centres provide the capacity for more research opportunities, and the chance for more patients to access clinical trials
- Facilities and equipment – a single specialist centre could provide the latest technology and facilities for specialist surgery. Dedicated theatre capacity would reduce cancellations as a result of priority for emergency cases

What this means for patients

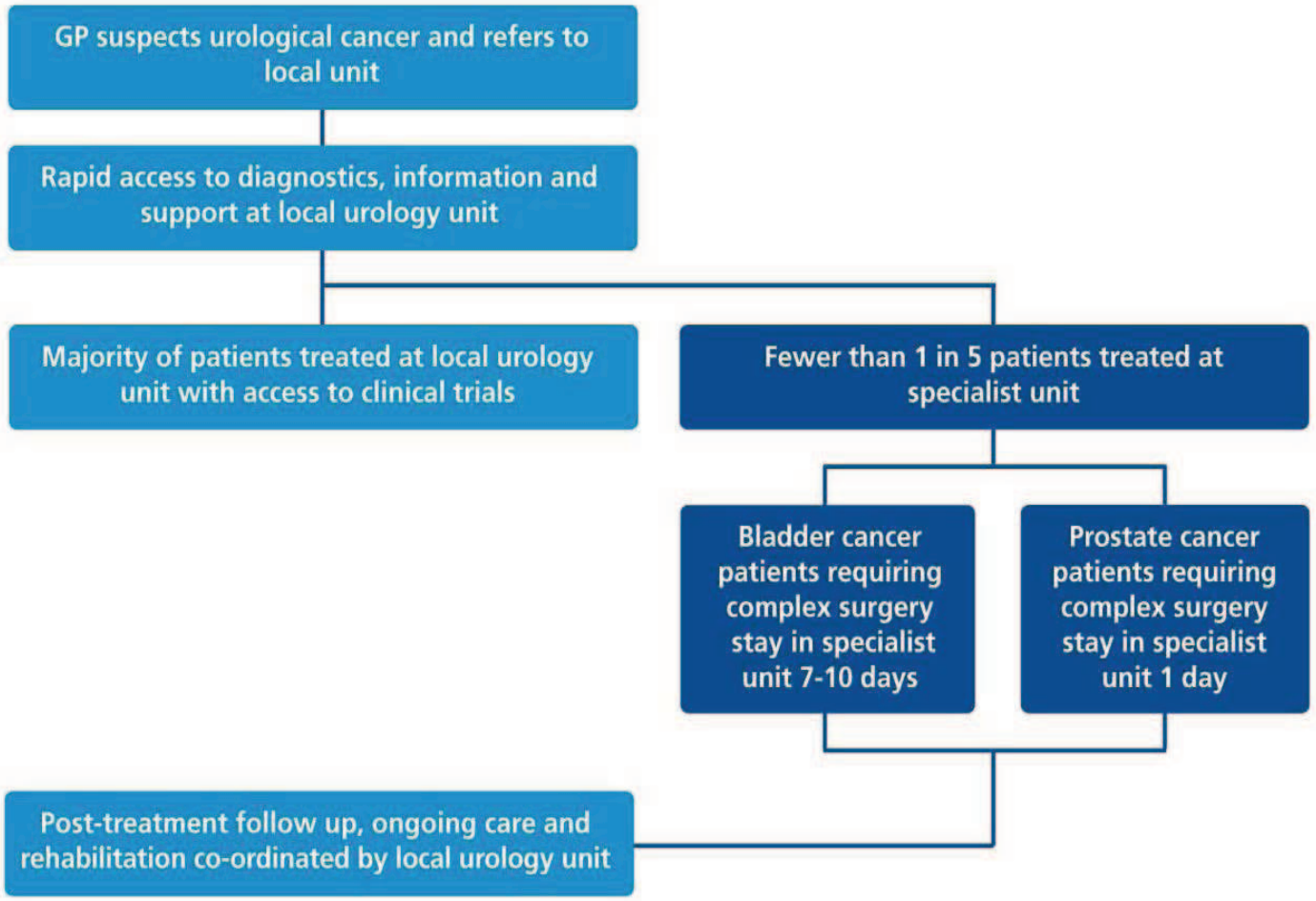
What this means for patients

- **Local care** – The vast majority of patient care would always take place at local urological units and GP surgeries.
- **Specialist surgery** – Prostate cancer is the most common cancer in men, but specialist surgery is not necessary for all patients. Fewer than 1 in 5 bladder and prostate patients require specialist surgery.
- **Outcomes** - patients would have the best chance of surviving their cancer and have reduced risk of long-term side effects (incontinence, impotency) and post-operative complications.
- **Travel** - we estimate that around 225 bladder and prostate cancer patients and 270 kidney cancer patients would travel to a different hospital for complex surgery.
- **Patient choice** – patients would continue to have choice about where they receive the majority of their care. For those patients who require complex surgery, choice of where specialist surgery happens would be reduced, but clinicians strongly believe that patient outcomes and quality of life would improve.
- Increased opportunity to participate in **trials and research**
- Enhanced **patient and carer experience**

Patients requiring complex surgery per year by borough

Borough / Area	Estimated number of **bladder and prostate cancer** patients who needed complex surgery in 2009	Estimated number of **kidney cancer patients** who needed complex surgery in 2009
City and Hackney	24	13
Newham	18	18
Tower Hamlets	12	13

Patient pathway – bladder and prostate cancer



1. Patient case study

Tom is 70 and lives in Whitechapel

Tom visits his GP after noticing blood in his urine and experiencing constant pain below his ribs. After an examination, blood and urine test, Tom's GP refers him to a specialist at the local urological centre (The Royal London) for a full assessment within two weeks.

The team at the local urological centre runs further tests and confirms a diagnosis of kidney cancer. The team explains the diagnosis to Tom and his family and discuss the recommended treatments and options to participate in research and trials.

Because of the grade and stage of cancer, Tom decides that surgery, keyhole nephrectomy to remove a kidney, would be the best course of treatment. Tom opts for keyhole surgery which has much faster recovery time than open surgery.

Before the surgery, Tom has further tests at his local urological centre and meets a member of the specialist surgical team who will be performing the operation. Tom also has two pre-operative appointments at his local centre with a clinical nurse specialist (CNS) who explains the surgery and what to expect, giving him a chance to ask asking questions. Tom's CNS also provides detailed information on transport to and from the surgical centre at the Royal Free.

On the day of the operation, Tom travels to the specialist urological unit at the Royal Free Hospital where a team performs the surgery using the latest technology and medical advances. After a few days in hospital, Tom is ready to go home. The hospital arranges transport for Tom to travel home comfortably.

After the surgery, Tom has regular check-ups to assess how he is getting over the surgery at his local urological centre (Royal London) or GP surgery.

2. Patient case study

George is 65 and lives in Newham

George visits his GP after noticing blood in his urine. A urine test finds abnormal cells, so George's GP refers him to a specialist at the local urological centre (Whipps Cross).

The team at the local urological centre runs further tests and confirms a diagnosis of bladder cancer. The team explains the diagnosis to George and his family and discuss the different treatment options. The team give George clear information about the benefits and side effects of each treatment option, options to participate in research and trials, and support George to make the difficult decision on what course to follow.

Based on the team's recommendations for his type of bladder cancer, George decides that surgery, transurethral resection, would be the best course of treatment. This type of surgery can be undertaken at the local urological centre by a nominated surgeon. Before the surgery, further tests and pre-operative appointments take place take place at the local urological centre.

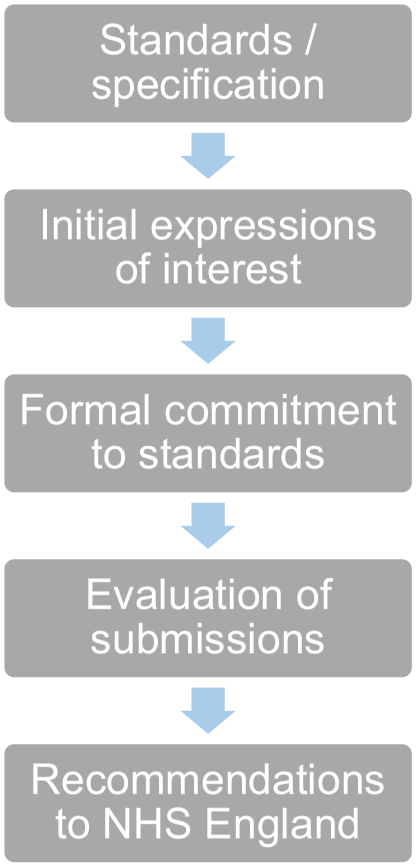
On the day of the operation, George goes to his local urological centre for the surgery. George stays in hospital for around two days, during which time he has a course of chemotherapy.

After returning home, George has regular check-ups to assess how he is getting over the surgery at his local urological centre or GP surgery. If he needs further courses of chemotherapy, this will take place locally.

Recommendations

Process for making recommendations for specialist sites

- Clinical specification / standards developed - local and specialist units
- Trusts submitted expressions of interest (EOI), outlining how they would meet specifications
- University College London Hospitals (UCLH) made a formal EOI to host the bladder and prostate cancer specialist surgical centre
- Barts Health and Royal Free made formal EOIs to host the kidney cancer specialist surgical centre
- Following further discussion among clinicians and patient representatives, *London Cancer* has made recommendations for the sites of specialist services.
- For more information about London Cancer's process to make recommendation on sites, visit: www.londoncancer.org/cancer-professionals/urological/urology-proposals-our-process/



Recommendations for specialist centres

London Cancer is recommending:

- **UCLH** to host the specialist centre for bladder and prostate cancer surgery.
- **The Royal Free London** to host the specialist centre for renal cancer surgery

Recommendations are independent of other service reviews currently taking place in London. The requirements for each service were considered on their own merits, based on improving the outcome and experience of patients.

Assessment of renal cancer submissions

- Assessed against seven domains by *London Cancer* board and an independent expert in renal cancer (Mr Michael Aitchison, consultant urologist, Glasgow)
- Impressed by both Barts Health and Royal Free submissions, however *London Cancer's* board concluded that Royal Free's submission was stronger:
  - clearer evidence of support of the trust board and an approved business case for investment in infrastructure and staffing.
  - confirmed investment in relevant NHS service posts and clearly articulated governance and delivery structure
  - a clearer and more detailed description of the patient pathway and confidence about how it would work at local units in practice
  - Functioning audit programme to systematically publish service line outcomes already in place at the trust, with concrete plans to expand this within a short time scale.

Engagement on clinical recommendations

Summary of engagement activities

Engagement in developing clinical recommendations	The Urological Cancer Pathway Board which developed recommendations includes patient, GP and clinical representatives.
Engagement on case for change and recommendations for change January – April 2013	• Letters to all stakeholders on 31 January with a copy of the case for change, an invitation to attend a stakeholder event and an offer to attend other planned meetings • Follow-up letters to all stakeholders in mid February outlining the recommended providers, and sharing the clinical evidence and recommendation-making process • Emails to remind stakeholders of events and opportunity to have their say • Two stakeholder events in Newbury Park and Mile End • A clinical engagement event in Mile End • Attendance and updates provided at patient group meetings e.g. APPLE (Association of Prostate Patients in London and Essex) and Proactive and cancer partnership groups • Presentation and updates at CCG meetings, HOSC meetings • The London Cancer website has a section dedicated to the urology proposals, and news items have been posted to draw attention to this • Video explaining the clinical case for change
Ongoing engagement April 2013	Continued meetings with patient groups, CCGs and HOSCs.

The impact of travel – background

- We are committed to only asking patients to travel further when it is absolutely necessary for them to receive specialist care as we recognise that travel is an issue for patients and their families
- Around 230 bladder and prostate cancer patients requiring complex surgery (12%) of all bladder and prostate cancer patients) per year would need to travel to a different hospital for their surgery
- For patients with kidney cancer, the majority (around 270 patients) would need to travel to a different hospital for their surgery under these proposals
- Our clinicians believe that the benefits of improved outcomes and reduced risk of post-operative complications such as long-term incontinence far outweighs any inconvenience in further travel to receive the very best specialist care
- Many patients are already going to a hospital other than their local hospital to have their complex urological cancer surgery

The impact of travel – listening to feedback

- Travel implications have been highlighted as an important issue during the engagement process, particularly among patients and their families in outer north east London and West Essex
- London Cancer and the recommended providers of specialist surgery are taking these issues seriously and are committed to working on solutions to support patients and their families who are in need of assistance
- The impact on patients and their families relating to travel is being considered as part of the proposals and plans for implementation by the recommended providers. Feedback from the engagement to date is informing these discussions.
- Among the options being considered are:
  - Improving access to car parking and taxi services for those in need
  - Considering opportunities for reduced fares on public transports (discussions with TfL)
  - Assessing the suitability and quality of current hospital transport arrangements
  - Providing clear information to patients and their families on travel options
  - Providing hotel accommodation for patients and their partners who need to travel further for treatment
  - Using technology to help patients and carers to stay in touch during a hospital stay

Listening to feedback – other issues

- **Patient choice** – while patient choice for specialist surgery would reduce, clinicians believe this would be outweighed by improved patient outcomes. However, specialist surgery is not always necessary. The majority of care, including less complex surgery, would continue to be provided at local urological units and GP surgeries, so patient choice would not be affected.
- **Support for concentrating specialist surgery, but debate on whether there should be one or two specialist centres** – *London Cancer* has published further information on the clinical evidence and produced a video to present the clinical perspective
- **Communication between local and specialist units / keeping local skills/training** – *London Cancer* has confirmed that clinicians would work across both specialist and local urological units in a networked model. Ambition is for clinicians to work as one team across the system.
- **Impact on other services** – whilst there are some co-dependencies (e.g. interventional radiology and emergency surgery), the recommendations made about urological cancer services are independent of other service reviews currently taking place. The requirements for each service will be considered on their own merits, based on improving the outcome and experience of patients.

Next steps

- Considering all feedback received and how we can address concerns raised
- Workshops with trusts to further understand how the proposals, if agreed, should be implemented
- Continuing to engage with local groups and to receive feedback on the proposals and discuss any concerns
- All feedback and final recommendations will be presented to NHS England for decisions on way forward.

Specialist urological cancer services

Recommendation making process

February 2013

Purpose

This paper outlines the process through which the *London Cancer* Board made a recommendation to its commissioners on the future location of its specialist urological cancer surgical services. The aim is to ensure that we provide the best urological cancer services that can be delivered within the available resources for our population.

Background

In early 2012 a *London Cancer* Urology Technical Group (a multi-professional group of clinicians and patients) drew up a service specification outlining the future requirements of local diagnostic and treatment units and specialist centres delivering the more complex aspects of care. The aim of this work was to ensure that both local units and specialist centres provide world class services for patients with suspected or proven urological cancers. This detailed specification took account of the recommendations of the London-wide Model of Care for cancer, published by NHS London in August 2010[*].

There was a large degree of consensus amongst the urology community that *London Cancer* should go beyond the recommendations of the Model of Care in order to provide services that are comparable in terms of clinical outcomes, research, and training opportunities with the best international centres. The clinical consensus was that this would best be achieved through consolidation of all of the complex surgery into a single team of specialists based at a single specialist centre for the provision of complex renal cancer surgery and a single specialist centre for complex bladder and prostate cancer surgery.

The Urology Pathway Board, which has invited full representation from all providers as well as patients and primary care, led the development of this vision and ambition. The service specification was endorsed by the independent *London Cancer* Board and published in **May 2012** after which there was a period of discussion and engagement.

Timeline

On **28 August 2012** *London Cancer* asked each trust within the integrated cancer system to make a preliminary and non-binding expression of its interest in providing local or specialist bladder and prostate and/or renal services in the future. Trusts were informed that this initial request was not yet a formal bidding process but was intended to assist *London Cancer* in understanding the capabilities, capacity and commitment of our partner organisations to provide care along the urology cancer pathway.

[*] NHS Commissioning Support for London, *A model of care for cancer services: Clinical paper*, August 2010 http://www.londonhp.nhs.uk/publications/cancer/

London Cancer received all expressions of interest by **1 October 2012**. All trusts currently providing urological cancer services expressed an interest in hosting local urological cancer units. The following trusts expressed an interest in hosting one or more of the specialist centres:

Specialist bladder and prostate cancer centre

- Barking, Havering and Redbridge University Hospitals NHS Trust (BHRUT)
- University College Hospitals NHS Foundation Trust (UCLH)

Specialist renal cancer centre

- Barking, Havering and Redbridge University Hospitals NHS Trust (BHRUT)
- Barts Health NHS Trust (BH)
- Royal Free London NHS Foundation Trust (RFL)

The expressions of interest were assessed against the service specification by the *London Cancer* central team on behalf of the *London Cancer* Board. Trusts were sent feedback on their expressions of interest on **10 October 2012**.

At this stage the *London Cancer* Board supported all expressions of interest in providing local urological units. With regard to the specialist centres, it supported UCLH's interest in hosting the specialist bladder and prostate cancer centre and supported the interest of both RFL and BH in hosting the renal cancer centre.

The *London Cancer* Board felt, on the basis of the information available to it, that BHRUT could not meet key parts of the specification for the co-dependencies of the specialist bladder-prostate cancer centre. Also, it noted that the trust would need to make substantial investment and relocation of services in order to meet the specialist renal cancer surgical centre specification and that the two other expressions of interest were much more developed against the specification. As such, the Board advised BHRUT that it was unable to support its continued expression of interest at this stage.

The expressions of interest were discussed by the *London Cancer* Medical Directors' Forum at a joint meeting with trust management leads, on **16 October 2012**. Agreement was reached that *London Cancer* should strive to achieve a clinically-led solution that made the best use of the available expertise and resources across the system. Trusts were therefore granted two months to develop a collaborative way forward.

The trusts originally interested in hosting a specialist centre were invited to provide a written response on the outcome of these clinical discussions by **7 December 2012**. At this stage:

- UCLH confirmed its interest in hosting the specialist bladder and prostate cancer centre
- No consensus had been reached on the location of the specialist renal centre and so both RFL and BH confirmed their continuing interest in hosting the centre
- BHRUT confirmed that it would not pursue its interest in hosting either the bladder and prostate or renal specialist centre and would not continue to advocate a two specialist centre model. The trust affirmed its commitment to working with the preferred centres when they were agreed. In this, BHRUT outlined its expectation that all of the specialist expertise across the system be harnessed and local units be supported by the specialist centres to deliver as much care as possible locally.

During the clinical discussions that happened at this time, led by the medical director of BHRUT, the commitment to the model of a single specialist centre for bladder and prostate cancer and a single specialist centre for renal cancer was reaffirmed as it harnessed to full effect the relationship between surgical volumes and outcomes. These discussions emphasised a number of requirements

for support to trusts providing local urological services for patients, some of whom may now have to travel further for some aspects of their specialist care:

- Local assessment and follow up should be the rule, with significant on-site presence of specialist expertise from the centre
- There should be clear joint job plans for all clinicians working at the specialist centre with the local centre they will continue to support
- Overall outcomes and individual outcomes should be tracked and managed closely to assure there are no unintended consequences over the period of transition and as the new system and pathways bed down
- The model of *London Cancer* which decentralises as much as possible to improve local access, improve recruitment to research and promote earlier presentation should be supported
- *London Cancer* should continually reassess whether local care is possible and only continue to centralise where necessary (according to best evidence).

These factors were therefore emphasised in developing the process for discriminating between the two trusts interested in hosting the specialist renal cancer centre and in the requirements for further detailed proposals from the only trust that retained an interest in hosting the specialist bladder and prostate centre, UCLH.

On **13 December 2012** a urology transport meeting was held between patient representatives, a member of the UCLH management team and the *London Cancer* central team. This meeting produced recommendations for the future specialist bladder and prostate centre and renal centre to consider when addressing patient transport.

On **14 December 2012** an external expert advisor to the *London Cancer* Board, Mr Michael Aitchison consultant urologist at NHS Greater Glasgow and Clyde, made a visit to the two trusts that retained an interest in hosting the specialist renal centre. The aim of this visit was to:

- Discuss the content and clinical detail of their expression of interest
- Encourage further dialogue between the trusts or reaffirm that there was no possibility of reaching clinical consensus about the best location of the specialist renal centre
- Discuss the specialist centre specification with both teams to ensure that it was clear and accepted by all.

The feedback from the external expert advisor on the renal cancer centre proposals was that, on the basis of his visit and the expression of interest documentation, he had not identified any objective clinical criteria that immediately favoured one site over the other.

Following further discussion at the *London Cancer* Medical Directors' Forum meeting on **18 December 2012**, trusts received written confirmation of the next steps on **19 December 2012**.

The further clinical discussions that took place over this period made it possible for the service specification to be improved and clarified by the Urology Pathway Directors and the Chief Medical Officer of *London Cancer*, particularly around the requirements of the specialist centres to support local units to maintain relevant clinical expertise close to home for patients. A new version of the service specification (version 2.0) was therefore issued at this stage. In order for the *London Cancer* Board to make a decision on the specialist centre sites it would recommend to commissioners, it asked that more detailed proposals be submitted using the updated specification and giving particular emphasis to seven key domains:

1. Plans for **leadership**
2. The **patient pathway**
3. **Joint working** across the system
4. Supporting **local services**
5. Patient and relative **transport**
6. Plans for **audit and outcomes** measurement
7. **Organisational capacity** to deliver the proposals

The three trusts that still wished to host a specialist centre (BH, RFL, UCLH) were asked to develop these detailed proposals by **21 January 2013**. This deadline was later extended to **30 January 2013** in the light of feedback from the trusts involved. Detailed proposals were received on this date from RFL and BH for renal cancer and from UCLH for bladder and prostate cancer.

On **4 February 2013** the Urology Pathway Board met to discuss the proposals. The members recognised that they all had conflicts of interest in expressing preference for the sites of the specialist centres.

These conflicts were noted and the Urology Pathway Board was therefore not asked to make any recommendations on the location of the specialist centres. Pathway Board members were instead encouraged to discuss in an open forum their individual views on the strengths and weaknesses of all three proposals. During the discussions, members of the Pathway Board were given an assessment framework that invited comments on the strength of submissions in each of the seven assessment domains. This was to enable them to also comment confidentially on the strengths and weaknesses of the proposed clinical service and its research capability. All views and comments expressed and submitted were collated to be conveyed to the *London Cancer* Board for consideration.

The *London Cancer* Board met on **6 February 2013** to assess the detailed submissions from UCLH, BH and RFL against the seven key domains. The views of the external expert advisor, Mr Michael Aitchison, were also taken into account. In addition, information about patient transport, the feedback from the public engagement meetings to date, and the feedback on clinical issues and partnership working from the Urology Pathway Board were provided, taking due account that members had acknowledged conflicts of interest.

***London Cancer* Board assessment framework and approach**

In assessing the relative merits of all three submissions covering the seven key domains, the *London Cancer* Board first ranked the seven assessment domains in order of importance and agreed that they fell into three broad groups. Leadership and organisational capacity were ranked as the two most important domains to ensure timely and successful delivery of the whole specification. The second rank included the domains concerning the delivery of a high quality patient pathway through joint working and support to local services. Whilst important, the Board agreed that, since either trust could reasonably be expected to address these during implementation, audit and patient transport should be weighted in the third rank with regard to the process of making a recommendation to commissioners on the site of specialist renal cancer surgery.

***London Cancer* Board assessment of the bladder and prostate submission**

The *London Cancer* Board agreed unanimously to recommend to commissioners that specialist bladder and prostate cancer surgery in *London Cancer* be sited at UCLH. It agreed that it would ask the UCLH team to work together with *London Cancer* to address the further detail required by holding a co-design workshop with representatives from across the system to develop the

pathway in March 2013. The areas requiring further detail are outlined in the feedback letter to their Chief Executive Officer.

***London Cancer* Board assessment of the renal submissions**

The *London Cancer* Board agreed that both the BH and RFL submissions were of high quality. The Board noted the external expert advisor's assurance that both submissions were clinically sound and that no objective *clinical* criteria immediately favoured one site over another. It also noted that the renal cancer experts in the system had expressed their commitment to working together wherever the specialist surgical centre was sited.

The *London Cancer* Board agreed that the RFL submission was significantly stronger and that there were sufficient differences between the two submissions to make a decision. These were provided in detailed feedback letters to the Chief Executive Officer of each trust. The *London Cancer* Board agreed unanimously to recommend to commissioners that the centre for specialist renal cancer surgery in *London Cancer* be sited at Royal Free London NHS Foundation Trust.

On **11 February 2013** the decision to make recommendations to commissioners on the future sites of the specialist bladder and prostate cancer surgical centre and the specialist renal cancer surgical centre were presented to the UCLP Executive Group meeting and the *London Cancer* Joint Development Group.

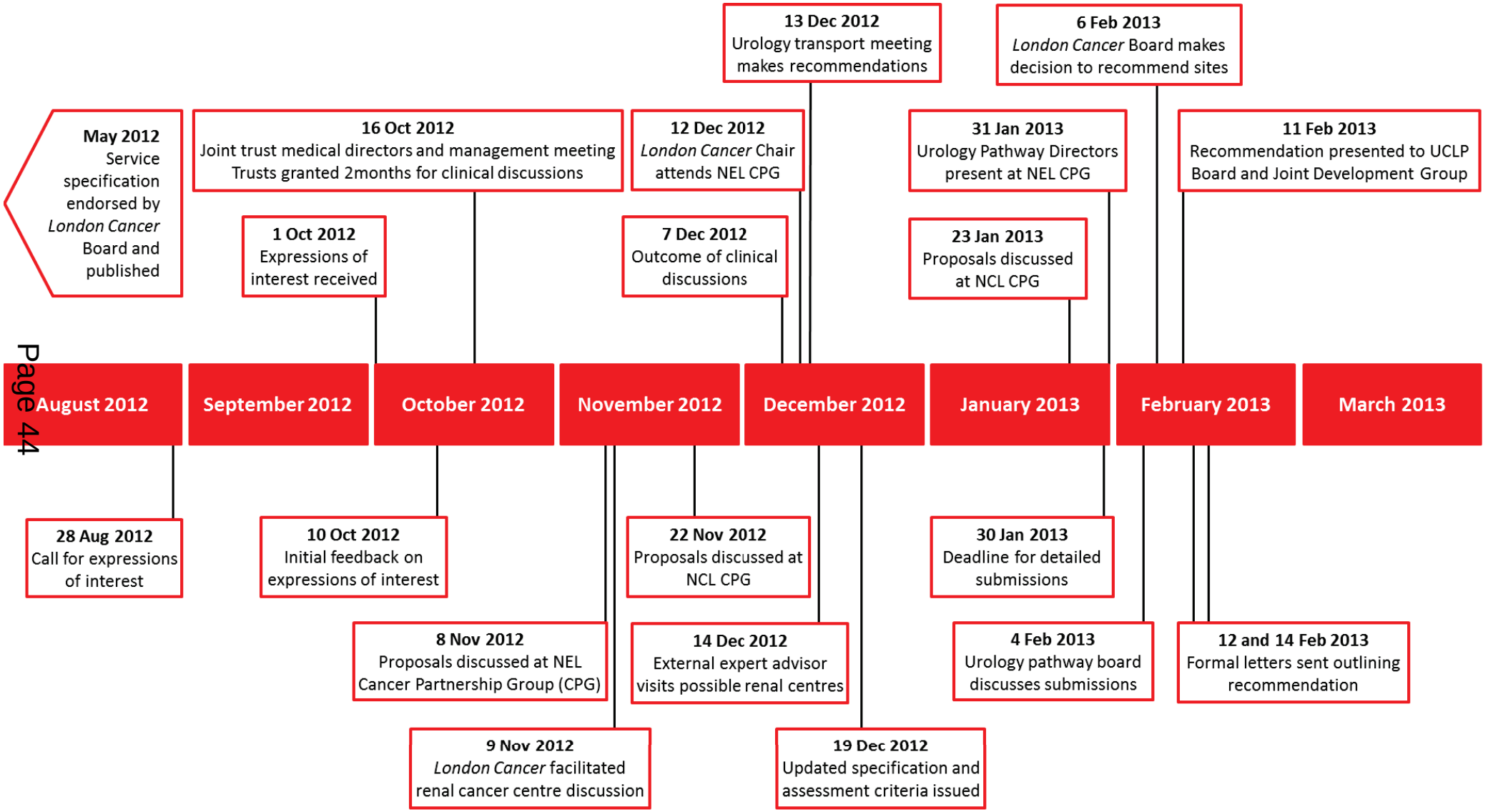
On **12 February 2013** written feedback letters were sent to the CEOs of the two trusts interested in hosting the specialist renal centre (RFL and BH).

On **14 February 2013** a written feedback letter was sent to the CEO of the trust interested in hosting the specialist bladder-prostate cancer centre (UCLH).

It was emphasised to all three trusts in this correspondence that that the public engagement process for urological cancer services is ongoing. Until this process is complete, although planning for change can continue and we would encourage this across the trusts, they should not make any irreversible changes to their specialist urological cancer services until the NHS Commissioning Board has considered and decided whether to agree our recommendations.

Over the coming weeks we will be working through the process of accreditation for both specialist centres and local urological diagnostic and treatment units should our proposals be supported by our commissioners. We will work with each specialist team to organise any necessary co-design workshops, including input from all relevant stakeholders. We will also need to agree the overall project planning arrangements that each trust proposes to put in place and the part that UCLPartners and *London Cancer* will play in the implementation process. If our proposals are supported by commissioners then we would anticipate full implementation by April 2014.

Detailed timeline



LONDON CANCER
NORTH AND EAST

Urological cancers
Why we need change

A case for change for specialist urological cancer surgical services

January 2013

Contents

Foreword

Across North East and North Central London and West Essex – a population of 3.5 million – around two people a day require complex surgery to treat kidney, bladder or prostate cancer[1]. These patients require specialist, once-in-a-lifetime surgery to give them the best chance of controlling their cancer and reducing the risk of long-term side effects.

We have a highly-skilled and experienced workforce, passionate and committed to delivering the best care to the populations that we serve. However, the way in which services are currently arranged does not maximise the delivery of the highest quality of care, research and training that we are capable of.

We want to change this.

We need to diagnose urological cancers earlier, whilst also improving the care and support of people who have finished their treatment and are either living with their cancer, in remission or recovery. We also need to change the way that we organise hospital care. National and international evidence demonstrates a clear link between higher surgical volumes and better patient outcomes.

Specialist radiotherapy and complex chemotherapy are already concentrated in a small number of specialist centres. We believe that the same should be true of specialist surgery for kidney, bladder and prostate cancers.

We believe that the creation of single specialist centres and high quality local units will provide our patients with high quality diagnostic and therapeutic care and expand opportunities to develop research that benefits patients. This would put us in a position to be among the best in the world – both in the quality of our care and the opportunities for patients to take part in research and access new treatments. We aim to make changes that will be durable for a generation to create a platform that can support future innovation.

Specialist centres would help put us among the best in the world

We know, however, that specialist treatment is only a small part of a urological cancer patient's care. The vast majority of patient care would always take place at local hospital units and GP surgeries.

Specialist treatment is only a small part of a urology patient's care

Patients tell us that, where they are cared for in different hospitals, they want their care to be joined up and to the same high standards wherever they are. We understand this and are committed to making it happen.

In this document we make the case for changing urological cancer services across North East and North Central London and West Essex and describe how we believe we can radically improve patient outcomes and patients' experience of care.

[1] 2010/11 complex surgery for kidney, bladder and prostate cancers

Our proposals build on an established clinical case for change – the *Model of Care for Cancer Services*[2]*, 2010* - a review of cancer care undertaken for the whole of London in 2009/10 by NHS Commissioning Support for London. This made a compelling argument to improve cancer services in the capital where access to and outcomes from cancer care were unequal and mortality rates from cancer were higher in London than the rest of the UK.

The *Model of Care* proposed integrated cancer systems as an organising principle for cancer care, and it set parameters for changes to cancer services that we are now acting on locally in North East and North Central London and West Essex. The review showed strong evidence that specialist hospitals and surgeons that treat more urological cancer patients achieve better outcomes for high risk surgical procedures and recommended that minimum thresholds for surgery be set. The review involved, engaged with, and received support from, clinicians, local authorities, patient and public representatives and other groups across London.

Developed by our partners across *London Cancer*, this case for change builds on the framework of the *Model of Care,* with the aim of bringing globally excellent cancer services to our patients in the most efficient and equitable way.

We welcome your views, feedback and comments on our recommendations for improving urological cancer surgical services.

Professor Mark Emberton and Mr John Hines
Urological Cancer Pathway Directors and Consultant Surgeons

1. Background

Over recent months, clinicians in north east and north central London and west Essex have been working together to consider how we can deliver the best possible urological cancer services that our local populations deserve.

Clinicians representing all the hospitals in the area – together with GPs, nurses, health professionals and patient representatives – have developed this case for change for how we believe we can achieve better outcomes for patients.

This case for change focuses on improving specialist surgery for urological cancer, specifically bladder and prostate cancer and kidney cancer, and the most specialist aspects of the surgical treatment.

[2] http://www.londonhp.nhs.uk/wp-content/uploads/2011/03/Cancer-model-of-care.pdf

2. Context: who's who

London Cancer

As a recommendation of the London-wide *Model of Care for Cancer Services*, the NHS cancer care providers of North East London, North Central London and West Essex are working together in an integrated cancer system known as *London Cancer*. *London Cancer*'s aim is to drive superior outcomes and experience for our patients and population of 3.5 million. *London Cancer* formed in April 2012.

London Cancer's aim is to make big improvements in cancer services. It will do this by giving clinicians the power to lead improvement programmes and placing patients' outcomes and experience at the heart of cancer care.

We want to work together to deliver big improvements

Representatives of the NHS trusts within *London Cancer* that provide urological cancer services are involved in developing these proposals:

- Barnet and Chase Farm Hospitals NHS Trust
- Barts Health NHS Trust
- Barking, Havering and Redbridge University Hospitals NHS Trust
- Homerton University Hospital NHS Foundation Trust
- North Middlesex University Hospital NHS Trust
- Princess Alexandra Hospital NHS Trust
- Royal Free London NHS Foundation Trust
- University College London Hospitals NHS Foundation Trust
- Whittington Health NHS Trust.

Urological cancer pathway board

The pathway board is responsible for improving urological cancer outcomes and patient experience for local people. The board is led by the cancer pathway directors and its constitution can be viewed on the London Cancer website[3].

Commissioners

NHS commissioners are responsible for ensuring that health and social care services meet the needs of the population. The cluster primary care trusts (PCTs) – NHS North East London and the City and NHS North Central London – are leading engagement on this case for change and the proposed model of care developed by *London Cancer*. From April 2013, the responsibilities of primary care trusts (PCTs) will transfer to the NHS Commissioning Board, clinical commissioning groups (CCGs) and local authorities (for public health).

NHS Commissioning Board

The NHS Commissioning Board (NHS CB) aims to improve health outcomes for people in England. As well as overseeing a comprehensive system of clinical commissioning groups (CCGs) with responsibility for commissioning the majority of services, the NHS CB directly commissions a range of primary and specialised services, including specialised cancer services.

[3] http://www.londoncancer.org/cancer-professionals/urological/urological-pathway-board-constitution/

Clinical commissioning groups
From April 2013, GPs, as a part of clinical commissioning groups (CCGs), will be responsible for ensuring local health services meet local needs – they will decide, for example, what local services are needed for patients and how care can be best organised. While the NHS CB will have responsibility for specialised services such as complex cancer surgery, CCGs across North East London, North Central London and West Essex will ensure that the whole cancer care 'pathway' delivers excellence for patients, from diagnosis to post-treatment support.

Local authorities
Local authorities will have new responsibilities for public health, prevention and health promotion. Public Health England will be established from April 2013 and aim to improve people's health and wellbeing.

3. Urological cancers

Bladder cancer
Around 400 cases of bladder cancer are diagnosed each year in our area. Bladder cancer becomes more common as people get older and is more common in men than in women. The symptoms of bladder cancer are blood in the urine and changes in urination. These are also the symptoms of a lot of other less serious diseases.

Eight out of 10 patients diagnosed have early bladder cancer. These early cancers are often limited in size and the degree to which they have spread. They can therefore be treated by relatively simple surgery that can take place in most hospitals.

A much smaller number of bladder cancers, less than 100 per annum, are more advanced and have spread further (metastasised). These often need to be treated with a combination of complex major surgery, radiotherapy and chemotherapy.

Prostate cancer
Prostate cancer is the most common cancer found in men – around 1,500 cases of prostate cancer are diagnosed locally each year. However, very complex surgery is only required by a small number of people. In 2010/11, 220 complex operations for prostate cancer took place across the *London Cancer* area.

Prostate cancer differs from most other cancers in that small areas of cancer in the prostate are very common and may stay inactive (benign) for many years.

Prostate cancer can cause changes in urination, but these symptoms are often subtle when compared to the same symptoms caused by the less serious changes to the prostate gland seen in all men as they get older.

There are many different treatment types and each have different benefits and different side effects. Treatment options include monitoring the cancer (known as active surveillance), treatment with radiotherapy or brachytherapy[4], hormone therapy or surgery.

[4] See glossary at the end of this document.

We know that sometimes a patient's treatment decision can be influenced by the facilities available at different hospitals and the approaches favoured by different teams.

Patients with any new diagnosis of cancer need to be given clear information and unbiased support in making the difficult decision on what course to follow. Due to the range of treatment options, this is particularly important for prostate cancer patients.

If initial treatment fails or if the cancer spreads then treatment focuses on hormone therapy and chemotherapy. These patients should be able to discuss treatment options, impact of treatments and clinical trials of new drugs.

Kidney cancer

Kidney cancer is relatively rare and is approximately twice as common in men as in women. Around 400 new cases of kidney cancer are diagnosed each year across north east and north central London and west Essex.

Kidney cancer is most commonly found incidentally while scanning patients for something else. It may also be picked up in outpatient clinics for people with the symptom of blood in their urine. There are relatively few treatment choices for kidney cancer and treatment is most often surgical.

Some surgical operations for kidney cancer are simple whereas others are very complex. All are becoming increasingly reliant on emerging technologies, such as keyhole (laparoscopic) surgery and robotically-assisted surgery.

Surgery should seek to save as much of the kidney as possible. A number of non-surgical treatment options also seek to do this.

If kidney cancer spreads then the aim of treatment is to control the cancer through new targeted therapies[5]. This often happens within clinical trials.

Other urological cancers

While other urological cancers such as penis and testicular cancers are not the focus of this case for change, there are some co-dependencies which we need to consider. For instance, a highly-specialised operation to treat widespread testicular cancer following chemotherapy is carried out by kidney cancer surgeons, so we will take this into account when proposing changes to kidney cancer services.

[5] See glossary at the end of this document.

4. Current services

Bladder and prostate cancer

Of around 1,900 cases of all prostate and bladder cancers diagnosed in *London Cancer* each year, only 350 patients require complex surgery. This is just under 1 in 5 of all patients (18%).

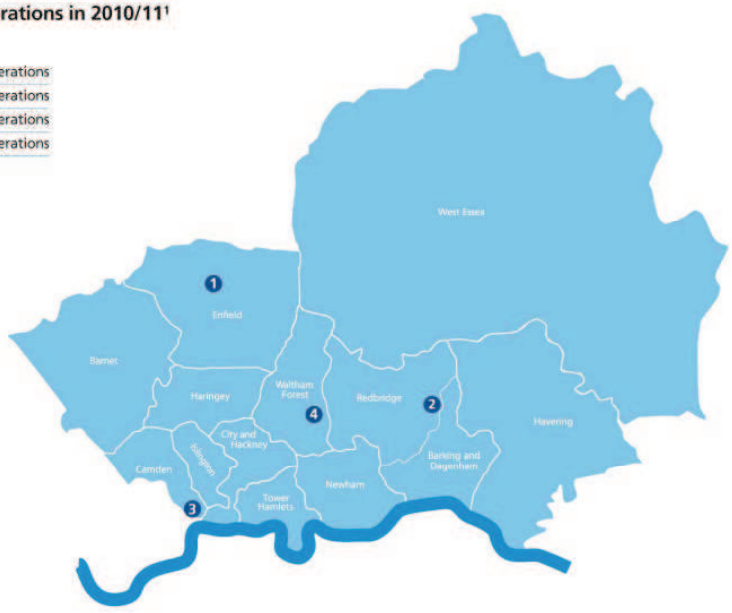
There are currently four bladder and prostate cancer surgical centres across North East and North Central London and West Essex[6]. Each centre serves a population of between 600,000 and 1 million. There are also a number of patients from other parts of London and south Hertfordshire who choose to have their complex pelvic procedure (to treat bladder and prostate cancer) at one of the *London Cancer* hospitals providing urological surgery.

In 2010/11, each surgical centre carried out between 54 and 89 complex operations – a total of 296. This total was made up of 220 operations for prostate cancer and 76 operations for bladder cancer.

We also believe that there are up to 50 bladder and prostate patients each year who do not get the complex surgery that they would benefit from. Our challenge is to ensure that everyone who needs specialist surgery should have access to appropriate surgery.

Complex bladder and prostate operations in 2010/11[1]

1	Chase Farm Hospital, Enfield	89 operations
2	King George Hospital, Ilford	82 operations
3	University College Hospital, Euston	71 operations
4	Whipps Cross Hospital, Leytonstone	54 operations



[1]Since 2010 a substantial number of Whipps Cross cases have taken place at University College Hospital (UCH) and since October 2012, by clinical agreement, Chase Farm cases have been operated on at UCH

[6]Since 2010, a substantial number of Whipps Cross cases have taken place at University College Hospital. Since October 2012, by clinical agreement, a temporary arrangement has been in place for Chase Farm patients to be operated on at University College London Hospital in response to an internal audit which demonstrated that optimal outcomes were not being achieved for some patients. This arrangement is not part of the review of urological cancer specialist services being led by *London Cancer*, but is a temporary local arrangement in response to clinical need.

Kidney cancer

Of around 400 new cases of kidney cancer diagnosed in *London Cancer* each year, 300 (75%) require surgery.

Across North East and North Central London and West Essex, complex kidney cancer surgery is provided in all nine hospitals that treat and care for adult urological cancer patients. In 2010/11, they each did between 10 and 72 operations – a total of 292 operations.

Kidney cancer operations in 2010/11

1	Chase Farm Hospital, Enfield	72 operations
2	King George Hospital, Ilford	54 operations
3	The Royal London, Whitechapel	50 operations
4	University College Hospital, Euston	36 operations
5	Whipps Cross Hospital, Leytonstone	26 operations
6	The Royal Free, Hampstead	24 operations
7	Newham University Hospital	10 operations
8	Princess Alexandra, Harlow	10 operations
9	Homerton University Hospital, Hackney	10 operations

5. Why we need change

National perspective

Whilst there have been significant improvements in cancer care in the UK over the past decade, there is further improvement needed to deliver world-class cancer services. While deaths from cancer have fallen, the UK still has a relatively high mortality rate.

National and international evidence demonstrates a clear link between higher surgical volumes and better patient outcomes. Specialist centres which have frequently practising specialist teams and full facilities, with high patient throughput, generally have better patient outcomes.

In 2002, the National Institute for Health and Clinical Excellence (NICE) published guidance on improving services for urological cancers[7] which recommended that patients with cancers that are less common or need complex treatment should be managed by specialist multidisciplinary teams in large hospitals or cancer centres.

[7]National Institute for Clinical Excellence, *Improving Outcomes in Urological Cancers:* The Manual, 2002

London perspective

The NHS body responsible for the whole of London reviewed cancer services in the capital in 2009/10[8].The review included an engagement process with key stakeholders and patient groups from across London and made a compelling argument for the need to improve cancer services in London. The review showed that access to and outcomes from cancer care were unequal across the city and that mortality rates from cancer were higher in London than the rest of the UK.

Londoners report a poorer experience of cancer services than other areas of England, and services are not always organised to deliver the best outcomes for patients. Despite having the highest population density, London has one of the smallest average catchment populations per hospital for all services. This means that hospitals in London are not able to take full advantage of the advances in medical care and economies of scale as specialist staff, facilities, and patients are spread across a relatively large number of hospitals.

"[A] number of London hospitals seeing a low volume of bladder and prostate cancer patients. [It] is clear that Londoners are not currently being provided the world-class service they deserve."
Review of services across the whole of London

The review showed that there was evidence that specialist hospitals and surgeons that treat more urological cancer patients achieve better outcomes for high risk surgical procedures and recommended that minimum thresholds for surgery be set.

This London-wide review made wide ranging proposals for increasing early diagnosis, improving hospital care and taking a new approach to patients living with cancer. The proposals said that common treatments should be available locally to patients, but that specialist surgery should be concentrated.

For bladder and prostate cancer this ambition led to three specific surgical recommendations:

- That a maximum of five hospitals across the whole of London should provide complex bladder and prostate surgery[9]
- That each surgical centre should serve a population of at least two million
- That these centres should carry out a minimum of 100 operations for complex bladder and prostate cancer a year.

For kidney cancer, the clinical papers that form the London guidance concluded that the management of renal malignancies should be confined to specialist urology multi-disciplinary teams.

Engagement on the London-wide case for change and model of care[10] was held between August and October 2010. This involved clinicians, local authorities, patient and public representatives and other groups from across London. Letters were sent to 1,600 GP practices across the capital and a further 1,100 stakeholders were informed by email. A stakeholder event was attended by 80 delegates and proposals were met with a high degree of support. Many groups including LINks, local authority overview and scrutiny committees,

[8] NHS Commissioning Support for London, *Cancer Services: Case for Change*, 2009; *A Model of Care for Cancer Services*, 2010
[9] At the time there were more than 10 bladder and prostate centres across London, four in the *London Cancer* area.
[10] http://www.londonhp.nhs.uk/wp-content/uploads/2011/03/Cancer-engagement-report.pdf

GPs and clinical boards received presentations. Over 200 individual responses to a survey were received, and the overall level of support expressed for the proposals was mostly positive. As an indication of the breadth of engagement, the website itself received over 4,000 hits during the engagement process.

Local perspective

Clinicians across North East London, North Central London and West Essex believe a more ambitious approach is required to deliver the world-class services that our populations deserve.

The way that things are organised does not allow us to provide the best care for our patients

There is clear evidence that surgeons performing high volumes of surgery have better patient outcomes. Therefore, we believe that consolidating complex surgery in fewer specialist centres would provide the best outcomes for our patients. **Our proposal is to provide complex surgery for bladder and prostate cancer in one specialist centre and complex surgery for kidney cancer in one specialist centre.** These centres will be part of a well-defined pathway for patients that begins with all patients being diagnosed and assessed at their local hospital by teams whose members form part of the specialist centre. Only those patients who could benefit from complex treatments would need to travel to the specialist centre. Our proposal is to bring as much of the specialist expertise as possible (in terms of discussing treatment options and supported decision making) to be available to patients through their local unit/team.

This would benefit patients through reducing the risk of incontinence and post-operative complications. It would ensure that we can maximise the use of latest technologies and research breakthroughs, whilst also contributing effectively to the research effort – improving the quality of life and care not just for our own population but more widely.

Why one specialist centre?

Clinicians have considered the configuration of specialist services to deliver the best possible outcomes for patients. The *Model of Care* has set the framework and the values for these proposals, and reflecting on this established clinical case for change, clinicians believe that there should be one specialist centre for bladder and prostate cancer and one specialist centre for kidney cancer for North Central, East London and West Essex.

Currently many hospitals are undertaking small amounts of surgery. There is overwhelming international evidence that for complex procedures, such as major cancer surgery, a higher volume of patients results in fewer complications, shorter lengths of stay and better outcomes for patients. Research shows that as volumes of patients increase, outcomes for patients improve. This means that the more patients treated, the better the outcomes for patients.

A large team is required to deliver surgical excellence. A single specialist centre would make it easier to ensure that patients receive care from health professionals with specialist expertise. This is because we could more easily sustain a critical mass of health professionals with specialist expertise to look after patients during and after their surgery and to have joint appointments with or rotate through local hospitals. A single surgical centre would have the volumes to invest in skills, technology and research, maximising the use of the most advanced techniques and facilities, such as robotics.

For complex procedures, training of specialist nurses, surgeons and fellows is more likely to be achieved through one large centre. A world class centre would also attract the most talented staff, increasing the skill of the team, and be more visible to industry partners and international expert peers. These staff would bring their expertise to patients at every step of their pathway, as they will be part of the combined multi-disciplinary teams at the specialist centre and local units.

A single specialist centre would make it easier and more affordable to support the routine use of molecular pathology in diagnosis and tissue banking[11] to support research. It would also help to co-ordinate access to clinical trials.

6. How we can improve services

Earlier diagnosis and better support

We need to work with our colleagues in the NHS and outside to diagnose urological cancers earlier. Earlier diagnosis of bladder and prostate cancer would help to improve survival rates and access to care.

We will test innovative ideas, like giving GPs access to one-stop clinics for people with blood in their urine, so they can receive a definitive diagnosis more quickly. We will also seek opportunities to work with our medical colleagues outside of cancer care on joint screening programmes to help us find cancer and other serious health problems earlier.
We need to provide better information to patients and carers to help them make decisions about their treatment options. This is particularly important for prostate cancer for which there are a range of treatment options.

People would have support and care that is appropriate and convenient

During and after treatment we need to make sure that people are offered support, care and rehabilitation that is appropriate and convenient to them and is delivered as close to their homes as possible.

Specialist services

Currently, our hospitals services are not organised to deliver the best possible outcomes for patients. We believe that all complex surgery for bladder and prostate cancer and kidney cancer should be performed in one specialist centre for bladder and prostate cancer (performing around 350 operations a year) and one specialist centre for kidney cancer (performing around 300 operations a year).

A specialist centre for kidney cancer should also perform an estimated 100 operations for non-cancerous disease which are currently being carried out across all of the hospitals in *London Cancer*. Again, this is supported by the evidence that the more surgery that a hospital does, the better its outcomes are likely to be.

This would mean that single clinical teams would treat a sufficient number of patients so that they could make continuous improvements. Clinicians believe that this would put us among the best in the world for clinical quality and outcomes from urological cancer care.

[11]See glossary at the end of this document.

Specialist centres would also mean that surgeons have access to cutting-edge equipment and are surrounded by a multidisciplinary team comprising all the right types of highly-skilled clinicians and support staff.

Surgeons have the right equipment, can continuously improve, and are surrounded by a highly-skilled team

The specialist centres would need to have strong links to high-quality local urology units to enable high quality, seamless patient care. Staff at the local units and the specialist centre would be part of the same multi-disciplinary team, bringing specialist expertise to patients along the whole pathway.

Specialist centres would also provide a focus for research and clinical trials and enable excellence in training and education. Improvements in treatments, and in the advice that we are able to give patients on their treatment decision, rely on research and clinical trials. We believe that every patient with a new diagnosis of urological cancer should be offered the opportunity to participate in clinical research. We would therefore ensure that local urological cancer units were enabled to enrol and identify patients for clinical trials.

Teaching and training of urology teams would take place at both the specialist centre and local units.

Local units

Local units would continue to have a significant role in caring for patients with urological cancers. They would provide all diagnostic tests, most elements of treatment, the majority of post-treatment follow-up, and ongoing care and rehabilitation. They would continue to be the first point of contact for early specialist advice required by GPs and would work with primary care and support patients in their follow up. The types of surgery which would be undertaken at a local urology unit and specialist centre are provided at appendix 1.

The medical and nursing care in local units would be to the same high standard as that in the specialist centre. Doctors would work jointly in both the specialist and local units to make sure that patients experience continuous excellent care.

All existing urology units which meet standards of care would continue to provide local services.

7. The patient pathway

Specialist treatment is only a small part of a urological cancer patient's care. The vast majority of patient care would always take place at local hospital units and GP surgeries, and there would be no change in the referral patterns of GPs.

Patients with suspected urological cancer would be referred to a local unit by their GP where they would access a comprehensive diagnostic service led by a consultant urological surgeon linked to the specialist centre.

If a patient is diagnosed with urological cancer, a local multidisciplinary team would review their case in detail with the broadest range of specialists across the area. The team would aim to provide them with clear information about their condition and support them in making a decision about treatment. All local units across *London Cancer* would give patients the same

high-quality, consistent information and would include a member of the specialist centre team. *London Cancer* will take the lead role in ensuring this through standards audits.

A large number of patients, particularly those with prostate cancer, would receive all of their care at a local unit and would never go to the specialist centre.

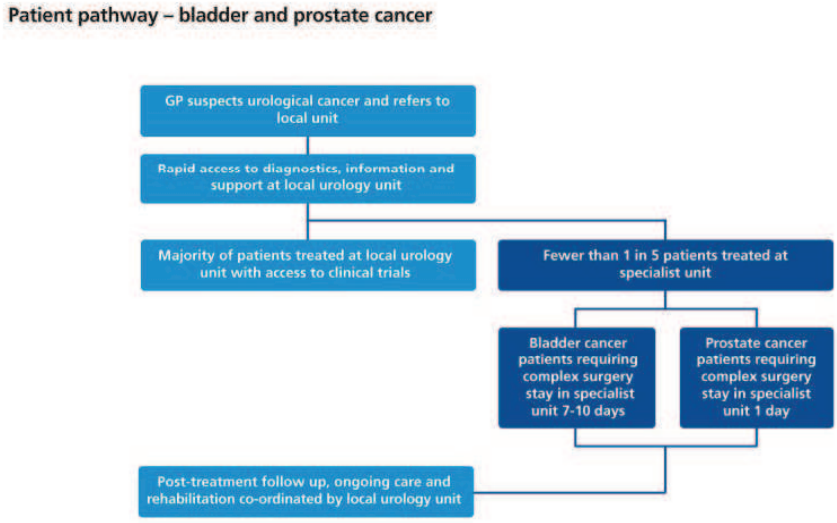
Some patients would be advised by the multidisciplinary team that they need to go to a specialist centre for their surgical treatment or radiotherapy, should they choose these treatment options. In these cases, local units would will share with the treatment centre all of the relevant information that they have about the patient's care to date, including all the diagnostic tests already carried out.

Following treatment at a specialist centre, patients would return to the care of their local unit as soon as it is appropriate to do so.

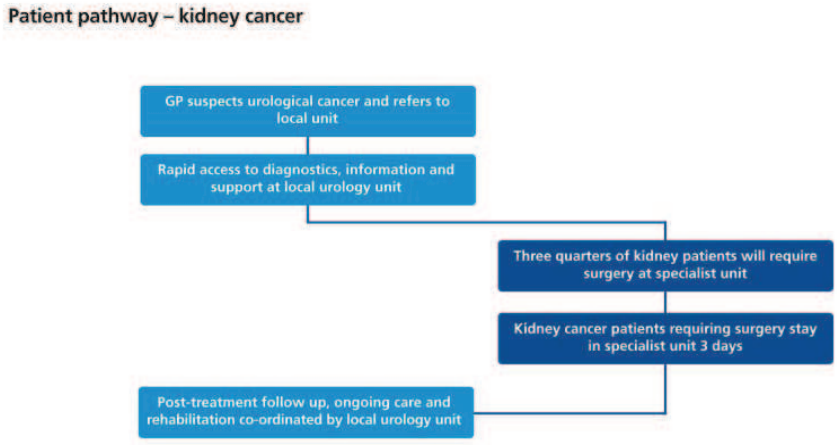
Most prostate cancer patients would be able to leave a specialist centre the day after complex surgery. Bladder cancer patients would need to stay in a specialist centre between seven to 10 days, due to the nature of the surgery. Kidney cancer patients would be able to leave a specialist centre and return to the care of their local unit around three days after complex surgery.

The local urology unit would carry out any subsequent treatments, as well as most of the ongoing care that patients require. Urological consultant specialists would work locally to oversee this care.

The team of staff at the specialist centre and local units would work together as a co-ordinated network, taking collective responsibility for each patient's care pathway. Clinicians involved in the changes would have a joint contract between the specialist centre and their current hospital, ensuring that local expertise is maintained and developed. The proposals would result in more joined up research, improved quality assurance and opportunities for service improvement across the whole patient pathway.



Clinicians work across both local and specialist urological units



Clinicians work across both local and specialist urological units

8. What this means for patients

Bladder and prostate cancer

The vast majority of bladder and prostate cancer patients would continue to receive their care at an existing local urology unit. Standards of care would improve at these units, ensuring that patients receive high quality care no matter where they are.

For the 350 patients per year who need once-in-a-lifetime surgery, they would receive world-class care in a specialist unit with access to the most advanced techniques and facilities from a highly-skilled multidisciplinary team.

Patients would have the best chance of surviving their cancer and have reduced risk of incontinence and post-operative complications.

The proposals would bring further advantages for patients in terms of having access to new treatments, such as bladder reconstruction, and rapidly emerging research, such as the use of artificial bladders.

Kidney cancer

For the 300 patients per year who need kidney cancer surgery, and 100 patients per year who need non-malignant kidney surgery, they would receive world-class care in a specialist unit with access to the most advanced techniques and facilities from a highly-skilled multidisciplinary team.

While kidney cancer is relatively rare, the majority of patients require surgery. Currently, nine hospitals in *London Cancer* perform small amounts of surgery.

Patients would have a better chance of reduced complications and risk of incontinency, following their specialist surgery. This would help to improve the quality of life for kidney cancer patients.

Travel and patient choice

We are committed to only asking patients to travel further when it is absolutely necessary for them to receive specialist care. Specialising complex urological cancer surgery in fewer hospitals would mean an increase in travel times for some patients and a reduction in the choice of hospitals providing this type of surgery. However, clinicians believe that the proposals would greatly enhance our ability to deliver the highest quality care and better outcomes for patients.

Many patients are already travelling for their treatment. Some would have to travel further but only when it is absolutely necessary

We estimate that around 200 to 250 bladder and prostate cancer patients requiring complex surgery (11% - 13% of all bladder and prostate cancer patients) per year would need to travel to a different hospital for their surgery. For kidney cancer, we estimate that around 220 to 270 patients per year would need to travel to a different hospital for their surgery. Clinicians believe that the benefits of reduced risk of post-operative complications and reduced risk of long-term incontinence far outweighs any inconvenience in further travel to receive the very best specialist care.

Many patients are already bypassing their local hospital to go to a hospital providing urological cancer surgery. Greater specialisation would increase the distances that some patients would need to travel. We will consider the impact on travel for patients and carers as we develop firm proposals for transforming urological cancer care. Patient groups are providing views on the travel implications for these proposals. Among the options being considered are improved car parking and taxi services for those in need.

9. Expected benefits

The expected benefits of the proposals are:

- Improvements in outcomes for patients having specialist surgery for urological cancers, both in the short and longer-term. A critical mass of urological cancer patients will mean that each surgeon carries out enough operations each year to continuously improve.
- Surgeons have access to the most up-to-date equipment and are supported by an expert team containing all of the right types of highly-skilled staff.
- As well as specialist surgery, the specialist centres will be able to deliver the most up-to-date radiotherapy, chemotherapy and targeted therapies. Shared/standardised methods will be based on best practice across the clinical teams.
- Delivery of services which are more productive and efficient through the minimisation of duplication and waste, in particular, to address the inefficient use of consultant time due to supporting a multi-site urological surgical service.
- Patients would experience a better co-ordinated pathway of care as doctors would work jointly in both the specialist and local units.
- The service is able to better attract national and international clinical staff to work in the specialty and offer higher quality clinical training to junior doctors and other health professionals.

10. Locations

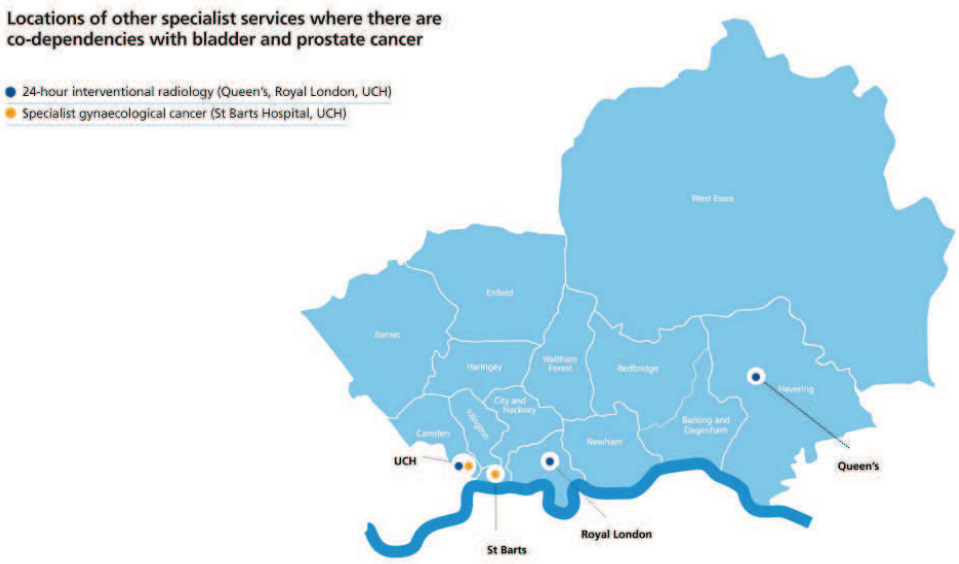
Clinicians have considered where there could be benefits in co-locating bladder and prostate cancer or kidney cancer specialist units with other services.

Bladder and prostate cancer

A specialist centre for bladder and prostate cancer would need to be in the same hospital as a small number of other key services to make sure that patients have the best and safest possible surgery.

The specialist centres for kidney cancer and bladder and prostate cancer need not be in the same hospital but each should be located with other key services

Surgery for bladder and prostate cancer patients can have serious complications. The bladder and prostate specialist centre needs access to 24-hour interventional radiology as well as to pelvic emergency surgery. Clinicians would also want to co-locate the bladder and prostate cancer centre in a hospital which has specialist gynaecological cancer surgery. This is more important than being in the same place as kidney cancer surgery.



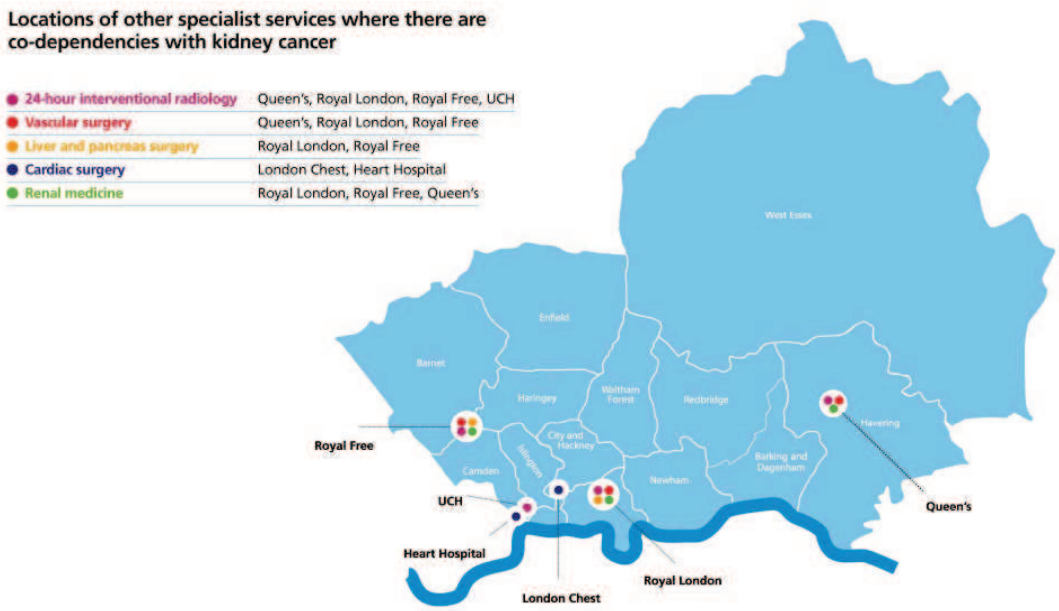
Kidney cancer

Kidney cancer surgery is very complex and there can be serious complications. Surgery should take place near services such as 24-hour interventional radiology and vascular surgery so that they can respond to critical life threatening complications (such as haemorrhage).

The kidneys are close to other organs so kidney cancer surgery should ideally be carried out in a hospital with liver and pancreas surgeons. Kidney cancer can spread through blood vessels to the heart; the ability to enlist specialist assistance of a cardiac surgeon during surgery can be vital and life-saving.

Kidney cancer surgery should also take place in a hospital that has renal medicine and dialysis facilities; some patients will need their kidneys to be supported by dialysis during and after their surgery.

Being near these services is more important for kidney cancer surgery than being in the same hospital as prostate and bladder surgeons.

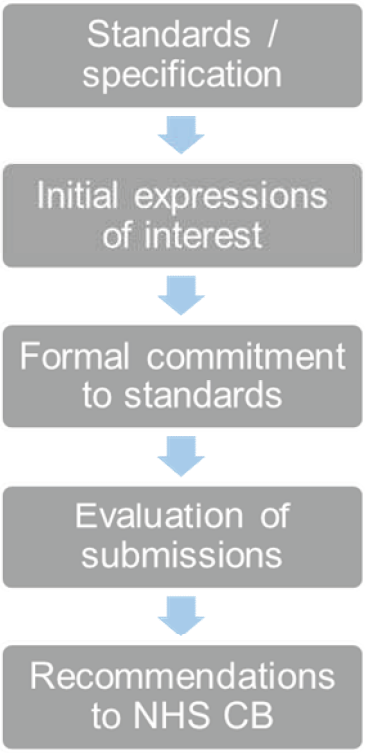


Process for identifying recommended locations

A group of doctors, nurses and patients from across *London Cancer* has developed a clear specification and standards for the care that we would expect from local and specialist units caring for bladder and prostate and kidney cancer patients[12].

London Cancer has started discussions with NHS hospital trusts currently providing urological cancer surgical services about how they could work together to implement the proposed model of care for North Central and North East London and West Essex. Expressions of interest have been submitted by hospital providers that are committed to delivering the criteria set out in the urological cancer service specification.

For the specialist centres, initial expressions of interest for prostate and bladder cancer surgery were received from University College London Hospitals NHS Foundation Trust and Barking, Havering and Redbridge University Hospitals NHS Trust (BHRUT). Following discussions and wide clinical engagement in December, only University College London Hospital submitted a formal commitment to provide the specialist centre for bladder and prostate surgery.



[12] London Cancer, *Service specification for urological cancers*, 2012

Initial expressions of interest for specialist kidney cancer surgery were received from BHRUT, Barts Health NHS Trust and The Royal Free London NHS Foundation Trust. Following discussions and wide clinical engagement in December, two trusts have formally expressed an interest in providing specialist kidney cancer surgery. Clinicians are continuing to discuss the preferred locations of centres, taking into account the required standards to meet the specification and locations of other key services to make sure that patients have the best and safest possible surgery.

On the basis of these expressions of interest, recommendations are being developed by *London Cancer* to commissioners of cancer services. Further information about the recommendations will follow in February.

No decisions will be made until after wider engagement has taken place to understand views on the proposed model of care for urological cancer services. Following engagement, decisions will be made by the NHS Commissioning Board and will be based on which hospitals are best placed to provide truly world class service in future.

11. How will we know that things are better?

To be a specialist or local urological cancer unit, hospitals would need to commit to meeting the standards required. We would need to be absolutely sure that the changes that we introduce make things better.

To do this, we will measure the quality of our care prior to any changes being implemented, and at intervals during and after any changes.

Clinicians will be developing, together with patients, GPs and commissioners, a series of metrics against which improvements to care can be measured and regularly reported on.

12. Next steps

This case for change document builds on the framework of the *Model of Care* and outlines ideas for how we believe we can improve services for bladder, prostate and kidney cancers.

We are now sharing this case for change with local patient and public representatives, local authorities, clinicians and other groups. We welcome any views or feedback on our ideas for improving services.

We are sharing our recommendations and seek your views

We are holding a series of engagement events between January and March 2013 which will be an opportunity for clinicians, patients and the public and local groups to discuss the recommendations and have their say. We will also formally discuss the recommendations with clinical commissioning groups and health overview and scrutiny committees. Following discussion with local stakeholders, clinicians will consider feedback from engagement and then finalise their recommendations for change.

If you would like to get involved, please email cancer@elc.nhs.uk

Glossary

Brachytherapy

A type of internal radiotherapy, which involves putting a solid radioactive material close to, or inside, the tumour.

Dialysis

A form of treatment in which a machine replicates many of the kidney's functions.

Interventional radiology

Techniques that rely on the use of x-ray images to guide treatment.

Molecular pathology

Use of molecular and genetic approaches to identify and classify tumours through examining molecules within organs, tissues or bodily fluids.

Multidisciplinary team

A group of doctors, nurses and others with expertise in a specific cancer, who together, discuss and manage an individual patient's care at diagnosis and other times.

Renal medicine

The medical specialty dealing with kidney function and diseases.

Specialist or complex surgery

A technical procedure that's difficult to learn and hard to sustain. Cystectomy and prostatectomy are examples of urological surgery that is complex.

Targeted therapies

Drugs or other substances that block the growth and spread of cancer by interfering with specific molecules involved in tumour growth and progression.

Tissue banking

Live tissue taken from tumours during surgery, for the purposes of medical research and education.

Urology

The medical specialty concerned with the urinary system in males and females and the reproductive system in males.

Vascular surgery

The surgical specialty concerned with the blood vessels.

Appendix 1: Service specification for surgery for prostate, bladder and kidney cancers

The following table outlines which elements of urological cancer surgery are proposed to be centralised in the specialist centres, and which surgery will take place in the local units. Note that this is small element of the whole patient pathway.

Pelvic (bladder and prostate) cancers

POINT IN THE SURGICAL PATHWAY	LOCAL PROSTATE/BLADDER UNIT	SPECIALIST PROSTATE/BLADDER CENTRE(S)
Assessment	• Carries out pre-operative assessment	
Treatment for prostate cancer	• Carries out trans-urethral resection of the prostate (TURP) • Does not carry out radical prostatectomies (removal of prostate)	• Carries out radical prostatectomies (removal of prostate) • Pelvic lymph node surgery • Capacity for robotic surgery
Treatment for bladder cancer	• Trans-urethral resection carried out by nominated surgeons only • Does not carry out radical cystectomies (removal of bladder)	• Carries out radical cystectomies (removal of bladder) and bladder substitution • Pelvic lymph node surgery • Carries out bladder reconstruction • Small number of benign cystectomies • Capacity for robotic surgery

Renal (kidney) cancers

POINT IN THE SURGICAL PATHWAY	LOCAL RENAL UNIT	SPECIALIST RENAL SURGERY CENTRE(S)
Assessment	• Carries out pre-operative assessment	
Treatment of T1 and T2 disease*	• Does not carry out partial nephrectomies (surgery that spares part of the affected kidney) or nephro-ureterectomies • May carry out some radical nephrectomies (removal of kidney) as agreed by specialist MDT and performed by specialist surgeons (i.e. those treating T3 and T4 disease at specialist centre)	• Carries out appropriate surgery, including all nephron-sparing surgery (surgery that spares part of the affected kidney); partial nephrectomies and nephro-ureterectomies, with specialist team • Benign renal surgery, renal pelvis surgery, ureteric surgery • Capacity for robotic surgery
Treatment of T3 and T4 disease*	Carries out palliative treatments only	• Carries out appropriate surgery with specialist team • Retroperitoneal lymph node dissection for testicular cancer • Radical Nephrectomies • Capacity for robotic surgery

T1, T2, T3 and T4 disease relates to the stage of the cancer (the size and spread). T1 is generally early stage cancer, and T4 is advanced.

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Specialist urological cancer centres

The clinical evidence

INTRODUCTION

The purpose of this paper is to summarise the clinical evidence base that supports the case for change being made for urological cancer services in north central and north east London. The case for change can be found on *London Cancer*'s website here. Whilst it is by no means an exhaustive search of the literature, it does show that there is a broad evidence base in support of the changes to services that are being proposed, that demonstrates improved outcomes related to both higher surgeon as well as higher hospital volumes. Abstracts from the journals are attached, with a summary of their key findings in the paragraphs below. These have been organised to show:

- A general volume-outcome relationship in surgery
- A volume-outcome relationship in cancer surgery
- A volume-outcome relationship in urological surgery, renal and bladder
- A volume-outcome relationship in prostate cancer surgery, both for robotic assisted radical prostatectomy and open radical prostatectomy.

For further information, please contact *London Cancer* by email at contact@londoncancer.org or by telephone on 020 3108 2334.

1. The volume-outcome relationship

Since the 1970s studies have been examining the effect that the number of procedures that surgeons carry out has on the risk of death of the patients that they operate on. One study from 1979 noted that the mortality rates associated with some surgical procedures decreased with increasing number of operations and suggested that the data supported the value of centralisation by region for certain operations[1]. Since then the relationship between the number of patients operated on by a surgeon each year ('surgical volumes'), the number of patients operated on at a hospital each year ('hospital volumes'), and the outcomes of operations for the patients has been a rich vein of research.

2. The volume-outcome relationship in cancer

A study from the late 1990s supported the hypothesis that when complex cancer operations are provided by surgical teams in hospitals with specialty expertise, mortality rates are lower[2].

A 2000 review of the literature in this area shows that most support a positive volume outcome relationship in initial cancer treatment[3]. It concluded that the literature suggests that, for all forms of cancer, efforts to concentrate its care would be appropriate.

A systematic review from 2002 concluded that high hospital and surgeon volumes are associated with better outcomes across a wide range of procedures, including cancer surgery[5].

Another review of the literature, this time in 2005, noted that high-volume providers have significantly better outcomes for complex cancer surgery[8].

A US analysis of trends concluded that increasing hospital and surgeon volumes explain much of the decline over time in inpatient mortality for five of the six cancer operations studied[9]. This study recommended that concentrating cancer resections among high-volume providers should lead to further reduction in inpatient mortality.

A 2008 study, again from the US, revealed large disparities in perioperative mortality between lowest- and highest-volume centers[11]. It concluded that there were a large number of potentially avoidable deaths each year, if outcomes at low-volume hospitals were improved to the level of highest volume centres. The study concluded that there were significant lessons to be learned from the way that high-volume hospitals care for patients in the perioperative period but did not advocate consolidation into high volume centres.

A recent study on the effect of volume on survival concluded that, after adjusting for differences in the case mix, cancer patients treated by low-volume surgeons in low-volume hospitals had poorer 5-year survival rates[29].

3. The volume-outcome relationship in urological cancer

A 2004 systematic review concluded that outcomes after radical prostatectomy and cystectomy are on average likely to be better if these procedures are performed by and at high volume providers[6]. This review found the evidence for a similar effect in radical nephrectomy unclear.

A separate review in 2004 stated that the evidence that high volume hospitals have better outcomes from various types of urological cancer surgery was increasing[7]. It concluded that the ultimate implication of these studies was that centralising health care may yield better outcomes from urological cancer operations. It noted that this would be controversial and suggested that another approach would be to determine key factors that are the drivers behind better outcomes at high-volume centres and attempt to transfer those characteristics to lower-volume centres.

A recent study from 2012 concluded that higher volume surgeons perform partial nephrectomy more often, show a lower complication rate and may have a lower in-hospital mortality rate than lower volume surgeons[24].

Another study from last year, this time into bladder cancer, concluded that ninety-day cumulative mortality after cystectomy for bladder cancer was significant and may be associated with hospital cystectomy volume[21].

A further study from 2012 stated that after adjustment for patient and disease characteristics, the relationship between surgeon volume and survival after radical cystectomy is accounted for by hospital volume[25]. It concluded that, in contrast, hospital volume remained an independent predictor of survival, suggesting that structure and process characteristics of high volume hospitals drive long-term outcomes after radical cystectomy.

The overwhelming majority of the literature on the effect of the volume-outcome relationship in urological cancer is with regard to radical prostatectomy.

4. The volume-outcome relationship in radical prostatectomy (RP)

A 2000 US study concluded that hospital volumes are inversely related to in-hospital mortality, length of stay and total hospital charges after radical prostatectomy[4].

A study from 2007 noted that as a surgeon's experience increases, cancer control after radical prostatectomy improves, and speculated that this was because of improved surgical technique[10].

A study the following year concluded that increasing hospital and surgeon volume were associated with a decreased risk of most complications after radical prostatectomy[12].

A review of the literature published in 2008 stated that higher provider volumes are associated with better outcomes after radical prostatectomy[13]. It advocated a greater understanding of factors leading to this volume-outcome relationship, and research into the potential benefits and harms of increased regionalisation.

In 2009, a study was published that concluded that increasing surgical experience was associated with substantial reductions in cancer recurrence after laparoscopic radical prostatectomy, but that improvements in outcome seemed to accrue more slowly than for open surgery[14].

An international multicentre study concluded that the learning curve for surgical margins after laparoscopic radical prostatectomy reaches a plateau at approximately 200 to 250 cases[16]. It also noted that prior open experience and surgeon generation did not improve the margin rate, suggesting that the rate was primarily a function of specifically laparoscopic training and experience.

An English study from 2010 showed a significant inverse correlation between provider volume (hospital and surgeon) and outcome (in-hospital mortality and hospital stay) for radical prostatectomy[17]. It concluded that this supported the centralisation of care for complex radical procedures, including radical prostatectomy.

A 2010 review concluded that, across multiple outcome metrics, there is a pervasive association between higher hospital radical prostatectomy case volume and improved outcomes[18]. It suggested that increasing individual surgeon volume may also portend better outcomes, not only perioperatively, but even with respect to long-term cancer control and urinary function. The authors noted that the studies reviewed showed an impressive magnitude of effect and demonstrated an impact on outcome that was proportional to surgical volume.

A study in a single hospital institution showed that significant heterogeneity in functional outcomes existed between surgeons after RP[19]. It showed that, contrary to hypothesis, functional preservation does not appear to come at the expense of cancer control; rather, both are related to surgical quality.

A study of RP at academic versus non-academic institutions showed that, even after adjusting for annual hospital caseload, radical prostatectomy performed at academic institutions is associated with better outcomes than radical prostatectomy performed at non-academic institutions[20].

A European study from 2012 showed that patients undergoing robotic assisted RP compared with open RP were less likely to receive a blood transfusion, to experience an intraoperative complication or a postoperative complication, or have a prolonged length of stay[22].

A head to head comparison of the effect of hospital volume versus surgeon volume on outcomes following RP showed that both are strongly correlated with postoperative outcomes following RP[23]. The study suggested however that hospital volume matters more than surgical volume, especially for older and sicker individuals, who are at high-risk of complications.

A US comparison of robotic assisted RP (RARP) versus open RP (ORP) showed that overall robotic assisted RP patients experienced lower rates of adverse outcomes than open RP patients[26]. It concluded that across equivalent volume quartiles, robotic assisted RP outcomes were generally favourable. Nonetheless, it also concluded that low volume institutions (average 26.2 RARP and 5 ORP cases) experienced inferior outcomes relative to very high volume centres (average 579 RARP and 151 ORP cases) irrespective of approach.

A 2012 study on the effect of surgeon and hospital volume on RP costs showed that selective referral to high volume radical prostatectomy surgeons operating at intermediate and high volume hospitals nets significant cost savings[27]. However, higher radical prostatectomy hospital volume was associated with greater costs for low and intermediate volume radical prostatectomy surgeons.

In addition, a further 2012 US study concluded that higher volume hospitals showed fewer complications and lower costs than low volume hospitals on a national basis[28]. It concluded that these findings supported referral to high volume centres for robot-assisted laparoscopic radical prostatectomy to decrease complications and costs.

1	**Should Operations be Regionalized? The Empirical Relation between Surgical Volume and Mortality**
Author(s)	Harold S. Luft, PhD, John P. Bunker, MD, and Alain C. Enthoven, PhD
Journal	The New England Journal of Medicine 1979;301:1364–1369
Filename	1979_NEJM_Luft et al
Abstract	This study examines mortality rates for 12 surgical procedures of varying complexity in 1498 hospitals to determine whether there is a relation between a hospital's surgical volume and its surgical mortality. The mortality of open-heart surgery, vascular surgery, transurethral resection of the prostate, and coronary bypass decreased with increasing number of operations. Hospitals in which 200 or more of these operations were done annually had death rates, adjusted for case mix, 25 to 41 per cent lower than hospitals with lower volumes. For other procedures, the mortality curve flattened at lower volumes. For example, hospitals doing 50 to 100 total hip replacements attained a mortality rate for this procedure almost as low as that of hospitals doing 200 or more. Some procedures, such as cholecystectomy, showed no relation between volume and mortality. The results may reflect the effect of volume or experience on mortality, or referrals to institutions with better outcomes, as well as a number of other factors, such as patient selection. Regardless of the explanation, these data support the value of regionalization for certain operations.

2	**Impact of hospital volume on operative mortality for major cancer surgery**
Author(s)	Begg CB, Cramer LD, Hoskins WJ, Brennan MF
Journal	The Journal of the American Medical Association, November 25, 1998 – Vol 280, No. 20
Filename	1998_JAMA_Begg et al
Abstract	Context: Hospitals that treat a relatively high volume of patients for selected surgical oncology procedures report lower surgical in-hospital mortality rates than hospitals with a low volume of the procedures, but the reports do not take into account length of stay or adjust for case mix. Objective: To determine whether hospital volume was inversely associated with 30-day operative mortality, after adjusting for case mix. Design AND SETTING: Retrospective cohort study using the Surveillance, Epidemiology, and End Results (SEER)-Medicare linked database in which the hypothesis was prospectively specified. Surgeons determined in advance the surgical oncology procedures for which the experience of treating a larger volume of patients was most likely to lead to the knowledge or technical expertise that might offset surgical fatalities. Patients: All 5013 patients in the SEER registry aged 65 years or older at cancer diagnosis who underwent pancreatectomy, esophagectomy, pneumonectomy, liver resection, or pelvic exenteration, using incident cancers of the pancreas, esophagus, lung, colon, and rectum, and various genitourinary cancers diagnosed between 1984 and 1993. Main outcome measure: Thirty-day mortality in relation to procedure volume, adjusted for comorbidity, patient age, and cancer stage. Results: Higher volume was linked with lower mortality for pancreatectomy (P=.004), esophagectomy (P<.001), liver resection (P=.04), and pelvic exenteration (P=.04), but not for pneumonectomy (P=.32). The most striking results were for esophagectomy, for which the operative mortality rose to 17.3% in low-volume hospitals, compared with 3.4% in high-volume hospitals, and for pancreatectomy, for which the corresponding rates were 12.9% vs 5.8%. Adjustments for case mix and other patient factors did not change the finding that low volume was strongly associated with excess mortality. Conclusions: These data support the hypothesis that when complex surgical oncologic procedures are provided by surgical teams in hospitals with specialty expertise, mortality rates are lower.

3	**Hospital and Physician Volume or Specialization and Outcomes in Cancer Treatment: Importance in Quality of Cancer Care**
Author(s)	Bruce E. Hillner, Thomas J. Smith, and Christopher E. Desch
Journal	Journal of Clinical Oncology, Vol 18, No 11 (June), 2000: pp 2327-2340
Filename	2000_JCO_Hillner et al
Abstract	Purpose: To conduct a comprehensive review of the health services literature to search for evidence that hospital or physician volume or specialty affects the outcome of cancer care. Methods: We reviewed the 1988 to 1999 MEDLINE literature that considered the hypothesis that higher volume or specialization equals better outcome in processes or outcomes of cancer treatments. Results: An extensive, consistent literature that supported a volume-outcome relationship was found for cancers treated with technologically complex surgical procedures, eg, most intra-abdominal and lung cancers. These studies predominantly measured in-hospital or 30-day mortality and used the hospital as the unit of analysis. For cancer primarily treated with low-risk surgery, there were fewer studies. An association with hospital and surgeon volume in colon cancer varied with the volume threshold. For breast cancer, British studies found that physician specialty and volume were associated with improved long-term outcomes, and the single American report showed an association between hospital volume of initial surgery and better 5-year survival. Studies of nonsurgical cancers, principally lymphomas and testicular cancer, were few but consistently showed better long-term outcomes associated with larger hospital volume or specialty focus. Studies in recurrent or metastatic cancer were absent. Across studies, the absolute benefit from care at high-volume centers exceeds the benefit from break-through treatments. Conclusion: Although these reports are all retrospective, rely on registries with dated data, rarely have predefined hypotheses, and may have publication and self-interest biases, most support a positive volume outcome relationship in initial cancer treatment. Given the public fear of cancer, its well-defined first identification, and the tumor-node-metastasis taxonomy, actual cancer care should and can be prospectively measured, assessed, and benchmarked. The literature suggests that, for all forms of cancer, efforts to concentrate its initial care would be appropriate.

4	The Effect of Hospital Volume on Mortality and Resource Use After Radical Prostatectomy
Author(s)	Lars M. Ellison, John A. Heaney and John D. Birkmeyer
Journal	The Journal of Urology Vol. 163, 867–869, March 2000
Filename	2000_JUrol_Ellison et al
Abstract	Purpose: The value of radical prostatectomy for patients with prostate cancer depends on low morbidity and mortality. We assessed whether patient outcome is associated with how many of these procedures are performed at hospitals yearly. Materials and Methods: Using the Nationwide Inpatient Sample, which is a stratified probability sample of American hospitals, we identified 66,693 men who underwent radical prostatectomy between 1989 and 1995. Cases were categorized into volume groups according to hospital annual rate of radical prostatectomies performed, including low—fewer than 25, medium—25 to 54 and high—greater than 54. We performed multivariate logistic regression to control for patient characteristics when assessing the associations of hospital volume, in-hospital mortality and resource use. Results: Overall adjusted in-hospital mortality after radical prostatectomy was relatively low (0.25%). However, patients at low volume centers were 78% more likely to have in-hospital mortality than those at high volume centers (adjusted odds ratio 1.78, 95% confidence interval 1.7 to 2.6). Overall length of stay decreased at all hospitals between 1989 and 1995. However, average length of stay was longer and total hospital charges were higher at low than at high volume centers (7.3 versus 6.1 days, p <0.0001, and $15,600 versus $13,500, p <0.0001, respectively). Conclusions: Hospital volumes inversely related to in-hospital mortality, length of stay and total hospital charges after radical prostatectomy. Further study is necessary to examine the association of hospital volume with other important outcomes, including incontinence, impotence and long-term patient survival after radical prostatectomy.

5	Is Volume Related to Outcome in Health Care? A Systematic Review and Methodologic Critique of the Literature
Author(s)	Ethan A. Halm, MD, MPH; Clara Lee, MD, MPP; and Mark R. Chassin, MD, MPP, MPH
Journal	Annals of Internal Medicine 2002;137:511-520
Filename	2002_AIM_Halm et al
Abstract	Purpose: To systematically review the methodologic rigor of the research on volume and outcomes and to summarize the magnitude and significance of the association between them. Data Sources: The authors searched MEDLINE from January 1980 to December 2000 for English-language, population-based studies examining the independent relationship between hospital or physician volume and clinical outcomes. Bibliographies were reviewed to identify other articles of interest, and experts were contacted about missing or unpublished studies. Study Selection: Of 272 studies reviewed, 135 met inclusion criteria and covered 27 procedures and clinical conditions. Data Extraction: Two investigators independently reviewed each article, using a standard form to abstract information on key study characteristics and results. Data Synthesis: The methodologic rigor of the primary studies varied. Few studies used clinical data for risk adjustment or examined effects of hospital and physician volume simultaneously. Overall, 71% of all studies of hospital volume and 69% of studies of physician volume reported statistically significant associations between higher volume and better outcomes. The strongest associations were found for AIDS treatment and for surgery on pancreatic cancer, esophageal cancer, abdominal aortic aneurysms, and pediatric cardiac problems (a median of 3.3 to 13 excess deaths per 100 cases were attributed to low volume). Although statistically significant, the volume–outcome relationship for coronary artery bypass surgery, coronary angioplasty, carotid endarterectomy, other cancer surgery, and orthopedic procedures was of much smaller magnitude. Hospital volume–outcome studies that performed risk adjustment by using clinical data were less likely to report significant associations than were studies that adjusted for risk by using administrative data. Conclusions: High volume is associated with better outcomes across a wide range of procedures and conditions, but the magnitude of the association varies greatly. The clinical and policy significance of these findings is complicated by the methodologic shortcomings of many studies. Differences in case mix and processes of care between high- and low-volume providers may explain part of the observed relationship between volume and outcome.

6	**A Systematic Review and Critique of the Literature Relating Hospital or Surgeon Volume to Health Outcomes for 3 Urological Cancer Procedures**
Author(s)	Martin Nuttall, Jan Van Der Meulen, Nirree Phillips, Carlos Sharpin, David Gillatt, Gregor Mcintosh and Mark Emberton
Journal	The Journal of Urology Vol. 172, 2145–2152, December 2004
Filename	2004_JUrol_Nuttall et al
Abstract	Purpose: We performed a systematic review and critique of the literature of the relationship between hospital or surgeon volume and health outcomes in patients undergoing radical surgery for cancer of the bladder, kidney or prostate. Materials and Methods: Four electronic databases were searched to identify studies that describe the relationship between hospital or surgeon volume and health outcomes. Results: All included studies were performed in North America. A total of 12 studies were found that related hospital volume to outcomes. For radical prostatectomy and cystectomy all 8 included studies showed improvement in at least 1 outcome measure with increasing volume and never deterioration. For nephrectomy the 4 included studies produced conflicting results. Four studies were found that related surgeon volume to outcomes. All radical prostatectomy and cystectomy studies showed that some outcomes were better with higher surgeon volume and never deterioration. We did not find any studies of the effect of surgeon volume on outcomes after nephrectomy. The 3 studies of the combined effect of hospital and surgeon volume on outcomes after radical prostatectomy or cystectomy suggest that high volume hospitals have better outcomes, in part because of the effect of surgeon volume and vice versa. Conclusions: Outcomes after radical prostatectomy and cystectomy are on average likely to be better if these procedures are performed by and at high volume providers. For radical nephrectomy the evidence is unclear. The impact of volume based policies (increasing volume to improve outcomes) depends on the extent to which “practice makes perfect” explains the observed results. Further studies should explicitly address selective referral and confounding as alternative explanations. Longitudinal studies should be performed to evaluate the impact of volume based policies

7	The Volume/Outcome Relationship in Urologic Cancer Surgery
Author(s)	Fadi N. Joudi, Badrinath R. Konety
Journal	Supportive Cancer Therapy, Volume 2, Number 1 , October 2004
Filename	2004_SCT_Joudi & Konety
Abstract	There is growing evidence in the literature of the association between higher hospital and surgeon volume and better outcomes from high-risk surgical procedures. A Medline search of the literature from 1966 to 2004 was performed using the keywords “outcome,” “urology,” “neoplasms,” “volume,” “hospital volume,” “surgeon volume,” “prostatectomy,” “cystectomy,” “nephrectomy,” “prostate cancer,” “bladder cancer,” “kidney cancer,” and “testis cancer.” The relevant articles were reviewed and discussed in reference to each urologic cancer. Several studies have shown that higher hospital volume is associated with better outcomes for all urologic cancer surgeries. An association between postoperative mortality/morbidity and hospital and surgeon volumes was established. Individual surgeon volume is also a predictor of the quality and completeness of certain procedures such as radical prostatectomy. Long-term survival from cancer such as testicular cancer can be impacted by provider and institution volume. The evidence that high volume hospitals have better outcomes from various types of urologic cancer surgery is increasing. The ultimate implication of these studies is that centralizing health care may yield better outcomes from urologic cancer surgeries. This is controversial and will have major health policy implications. Another approach would be to determine key factors that are the drivers behind better outcomes at high-volume centers and attempt to transfer those characteristics to lower-volume centers, thereby improving outcomes globally across all volume levels.

8	Provider volume and outcomes for oncological procedures
Author(s)	S.D. Killeen, M. J.O'Sullivan, J. C. Coffey,W.O. Kirwan and H. P. Redmond
Journal	British Journal of Surgery 2005; 92: 389–402
Filename	2005_BJS_Killeen et al
Abstract	Background: Oncological procedures may have better outcomes if performed by high-volume providers. Methods: A review of the English language literature incorporating searches of the Medline, Embase and Cochrane collaboration databases was performed. Studies were included if they involved a patient cohort from 1984 onwards, were community or population based, and assessed health outcome as a dependent variable and volume as an independent variable. The studies were also scored quantifiably to assess generalizability with respect to any observed volume–outcome relationship and analysed according to organ system; numbers needed to treat were estimated where possible. Results: Sixty-eight relevant studies were identified and a total of 41 were included, of which 13 were based on clinical data. All showed either an inverse relationship, of variable magnitude, between provider volume and mortality, or no volume–outcome effect. All but two clinical reports revealed a statistically significant positive relationship between volume and outcome; none demonstrated the opposite. Conclusion: High-volume providers have a significantly better outcome for complex cancer surgery, specifically for pancreatectomy, oesphagectomy, gastrectomy and rectal resection.

9	Trends in Hospital and Surgeon Volume and Operative Mortality for Cancer Surgery
Author(s)	Vivian Ho, PhD, Martin J. Heslin, MD, Huifeng Yun, MSc, and Lee Howard, BS
Journal	Annals of Surgical Oncology, 13(6): 851)858
Filename	2006_ASO_Ho et al
Abstract	Background: We measured 13-year trends in operative mortality for six cancer resections. We then examined whether these trends are driven by changes in hospital and surgeon volume or by changes that occurred among all providers, regardless of volume. Methods: We analyzed administrative discharge data on patients who received one of six cancer resections in Florida, New Jersey, and New York for three time periods: 1988 to 1991, 1992 to 1996, and 1997 to 2000. Descriptive statistics and nested regression models were used to test for changes in the association between inpatient mortality and annual hospital and annual surgeon volume over time, adjusting for patient and hospital characteristics. Results: Unadjusted inpatient mortality rates for the six cancer resections declined between .8 and 4.0 percentage points between the time periods 1988 to 1991 and 1997 to 2000. Over this time period, annual hospital and surgeon volumes for the six cancer operations increased an average of 24.3% and 24.2%, respectively. The logistic regressions indicated a relatively stable relationship over time between both increased hospital and surgeon volume and lower inpatient mortality. Simulations suggest that increases in hospital and surgeon procedure volume over time led to a reduction in inpatient mortality ranging from .1 percentage points for rectal cancer to 2.3 percentage points for pneumonectomy. Conclusions: Persistence of the volume-outcome relation and increasing hospital and surgeon volumes explain much of the decline over time in inpatient mortality for five of the six cancer operations studied. Concentrating cancer resections among high-volume providers should lead to further reduced inpatient mortality.

10	The Surgical Learning Curve for Prostate Cancer Control After Radical Prostatectomy
Author(s)	Andrew J . Vickers , Fernando J . Bianco , Angel M . Serio , James A . Eastham , Deborah Schrag , Eric A . Klein , Alwyn M . Reuther , Michael W . Kattan , J. Edson Pontes , Peter T . Scardino
Journal	Journal of the National Cancer Institute Vol. 99, Issue 15, August 1, 2007
Filename	2007_JNCI_Vickers et al
Abstract	Background: The learning curve for surgery — i.e., improvement in surgical outcomes with increasing surgeon experience — remains primarily a theoretical concept; actual curves based on surgical outcome data are rarely presented. We analyzed the surgical learning curve for prostate cancer recurrence after radical prostatectomy. Methods: The study cohort included 7765 prostate cancer patients who were treated with radical prostatectomy by one of 72 surgeons at four major US academic medical centers between 1987 and 2003. For each patient, surgeon experience was coded as the total number of radical prostatectomies performed by the surgeon before the patient ' s operation. Multivariable survival – time regression models were used to evaluate the association between surgeon experience and prostate cancer recurrence, defined as a serum prostate specific antigen (PSA) of more than 0.4 ng/mL followed by a subsequent higher PSA level (i.e., bio - chemical recurrence), with adjustment for established clinical and tumor characteristics. All P values are two-sided. Results: The learning curve for prostate cancer recurrence after radical prostatectomy was steep and did not start to plateau until a surgeon had completed approximately 250 prior operations. The predicted probabilities of recurrence at 5 years were 17.9% (95% confidence interval [CI] = 12.1% to 25.6%) for patients treated by surgeons with 10 prior operations and 10.7% (95% CI = 7.1% to 15.9%) for patients treated by surgeons with 250 prior operations (difference = 7.2%, 95% CI = 4.6% to 10.1%; P <.001). This finding was robust to sensitivity analysis; in particular, the results were unaffected if we restricted the sample to patients treated after 1995, when stage migration related to the advent of PSA screening appeared largely complete. Conclusions: As a surgeon's experience increases, cancer control after radical prostatectomy improves, presumably because of improved surgical technique. Further research is needed to examine the specific techniques used by experienced surgeons that are associated with improved outcomes.

11	Directing Surgical Quality Improvement Initiatives: Comparison of Perioperative Mortality and Long-Term Survival for Cancer Surgery
Author(s)	Karl Y. Bilimoria, David J. Bentrem, Joseph M. Feinglass, Andrew K. Stewart, David P. Winchester, Mark S. Talamonti, and Clifford Y. Ko
Journal	Journal of Clinical Oncology 26:4626-4633, 2008
Filename	2008_JClinOnc_Bilimoria et al
Main conclusion	Purpose: Quality-improvement initiatives are being developed to decrease volume-based variability in surgical outcomes. Resources for national and hospital quality-improvement initiatives are limited. It is unclear whether quality initiatives in surgical oncology should focus on factors affecting perioperative mortality or long-term survival. Our objective was to determine whether differences in hospital surgical volume have a larger effect on perioperative mortality or long-term survival using two methods. Patients and Methods: From the National Cancer Data Base, 243,103 patients who underwent surgery for nonmetastatic colon, esophageal, gastric, liver, lung, pancreatic, or rectal cancer were identified. Multivariable modeling was used to evaluate 60-day mortality and 5-year conditional survival (excluding perioperative deaths) across hospital volume strata. The number of potentially avoidable perioperative and long-term deaths were calculated if outcomes at low-volume hospitals were improved to those of the highest-volume hospitals. Results: Risk-adjusted perioperative mortality and long-term conditional survival worsened as hospital surgical volume decreased for all cancer sites, except for liver resections where there was no difference in survival. When comparing low- with high-volume hospitals, the hazard ratios for perioperative mortality were substantially larger than for long-term survival. However, the number of potentially avoidable deaths each year in the United States, if outcomes at low-volume hospitals were improved to the level of highest volume centers, was significantly larger for long-term survival. Conclusion: Although the magnitude of the hazard ratios implies that quality-improvement efforts should focus on perioperative mortality, a larger number of deaths could be avoided by focusing quality initiatives on factors associated with long-term survival.
Other conclusions	There are large disparities in perioperative mortality between lowest- and highest-volume centers. This implies that there are significant lessons that can be learned from the way high-volume hospitals care for patients in the perioperative period. The differences in long-term survival between high- and low-volume hospitals may appear marginal when examining the hazard ratios; however, we found that the absolute number of potentially avoidable deaths was considerably larger long-term. Thus, small improvements in factors affecting long term outcomes will potentially affect a larger number of patients and save more lives. Rather than regionalizing or centralizing care for all complex cancer resections, identifying hospital structural characteristics and processes of care affecting outcomes and transference to low-volume centers represents a mechanism to improve outcomes for most cancer resections at lower-volume hospitals

12	Impact of hospital and surgeon volume on mortality and complications after prostatectomy
Author(s)	Alibhai SM, Leach M, Tomlinson G.
Journal	The Journal of Urology 2008 Jul;180(1):155-62
Filename	2008_JUrol_Alibhai et al
Abstract	Purpose: It remains controversial whether short-term surgical complications after radical prostatectomy can be decreased by increasing surgeon or hospital procedural volume. We determined whether hospital or surgeon volumes impacted various short-term surgical complications. Materials and methods: We examined in-hospital mortality and complications following radical prostatectomy in all 25,404 men who underwent this surgery across 8 provinces in Canada between 1990 and 2001. Bayesian multilevel logistic regression models were used, adjusting for patient age, comorbidity, surgery year, and hospital and surgeon volume, while accounting for clustering by surgeon and hospital. Results: Overall 50 men (0.2%) died and 5,087 (20.0%) had 1 or more in-hospital complications following surgery. In models adjusted for age, comorbidity and surgery year hospital volume was associated with in-hospital mortality ($p = 0.037$). In adjusted models doubling hospital volume was associated with a decreased risk of any, cardiac, respiratory, vascular, genitourinary, miscellaneous medical and miscellaneous surgical complications (each $p < 0.001$), although not wound/bleeding complications ($p = 0.40$). Similarly doubling surgical volume was associated with a decreased risk of any, respiratory, wound/bleeding, genitourinary, miscellaneous medical and miscellaneous surgical complications (each $p < 0.01$), although not cardiac and vascular complications ($p = 0.58$ and 0.17, respectively). Adjustment for clustering led to nonsignificant effects of hospital volume on miscellaneous surgical complications, and of surgeon volume on miscellaneous medical and miscellaneous surgical complications. However, this did not alter other findings. Conclusions: Increasing hospital and surgeon volume are associated with a decreased risk of most complications after radical prostatectomy even after adjusting for the effects of clustering.

13	**Association Between Hospital and Surgeon Radical Prostatectomy Volume and Patient Outcomes: A Systematic Review**
Author(s)	Timothy J. Wilt, Tatyana A. Shamliyan, Brent C. Taylor, Roderick MacDonald and Robert L. Kane
Journal	The Journal of Urology Vol. 180, 820-829, September 2008
Filename	2008_JUrol_Wilt et al
Abstract	Purpose: We examined the association between hospital and surgeon volume, and patient outcomes after radical prostatectomy. Materials and Methods: Databases were searched from 1980 to November 2007 to identify controlled studies published in English. Information on study design, hospital and surgeon annual radical prostatectomy volume, hospital status and patient outcome rates were abstracted using a standardized protocol. Data were pooled with random effects models. Results: A total of 17 original investigations reported patient outcomes in categories of hospital and/or surgeon annual number of radical prostatectomies, and met inclusion criteria. Hospitals with volumes above the mean (43 radical prostatectomies per year) had lower surgery related mortality (rate of difference 0.62, 95% CI 0.47–0.81) and morbidity (rate difference 9.7%, 95% CI 15.8, 3.6). Teaching hospitals had an 18% (95% CI 26, 9) lower rate of surgery related complications. Surgeon volume was not significantly associated with surgery related mortality or positive surgical margins. However, the rate of late urinary complications was 2.4% lower (95% CI 5, 0.1) and the rate of long-term incontinence was 1.2% lower (95% CI 2.5, 0.1) for each 10 additional radical prostatectomies performed by the surgeon annually. Length of stay was lower, corresponding to surgeon volume. Conclusions: Higher provider volumes are associated with better outcomes after radical prostatectomy. Greater understanding of factors leading to this volume-outcome relationship, and the potential benefits and harms of increased regionalization is needed.

14	The surgical learning curve for laparoscopic radical prostatectomy: a retrospective cohort study
Author(s)	Andrew J Vickers, Caroline J Savage, Marcel Hruza, Ingolf Tuerk, Philippe Koenig, Luis Martínez-Piñeiro, Gunther Janetschek, Bertrand Guillonneau
Journal	Lancet Oncology 2009; 10: 475–80
Filename	2009_LancetOnc_Vickers et al
Abstract	Background: We previously reported the learning curve for open radical prostatectomy, reporting large decreases in recurrence rates with increasing surgeon experience. Here we aim to characterise the learning curve for laparoscopic radical prostatectomy. Methods: We did a retrospective cohort study of 4702 patients with prostate cancer treated laparoscopically by one of 29 surgeons from seven institutions in Europe and North America between January, 1998, and June, 2007. Multivariable models were used to assess the association between surgeon experience at the time of each patient's operation and prostate-cancer recurrence, with adjustment for established predictors. Findings: After adjusting for case mix, greater surgeon experience was associated with a lower risk of recurrence (p=0·0053). The 5-year risk of recurrence decreased from 17% to 16% to 9% for a patient treated by a surgeon with 10, 250, and 750 prior laparoscopic procedures, respectively (risk difference between 10 and 750 procedures 8·0%, 95% CI 4·4–12·0). The learning curve for laparoscopic radical prostatectomy was slower than the previously reported learning curve for open surgery (p<0·001). Surgeons with previous experience of open radical prostatectomy had significantly poorer results than those whose first operation was laparoscopic (risk difference 12·3%, 95% CI 8·8–15·7). Interpretation: Increasing surgical experience is associated with substantial reductions in cancer recurrence after laparoscopic radical prostatectomy, but improvements in outcome seem to accrue more slowly than for open surgery. Laparoscopic radical prostatectomy seems to involve skills that do not translate well from open radical prostatectomy.

15	Variation in Hospital Mortality Associated with Inpatient Surgery
Author(s)	Amir A. Ghaferi, M.D., John D. Birkmeyer, M.D., and Justin B. Dimick, M.D., M.P.H.
Journal	The New England Journal of Medicine 2009;361:1368-75
Filename	2009_NEJM_Ghaferi et al
Abstract	Background: Hospital mortality that is associated with inpatient surgery varies widely. Reducing rates of postoperative complications, the current focus of payers and regulators, may be one approach to reducing mortality. However, effective management of complications once they have occurred may be equally important. Methods: We studied 84,730 patients who had undergone inpatient general and vascular surgery from 2005 through 2007, using data from the American College of Surgeons National Surgical Quality Improvement Program. We first ranked hospitals according to their risk-adjusted overall rate of death and divided them into five groups. For hospitals in each overall mortality quintile, we then assessed the incidence of overall and major complications and the rate of death among patients with major complications. Results: Rates of death varied widely across hospital quintiles, from 3.5% in very-low-mortality hospitals to 6.9% in very-high-mortality hospitals. Hospitals with either very high mortality or very low mortality had similar rates of overall complications (24.6% and 26.9%, respectively) and of major complications (18.2% and 16.2%, respectively). Rates of individual complications did not vary significantly across hospital mortality quintiles. In contrast, mortality in patients with major complications was almost twice as high in hospitals with very high overall mortality as in those with very low overall mortality (21.4% vs. 12.5%, P<0.001). Differences in rates of death among patients with major complications were also the primary determinant of variation in overall mortality with individual operations. Conclusions: In addition to efforts aimed at avoiding complications in the first place, reducing mortality associated with inpatient surgery will require greater attention to the timely recognition and management of complications once they occur.
Other conclusions	The ability to effectively rescue a patient from a complication relies on two distinct points of intervention: the timely recognition of a complication and the effective management of that complication. The former relies on an efficient, collaborative team with established and effective systems of communication. In addition to timely recognition, the effective management of complications is also crucial. This management includes multiple complex processes, including the timely administration of antibiotics in patients with sepsis, the rapid transfer of a patient to an intensive care unit (ICU), and the availability of interventional cardiologists during an acute myocardial infarction.

16	The Learning Curve for Laparoscopic Radical Prostatectomy: An International Multicenter Study
Author(s)	Fernando P. Secin, Caroline Savage, Claude Abbou, Alexandre de La Taille, Laurent Salomon, Jens Rassweiler, Marcel Hruza, François Rozet, Xavier Cathelineau, Gunther Janetschek, Faissal Nassar, Ingolf Turk, Alex J. Vanni, Inderbir S. Gill, Philippe Koenig, Jihad H. Kaouk, Luis Martinez Pineiro, Vito Pansadoro, Paolo Emiliozzi, Anders Bjartell, Thomas Jiborn, Christopher Eden, Andrew J. Richards, Roland Van Velthoven, Jens-Uwe Stolzenburg, Robert Rabenalt, Li-Ming Su, Christian P. Pavlovich, Adam W. Levinson, Karim A. Touijer, Andrew Vickers and Bertrand Guillonneau
Journal	The Journal of Urology, Vol. 184, 2291-2296, December 2010
Filename	2010_JUrol_Secin et al
Abstract	Purpose: It is not yet possible to estimate the number of cases required for a beginner to become expert in laparoscopic radical prostatectomy. We estimated the learning curve of laparoscopic radical prostatectomy for positive surgical margins compared to a published learning curve for open radical prostatectomy. Materials and Methods: We reviewed records from 8,544 consecutive patients with prostate cancer treated laparoscopically by 51 surgeons at 14 academic institutions in Europe and the United States. The probability of a positive surgical margin was calculated as a function of surgeon experience with adjustment for pathological stage, Gleason score and prostate specific antigen. A second model incorporated prior experience with open radical prostatectomy and surgeon generation. Results: Positive surgical margins occurred in 1,862 patients (22%). There was an apparent improvement in surgical margin rates up to a plateau at 200 to 250 surgeries. Changes in margin rates once this plateau was reached were relatively minimal relative to the CIs. The absolute risk difference for 10 vs 250 prior surgeries was 4.8% (95% CI 1.5, 8.5). Neither surgeon generation nor prior open radical prostatectomy experience was statistically significant when added to the model. The rate of decrease in positive surgical margins was more rapid in the open vs laparoscopic learning curve. Conclusions: The learning curve for surgical margins after laparoscopic radical prostatectomy plateaus at approximately 200 to 250 cases. Prior open experience and surgeon generation do not improve the margin rate, suggesting that the rate is primarily a function of specifically laparoscopic training and experience.

17	Radical Prostatectomy Practice in England
Author(s)	Vishwanath S Hanchanale, John E McCabe, Pradip Javlé
Journal	Urology Journal 2010;7:243-8
Filename	2010_UrolJ_Hanchanale et al
Abstract	Purpose: As there is paucity of data on radical prostatectomy (RP) as a primary treatment for patients with localized prostate cancer, we analysed the trends in the RP practice in England. Materials and Methods: This study was carried out on 14 300 patients who underwent RP for carcinoma of the prostate. Database was prepared from hospital episode statistics of the Department of Health in England. National trends in RP practice were summarized as well as volume outcome analysis. Results: Annual number of RPs exponentially increased from 972 (1998 to 1999) to 3092 (2004 to 2005). Laparoscopic RPs increased from 2 to 257 over the study period. Median waiting duration increased by more than 10 days (13 days). Significant decrease in median length of hospital stay from 8 (range, 7 to 10) days to 6 (range, 5 to 8) days was observed ($P < .001$). More than 90% mortality was seen in patients of ≥ 60 years of age. Significant inverse correlation was found between the hospital volume (Odds Ratio: 0.40) and in-hospital mortality rate following RP. High volume surgeons (≥ 16) and high volume hospitals (≥ 26) had significantly lower mortality (Odds Ratio: 0.32) and shorter in-hospital stay in comparison to low volume surgeons and hospitals. Conclusion: There is an exponential increase in the number of RPs with an increasing trend towards laparoscopic RP in England. This study showed a significant inverse correlation between provider volume (hospital and surgeon) and outcome (in-hospital mortality and hospital stay) for RP in England; thus, supporting the recommendations for centralization of care for complex radical procedures, including RP.

18	Impact of surgeon and hospital volume on outcomes of radical prostatectomy
Author(s)	Daniel A. Barocas, M.D., Robert Mitchell, M.D., Sam S. Chang, M.D., Michael S. Cookson, M.D.
Journal	Urologic Oncology 28 (2010) 243–250
Filename	2010_UrolOnc_Barocas et al
Abstract	An emerging body of literature has established a relationship between case volume and outcomes after radical prostatectomy (RP). Such findings come in the context of an already well-established association between both surgeon and hospital case volume in the field of cardiovascular surgery and for several high-risk cancer operations. The purpose of this review is to identify and summarize the seminal studies to date that investigate the impact of RP volume on patient outcomes. We performed a literature search of the English language studies available through PubMed that pertain to this topic. Thirteen original studies and a meta-analysis were found, which focus on the impact of hospital RP volume on surgical outcomes (including length of stay, perioperative complication rate, perioperative mortality, readmission rate, and several long term measures of treatment effect). Eight studies were identified that interrogated the relationship between individual surgeon case volume and outcomes. Across multiple outcome metrics, there is a pervasive association between higher hospital RP case volume and improved outcomes. Increasing individual surgeon volume may also portend better outcomes, not only perioperatively, but even with respect to long-term cancer control and urinary function. While most data arise from retrospective cohort studies, these studies, for the most part, are of sound design, show an impressive magnitude of effect, and demonstrate an impact on outcome that is proportional to surgical volume. Further research should focus on finding a means by which to translate these observations into improvements in the quality of prostate cancer care. To address differences in outcome between low volume and high volume surgeons, some have proposed and implemented subspecialization within practice groups, while others have looked toward subspecialty certification for urologic oncologists. With regard to differences in hospital volume, regionalization of care has been proposed as a solution, but is fraught with pitfalls. It may be more pragmatic and, ultimately more beneficial to patients, however, to identify processes of care that are already in place at high volume hospitals and implement them at lower volume centers. Similarly, we advocate careful studies to identify successful surgical techniques of high volume surgeons and efforts to disseminate these techniques.

19	**Cancer Control and Functional Outcomes After Radical Prostatectomy as Markers of Surgical Quality: Analysis of Heterogeneity Between Surgeons at a Single Cancer Center**
Author(s)	Andrew Vickers , Caroline Savage , Fernando Bianco , John Mulhall , Jaspreet Sandhu , Bertrand Guillonneau , Angel Cronin , Peter Scardino
Journal	European Urology 59 (2011) 317–322
Filename	2011_EUrol_Vickers et al
Abstract	Background: Previous studies have shown that complications and biochemical recurrence rates after radical prostatectomy (RP) vary between different surgeons to a greater extent than might be expected by chance. Data on urinary and erectile outcomes, however, are lacking. Objective: In this study, we examined whether between-surgeon variation, known as heterogeneity, exists for urinary and erectile outcomes after RP. Design, setting, and participants: Our study consisted of 1910 RP patients who were treated by 1 of 11 surgeons between January 1999 and July 2007. Intervention: All patients underwent RP at Memorial Sloan-Kettering Cancer Center. Measurements: Patients were evaluated for functional outcome 1 yr after surgery. Multivariable random effects models were used to evaluate the heterogeneity in erectile or urinary outcome between surgeons, after adjustment for case mix (age, prostate-specific antigen, pathologic stage and grade, comorbidities) and year of surgery. Results and limitations: We found significant heterogeneity in functional outcomes after RP ($p < 0.001$ for both urinary and erectile function). Four surgeons had adjusted rates of full continence <75%, whereas three had rates >85%. For erectile function, two surgeons in our series had adjusted rates <20%; another two had rates >45%. We found some evidence suggesting that surgeons' erectile and urinary outcomes were correlated. Contrary to the hypothesis that surgeons ''trade off'' functional outcomes and cancer control, better rates of functional preservation were associated with lower biochemical recurrence rates. Conclusions: A patient's likelihood of recovering erectile and urinary function may differ depending on which of two surgeons performs his RP. Functional preservation does not appear to come at the expense of cancer control; rather, both are related to surgical quality.
Other conclusions	We found an association between surgeons' annual volumes and patient outcomes. Surgeons with higher volumes had significantly better functional preservation than those with lower volumes ($p = 0.005$). For a patient with the mean level of all covariates, the predicted probability of experiencing recovery of both erectile and urinary function at 1 yr was 21% if treated by a surgeon with an annual volume of 25 cases; this probability increased to 47% if the surgeon had an annual volume of 100.

20	Radical Prostatectomy at Academic Versus Nonacademic Institutions: A Population Based Analysis
Author(s)	Quoc-Dien Trinh, Jan Schmitges, Maxine Sun, Shahrokh F. Shariat, Shyam Sukumar, Marco Bianchi, Zhe Tian, Claudio Jeldres, Jesse Sammon, Paul Perrotte, Markus Graefen, James O. Peabody, Mani Menon and Pierre I. Karakiewicz
Journal	The Journal of Urology Vol. 186, 1849-1854, November 2011
Filename	2011_JUrol_Trinh et al
Abstract	Purpose: Radical prostatectomy outcomes may be better at academic institutions than at nonacademic centers. We examined the effect of academic status on 5 short-term radical prostatectomy outcomes. Materials and Methods: In the Health Care Utilization Project Nationwide Inpatient Sample we focused on radical prostatectomy performed within the 7 most contemporary years (2001 to 2007). We tested the rates of homologous blood transfusions and extended length of stay, as well as intraoperative and postoperative complications stratified according to institutional academic status. Multivariable logistic regression analyses further adjusted for confounding variables. Results: Overall 89,965 radical prostatectomies were identified, yielding a weighted national estimate of 442,811. Of those procedures 58.2% were recorded at academic institutions. Patients at academic institutions had a lower Charlson comorbidity index and more frequently had private insurance ($p < 0.001$). Radical prostatectomy at academic institutions was associated with fewer blood transfusions (5.4% vs 7.4%), fewer postoperative complications (10.1% vs 12.9%) and lower rates of hospital stay above the median (18.0% vs 28.2%). On multivariable analyses institutional academic status exerted a protective effect on postoperative complication rates (OR 0.93, $p = 0.02$) and on rates of hospital stay in excess of the median (OR 0.91, $p < 0.001$). Similarly radical prostatectomy performed at hospitals with a high annual caseload were less frequently associated with intraoperative (OR 0.8, $p = 0.01$) and postoperative (OR 0.63, $p<0.001$) complications, length of stay beyond the median (OR 0.19, $p < 0.001$) and homologous blood transfusions (OR 0.35, $p < 0.001$). Conclusions: Even after adjusting for annual hospital caseload, radical prostatectomy performed at academic institutions is associated with better outcomes than radical prostatectomy performed at nonacademic institutions. This relationship illustrates averages and does not imply that academic institutions invariably offer better care.

21	Hospital volume and 90-day mortality risk after radical cystectomy: a population-based cohort study
Author(s)	Michael P. Porter, John L. Gore, Jonathan L. Wright
Journal	World Journal of Urology (2011) 29:73–77
Filename	2011_WJUrol_Porter et al
Abstract	Background: Hospital cystectomy volume has been associated with in-hospital perioperative mortality in previous studies. In this study, we examine the relationship between hospital cystectomy volume and 90-day mortality in a population-based cohort of patients undergoing cystectomy for bladder cancer. Methods: We performed a retrospective cohort study using population from the State of Washington Comprehensive Hospital Abstract Reporting System (CHARS) database. We examined the association between hospital cystectomy volume (categorized into volume tertiles) and cumulative 90-day mortality in patients undergoing cystectomy for bladder cancer. Multivariate regression was used to adjust for patient age, comorbid disease, year of surgery, and gender. Standard errors were clustered by discharge hospital. Results: We identified 823 patients who underwent cystectomy for bladder cancer at 39 unique hospitals in 2003–2007. The unadjusted cumulative 90-day cumulative mortality was 5.4, 6.9, and 8.4% for patients discharged from hospitals in the high, medium, and low volume tertiles, respectively (P = 0.35). In the multivariate analysis, the patients undergoing cystectomy who were discharged from hospitals in the highest volume tertile had a lower risk of death in the first 90 days postoperatively compared to patients discharged from hospitals in the low volume tertile, though the finding was not statistically significant (OR = 0.68, 95% CI 0.29–1.56). Conclusions: Ninety-day cumulative mortality after cystectomy for bladder cancer is significant and may be associated with hospital cystectomy volume.

22	**Perioperative Outcomes of Robot-Assisted Radical Prostatectomy Compared With Open Radical Prostatectomy: Results From the Nationwide Inpatient Sample**
Author(s)	Quoc-Dien Trinh, Jesse Sammona, Maxine Sun, Praful Ravi, Khurshid R. Ghani, Marco Bianchi, Wooju Jeong, Shahrokh F. Shariat, Jens Hansen, Jan Schmitges, Claudio Jeldres, Craig G. Rogers, James O. Peabody, Francesco Montorsi, Mani Menon, Pierre I. Karakiewicz
Journal	European Urology 61 (2012) 679–685
Filename	2012_EUrol_Trinh et al
Abstract	Background: Prior to the introduction and dissemination of robot-assisted radical prostatectomy (RARP), population-based studies comparing open radical prostatectomy (ORP) and minimally invasive radical prostatectomy (MIRP) found no clinically significant difference in perioperative complication rates. Objective: Assess the rate of RARP utilization and reexamine the difference in perioperative complication rates between RARP and ORP in light of RARP's supplanting laparoscopic radical prostatectomy (LRP) as the most common MIRP technique. Design, setting, and participants: As of October 2008, a robot-assisted modifier was introduced to denote robot-assisted procedures. Relying on the Nationwide Inpatient Sample between October 2008 and December 2009, patients treated with radical prostatectomy (RP) were identified. The robot-assisted modifier (17.4x) was used to identify RARP (n = 11 889). Patients with the minimally invasive modifier code (54.21)without the robot-assisted modifier were classified as having undergone LRP and were removed from further analyses. The remainder were classified as ORP patients (n = 7389). Intervention: All patients underwent RARP or ORP. Measurements: We compared the rates of blood transfusions, intraoperative and postoperative complications, prolonged length of stay (pLOS), and in-hospital mortality. Multivariable logistic regression analyses of propensity score–matched populations, fitted with general estimation equations for clustering among hospitals, further adjusted for confounding factors. Results and limitations: Of 19 462 RPs, 61.1% were RARPs, 38.0% were ORPs, and 0.9% were LRPs. In multivariable analyses of propensity score–matched populations, patients undergoing RARP were less likely to receive a blood transfusion (odds ratio [OR]: 0.34; 95% confidence interval [CI], 0.28–0.40), to experience an intraoperative complication (OR: 0.47; 95% CI, 0.31–0.71) or a postoperative complication (OR: 0.86; 95% CI, 0.77–0.96), and to experience a pLOS (OR: 0.28; 95% CI, 0.26–0.30). Limitations of this study include lack of adjustment for tumor characteristics, surgeon volume, learning curve effect, and longitudinal follow-up.

23	**The Effect of Hospital Vs. Surgical Volume on Outcomes After Radical Prostatectomy: A Head-Tohead Comparison Using Decision-Curve Analyses** ASU abstract
Author(s)	Quoc-Dien Trinh; Maxine Sun; Shahrokh F Shariat; Jesse D Sammon; Marco Bianchi; Wooju Jeong; Jan Schmitges; Khurshid R Ghani; Jens Hansen; Jay Jhaveri, Shyam Sukumar; Paul Perrotte; Piyush K Agarwal, Craig G Rogers, James O Peabody, Mani Menon; Pierre I Karakiewicz
Journal	The Journal of Urology Vol. 187, No. 4S, Supplement, Sunday, May 20, 2012
Filename	2012_JUrol ASU abstract 688_Trinh et al
Abstract	Introduction and objectives: Surgical (SV) and hospital volume (HV) are established determinants of postoperative outcomes after radical prostatectomy (RP). However, a head-to-head comparison between SV and HV has not yet been performed. We assess and compare the effect of SV and HV on postoperative and long-term functional outcomes in a large national series. Methods: A total of 19225 Medicare patients with prostate cancer who underwent RP were identified within the Surveillance, Epidemiology, and End Results Medicare-linked database (1995–2005). First, logistic regression analyses were fitted to assess the predictive effect of SV/HV on postoperative complications within 30-days after RP, blood transfusion, anastomotic stricture, long-term incontinence, and erectile dysfunction. All models were adjusted for patient age, race, comorbidity, marital and socioeconomic status, population density, surgical approach, clinical stage and grade. Second, the discriminant ability of SV and HV for prediction of the examined outcomes was assessed using the concordance index derived from the area under the curve (AUC). Finally, decision-curve analyses (DCA) were used to compare both SV and HV in a head-to-head fashion. Results: In multivariable analyses increasing HV and SV were associated with lower rates of overall complication (HV-OR: 0.99, P=0.003; SV-OR:0.98, P=0.009). In specific complications, SV and HV were independently associated with lower rates of respiratory (P ≤0.003) and vascular complications (P ≤0.01). Higher SV portended lower rates of blood transfusion (OR:0.91, P<0.001). Both HV and/or SV were associated with lower rates of anastomotic stricture (HV-OR:0.98, P<0.001; SV-OR:0.96, P<0.001), urinary incontinence (HV-OR:0.99, P=0.03; SV-OR: 0.98, P<0.001), and erectile dysfunction (HV-OR:0.99, P=0.7; SV-OR:0.98, P<0.001). HV slightly increased the AUC for prediction of complications (65 vs. 64%) and postoperative mortality (72 vs. 69%); SV did not. In DCA, HV achieved higher net benefit relative to SV when a threshold probability ranging from 16–18% was considered. Conclusions: HV and SV are strongly correlated with postoperative outcomes following RP. DCA suggest that hospital volume matters more than surgical volume, especially for older and sicker individuals, who are at high-risk of complications.

24	Volume-Outcome Relationships in the Treatment of Renal Tumors
Author(s)	Robert Abouassaly, Antonio Finelli, George A. Tomlinson, David R. Urbach and Shabbir M. H. Alibhai
Journal	The Journal of Urology Vol. 187, 1984-1988, June 2012
Filename	2012_JUrol_Abouassaly et al
Abstract	Purpose: Outcomes of complex surgical procedures tend to be better for high volume providers, although this has not been clearly established for renal cell carcinoma. We determined the relationship of provider volume with partial nephrectomy and morbidity for renal cell carcinoma treatment. Materials and Methods: We performed a population based, observational study using data on 24,579 patients treated surgically for a renal mass from April 1998 to March 2008. Surgeon and hospital volume quartiles were created using the total number of nephrectomies during the 10-year observation period. The effect of provider volume on partial nephrectomy use, complications and mortality was determined by multivariable logistic regression adjusted for covariates. Results: Partial nephrectomy was done by 10.9% of low vs 24.7% of very high volume surgeons (p <0.0001). A modest decrease in complications was observed with increasing surgeon volume (low vs very high 37.6% vs 34.5%, p <0.0001). The effect of in-hospital mortality was more dramatic with a 1.71%, 1.20%, 0.97% and 0.92% rate for low, intermediate, high and very high volume surgeons, respectively (p <0.0001). After adjusting for covariates, compared to low volume surgeons patients treated by very high volume surgeons had 1.54 times the odds of undergoing partial nephrectomy (95% CI 1.37–1.72, p <0.0001), 0.84 times the odds of an in-hospital complication (95% CI 0.77–0.92, p <0.0001) and 0.69 times the odds of in-hospital death (95% CI 0.47–1.01, p =0.16). Conclusions: Higher volume surgeons perform partial nephrectomy more often, show a lower complication rate and may have a lower in-hospital mortality rate than lower volume surgeons.

25	Volume Outcomes of Cystectomy—Is it the Surgeon or the Setting?
Author(s)	Todd M. Morgan, Daniel A. Barocas, Kirk A. Keegan, Michael S. Cookson, Sam S. Chang, Shenghua Ni, Peter E. Clark, Joseph A. Smith, Jr. and David F. Penson
Journal	The Journal of Urology Vol. 188, 2139-2144, December 2012
Filename	2012_JUrol_Morgan et al
Abstract	Purpose: Hospital volume and surgeon volume are each associated with outcomes after complex oncological surgery. However, the interplay between hospital and surgeon volume, and their impact on these outcomes has not been well characterized. We studied the relationship between surgeon and hospital volume, and overall mortality after radical cystectomy. Materials and Methods: The SEER (Surveillance, Epidemiology and End Results)- Medicare linked database was used to identify 7,127 patients with Urothelial carcinoma of the bladder who underwent radical cystectomy from 1992 to 2006. Hospital volume and surgeon volume were expressed by tertile. The primary outcome measure was overall survival. Covariates included age, Charlson comorbidity index, stage, grade, node count, node density, number of positive nodes, urinary diversion and year of surgery. Multivariate analyses using generalized linear multilevel models were used to determine the independent association between hospital and surgeon volume and survival. Results: When hospital volume or surgeon volume was included in the multivariate model, a significant volume-survival relationship was observed for each. However, when both were in the model, hospital volume attenuated the impact of surgeon volume on mortality while the significant hospital volume-mortality relationship persisted (HR 1.18, 95% CI 1.08–1.30, p <0.01). In addition, the adjusted 3-year probability of survival was significantly correlated with hospital volume in each distinct surgeon volume stratum while survival was not correlated with surgeon volume in each hospital volume stratum. Conclusions: After adjustment for patient and disease characteristics, the relationship between surgeon volume and survival after radical cystectomy is accounted for by hospital volume. In contrast, hospital volume remained an independent predictor of survival, suggesting that structure and process characteristics of high volume hospitals drive long-term outcomes after radical cystectomy.

26	**Robot-assisted vs. Open radical prostatectomy: The differential effect of regionalization, procedure volume and operative approach**
Author(s)	Jesse D. Sammon, Pierre I. Karakiewicz, Maxine Sun, Shyam Sukumar, Praful Ravi, Khurshid R. Ghani, Marco Bianchi, James O. Peabody, Shahrokh F. Shariat, Paul Perrotte, Jim C. Hu, Mani Menon, Quoc-Dien Trinh
Journal	The Journal of Urology (2012), doi: 10.1016/j.juro.2012.10.028
Filename	2012_JUrol_Sammon et al
Abstract	Background: Utilization of robot-assisted radical prostatectomy (RARP) has increased rapidly, despite the absence of randomized controlled trials demonstrating the superiority of this approach. While recent studies suggest an advantage in perioperative complication rates, they fail to account for the volume-outcome relationship. We sought to compare perioperative outcomes after RARP vs. ORP, whilst fully considering the impact of this established relationship. Methods: Using the Nationwide Inpatient Sample, patients undergoing RP in 2009 were abstracted. Univariable and multivariable logistic regression analyses compared rates of blood transfusions, intraoperative and postoperative complications, prolonged length of stay (pLOS), elevated hospital charges (EHC), and mortality between RARP and ORP, overall and across volume quartiles. Results: An estimated 77616 men underwent RP (RARP: 63.9%, ORP: 36.1%). Low-volume centers averaged 26.2 (RARP) and 5.2 (ORP) cases, very high-volume centers averaged 578.8 (RARP) and 150.2 (ORP) cases. Overall, RARP-treated patients experienced lower rates of adverse outcomes than ORP patients, in all measured categories. Across equivalent volume quartiles, RARP outcomes were generally favorable; however ORP at very high-volume centers produced lower rates of postoperative complications (OR: 0.59 (95%CI: 0.46-0.75)), EHC (0.75 (0.64-0.87)) and comparable rates of blood transfusions (1.38 (0.93-2.02)) relative to RARP at low-volume centers. Conclusion: Regionalization has occurred to a greater extent for RARP than ORP, with an associated benefit in overall outcomes. Nonetheless, low volume institutions experienced inferior outcomes relative to the highest volume centers irrespective of approach. These findings demonstrate the importance of accounting for hospital volume when examining the benefit of a surgical technique.

27	Influence of Surgeon and Hospital Volume on Radical Prostatectomy Costs
Author(s)	Stephen B. Williams, Channa A. Amarasekera, Xiangmei Gu, Stuart R. Lipsitz, Paul L. Nguyen, Nathanael D. Hevelone, Keith J. Kowalczyk and Jim C. Hu
Journal	The Journal of Urology Vol. 188, 2198-2204, December 2012
Filename	2012_JUrol_Williams et al
Abstract	Purpose: While higher radical prostatectomy hospital and surgeon volume are associated with better outcomes, the effect of provider volume on health care costs remains unclear. We performed a population based study to characterize the effect of surgeon and hospital volume on radical prostatectomy costs. Materials and Methods: We used SEER (Surveillance, Epidemiology and End Results)-Medicare linked data to identify 11,048 men who underwent radical prostatectomy from 2003 to 2009. We categorized hospital and surgeon radical prostatectomy volume into tertiles (low, intermediate, high) and assessed costs from radical prostatectomy until 90 days postoperatively using propensity adjusted analyses. Results: Higher surgeon volume at intermediate volume hospitals (surgeon volume low $9,915; intermediate $10,068; high $9,451; p = 0.021) and high volume hospitals (surgeon volume low $11,271; intermediate $10,638; high $9,529; p = 0.002) was associated with lower radical prostatectomy costs. Extrapolating nationally, selective referral to high volume radical prostatectomy surgeons at high and intermediate volume hospitals netted more than $28.7 million in cost savings. Conversely, higher hospital volume was associated with greater radical prostatectomy costs for low volume surgeons (hospital volume low $9,685; intermediate $9,915; high $11,271; p = 0.010) and intermediate volume surgeons (hospital volume low $9,605; intermediate $10,068; high $10,638; p = 0.029). High volume radical prostatectomy surgeon costs were not affected by varying hospital volume, and among low volume hospitals radical prostatectomy costs did not differ by surgeon volume. Conclusions: Selective referral to high volume radical prostatectomy surgeons operating at intermediate and high volume hospitals nets significant cost savings. However, higher radical prostatectomy hospital volume was associated with greater costs for low and intermediate volume radical prostatectomy surgeons.

28	Hospital Volume, Utilization, Costs and Outcomes of Robot-Assisted Laparoscopic Radical Prostatectomy
Author(s)	Hua-yin Yu, Nathanael D. Hevelone, Stuart R. Lipsitz, Keith J. Kowalczyk, Paul L. Nguyen and Jim C. Hu
Journal	The Journal of Urology Vol. 187, 1632-1638, May 2012
Filename	2012_JUrol_Yu et al
Abstract	Purpose: Although robot-assisted laparoscopic radical prostatectomy has been aggressively marketed and rapidly adopted, there is a paucity of population based utilization, outcome and cost data. High vs low volume hospitals have better outcomes for open and minimally invasive radical prostatectomy (robotic or laparoscopic) but to our knowledge volume outcomes effects for robot-assisted laparoscopic radical prostatectomy alone have not been studied. Materials and Methods: We characterized robot-assisted laparoscopic radical prostatectomy outcome by hospital volume using the Nationwide Inpatient Sample during the last quarter of 2008. Propensity scoring methods were used to assess outcomes and costs. Results: At high volume hospitals robot-assisted laparoscopic radical prostatectomy was more likely to be done on men who were white with an income in the highest quartile and age less than 50 years than at low volume hospitals (each $p < 0.01$). Hospitals at above the 50th volume percentile were less likely to show miscellaneous medical and overall complications ($p = 0.01$). Low vs high volume hospitals had longer mean length of stay (1.9 vs 1.6 days) and incurred higher median costs ($12,754 vs $8,623, each $p < 0.01$). Conclusions: Demographic differences exist in robot-assisted laparoscopic radical prostatectomy patient populations between high and low volume hospitals. Higher volume hospitals showed fewer complications and lower costs than low volume hospitals on a national basis. These findings support referral to high volume centers for robot-assisted laparoscopic radical prostatectomy to decrease complications and costs.

29	**Multivariate Analyses to Assess the Effects of Surgeon and Hospital Volume on Cancer Survival Rates: A Nationwide Population-Based Study in Taiwan**
Author(s)	Chun-Ming Chang, Kuang-Yung Huang, Ta-Wen Hsu, Yu-Chieh Su, Wei-Zhen Yang, Ting-Chang Chen, Pesus Chou, Ching-Chih Lee
Journal	PLoS ONE July 2012, Volume 7, Issue 7, e40590
Filename	2012_PLoS ONE_Chang et al
Abstract	Background: Positive results between caseloads and outcomes have been validated in several procedures and cancer treatments. However, there is limited information available on the combined effects of surgeon and hospital caseloads. We used nationwide population-based data to explore the association between surgeon and hospital caseloads and survival rates for major cancers. Methodology: A total of 11677 patients with incident cancer diagnosed in 2002 were identified from the Taiwan National Health Insurance Research Database. Survival analysis, the Cox proportional hazards model, and propensity scores were used to assess the relationship between 5-year survival rates and different caseload combinations. Results: Based on the Cox proportional hazard model, cancer patients treated by low-volume surgeons in low-volume hospitals had poorer survival rates, and hazard ratios ranged from 1.3 in head and neck cancer to 1.8 in lung cancer after adjusting for patients' demographic variables, co-morbidities, and treatment modality. When analyzed using the propensity scores, the adjusted 5-year survival rates were poorer for patients treated by low-volume surgeons in low-volume hospitals, compared to those treated by high-volume surgeons in high-volume hospitals (P,0.005). Conclusions: After adjusting for differences in the case mix, cancer patients treated by low-volume surgeons in low-volume hospitals had poorer 5-year survival rates. Payers may implement quality care improvement in low-volume surgeons.

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