Getting it Right First Time

Urology across Northern Ireland

October 2023

This report has been produced by the Getting It Right First Time (GIRFT) Project Team at the Royal National Orthopaedic Hospital (RNOH/GIRFT). It aims to enable the urgent restoration of elective urological services and the adoption of the HVLC/GIRFT principles to ensure best outcomes for patients, by reducing unwarranted variation and maximising the use of existing resources and assets.

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Foreword

Getting It Right First Time (GIRFT) is a national Programme in England developed by the GIRFT National Team under the Chairmanship of Professor Tim Briggs. GIRFT has been designed to improve patient care, by reducing unwarranted variations in clinical practice. It helps identify clinical outliers and best practice amongst providers, highlights changes that will improve patient care and outcomes and delivers efficiencies (such as the reduction of unnecessary procedures) and cost savings.

Working to the principle that a patient should expect to receive equally timely and effective investigations, treatment and outcomes wherever care is delivered, irrespective of who delivers that care, GIRFT aims to identify approaches from across the NHS that improve outcomes and patient experience.

The High Volume Low Complexity (HVLC) programme is a priority data-led transformation programme supporting the recovery of elective care services post COVID-19 pandemic. It aims to reduce the backlog of patients waiting for planned operations, improve clinical outcomes and access to services through standardised clinical pathways (HVLC programme - Getting It Right First Time - GIRFT).

The GIRFT Projects Directorate at the Royal National Orthopaedic Hospital (RNOH/GIRFT), also under the Chairmanship of Professor Tim Briggs, was approached by the Northern Ireland Department of Health Elective and Cancer Services team to conduct a review of Urology across Northern Ireland using the GIRFT methodology and HVLC principles.

This report describes the findings and recommendations from the review, as well as laying out the objectives and the approach followed by the RNOH GIRFT team.

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1. Executive Summary

This report is based on the data and observations from RNOH/GIRFT's face to face visits to all the Trusts in Northern Ireland to review their urology services. **Figure 1** shows the schedule of the visits. **Annex A** provides a full list of hospitals included in this review.

Figure 1: Schedule of visits

Trust	Visit Date
South Eastern Trust	Tuesday 16th May and Wednesday 17th May 2023
Belfast Trust	Wednesday 17th May 2023
Northern Trust	Thursday 18th May 2023
Southern Trust	Thursday 18th May 2023
Western Trust	Friday 19th May 2023

We have made a series of recommendations in this report which aim to tackle waiting lists, improve structures and ways of working and improve the quality of care. Consideration is given to other cross-cutting areas to improve performance, awareness and the governance of urology services across Northern Ireland.

It is now essential that the recommendations made in this report are immediately taken forward to improve care for patients and to put in place a structure and ways of working across Northern Ireland to deliver them. This will involve the Trusts working together and a blurring of their historical boundaries. Furthermore, it is essential that the changes introduced to increase elective surgery are resilient during the winter months; and must deliver elective care for 48 weeks per annum. We can no longer accept "shut down" of elective care during winter; it is not in the best interest of patients and will not reduce waiting lists.

We have made a total of **40 national recommendations** in this report. These include recommendations for the Department of Health to take forward nationally **(Section 2.1)** and recommendations where the Department of Health should encourage the implementation of over-arching recommendations to all Trusts, as many improvements apply to all providers **(Section 2.2)**.

Through a combination of Trust meetings and a review of the data provided, we observed variation in practice within Trusts, between Trusts and also when compared to NHS England urology metrics; some of the variation is unwarranted. Where we have observed this, we have challenged the Urology Teams and provide appropriate recommendations. Separate recommendations for each of the Trusts are detailed in **Annex B-F.**

We have provided a number of useful links to GIRFT Urology pathways and good practice guidance in **Annex G** along with a glossary of terms and abbreviations in **Annex H.**

The review team met with senior clinicians, managers and members of the trust executives at each of the five trusts providing services across Northern Ireland. There was an overwhelming sense amongst the people that we spoke with that provision of urological services across the Province had deteriorated over the past decade and that long-term planning was hampered by the absence of a functioning administration at Stormont and the current political vacuum.

The direct consequence of this is that budgetary planning is difficult, with in-year budgeting becoming the norm. Nevertheless, the RNOH/GIRFT team were very impressed with the

strides that colleagues had made in discussions about how service should evolve in the specialty of Urology.

Given the population in Northern Ireland of 1.86 million, it is neither possible nor desirable that all elements of the specialty can be delivered to a high standard in each hospital. Rationalisation and delivery of high-quality services are essential to ensure that clinicians with the requisite experience and skills are available to manage routine and complex care. While this principle has been accepted in urological oncology (provision of surgery for prostate, bladder, kidney and penile malignancies) and surgical andrology, there is a general acceptance across the British Isles that surgery of bladder outflow obstruction, complex stone disease, female and functional / neuro-urology should also move in this direction. It is to the immense credit of the Urologists in Northern Ireland that planning for this scenario is well advanced. Implementation should be the next step to ensure a vibrant and sustainable service for Northern Ireland's population.

2. Recommendations

2.1 General Recommendations for Northern Ireland Urology

No.	Department of Health Recommendations
1	DoH should establish a group of relevant stakeholders to lead on the development of an action plan to implement the GIRFT recommendations, allocating responsibilities to relevant people to share the workload. The group will need to align with existing regional and local structures to ensure no duplication.
2	The DoH should continue to encourage and support Trusts to strengthen clinical coding processes, including the routine sharing of data with clinical teams.
3	The DoH should ensure that good governance arrangements are in place to enable patients to have timely access to investigations and ensure that all clinicians seeing outpatient referrals have access to Northern Ireland Electronic Care Record (NIERC), thereby avoiding duplication of imaging and unnecessary repeat appointments. This predominantly relates to the use of 'outsourcing'; there should be a focus on long term provision of outpatient care in order to obviate the need for this short-term support. This should be explored with the rollout of Encompass.
4	The DoH should support Trusts to strengthen clinical networking to further promote mutual aid, where differences in waiting access times and or differences in the volumes of backlogs exist.
5	The DoH needs to urgently work with providers to address the under-provision of theatre capacity in regard to the provision of major urological cancer surgery, including cystectomy, radical prostatectomy and renal surgery. In the first instance, Belfast Trust should also work to ensure the full delivery of commissioned theatre list for the urology service within the Belfast Trust.
6	DoH should consider supporting a formal renal surgery network at sites outside of Belfast City Hospital (BCH) that currently offer this surgery; this could help to de-pressurise other major urological cancer pathways at the City site.
7	The Public Health Agency (PHA), in conjunction with BHSCT, should initiate a strategic review of the provision of robotic assisted surgery for Northern Ireland in Urology and other specialties, recognising the likely developments in robotic surgery in the next decade.
8	The DoH should promote and enable further examples of cross-site working between clinical teams for the delivery of both benign and cancer urological services.
9	The DoH should consider initiating a review into the funding mechanisms for trusts providing specialist care in both oncology and sub specialist urology practice, ensuring that trusts are not disadvantaged by undertaking specialist work.
10	The DoH should continue to ensure that Trusts are actively working to reduce the reliance on external outsourcing of clinical care; this can be achieved through implementation of the GIRFT recommendations and principles
11	The DoH should formalise the plans for the long-term provision of surgical andrology for Northern Ireland.

12	The DoH should formalise plans for the long-term provision of female and functional urology for Northern Ireland in conjunction with recommendations made in the GIRFT Uro-gynaecology report.
13	The DoH, in association with the Northern Ireland Medical and Dental Training Authority (NIMDTA), should undertake a review to ensure the national selection in Urology is the right model for recruitment into the specialty.
14	The DoH, in association with NIMDTA, to review the distribution of Urology trainees across NI, ensuring equity and access to training opportunities.
15	DoH, in partnership with trusts, should ensure robust processes/pathways and audit particularly of sub-specialty services to ensure they meet minimum quality standards, e.g. prostate cancer diagnostic pathways/ RARP/Cystectomy/ penile cancer etc. Quality standards should be agreed by subspecialist urologists in each area but already available for many subspecialty areas.

2.2 General Recommendations for the NI Department of Health and all Trusts

Northern Ireland Urology General Recommendations	
Outpatient Care	
1	As a priority, The DoH should support and encourage each Trust to plan for and establish a Urology Investigation Unit, where such a facility does not already exist (GIRFT Urology Investigation Units Guidance), to maximise the efficiency of elective outpatient services.
2	The DoH should ensure that Trusts strengthen the Advice and Guidance services and all referrals should undergo robust clinical triage by a senior clinician (medical or nursing), with downgrading of inappropriate red flag referrals (GIRFT Urology Outpatient Guidance).
3	As a matter of urgency, The DoH must support and encourage Trust Urology Teams to redesign and enhance their capacity to provide single-visit outpatient consulting and assessment (diagnostic) services for patients, with pre investigation imaging, where indicated arranged at triage prior to attendance.
4	The DoH should ensure that Trusts review their outpatient practice with a view to reducing the number of unnecessary review appointments, aspiring to a new to follow-up ratio of 1:2.
5	The DoH should promote greater adoption of virtual reviews as well as further nurse specialist input into outpatient pathways.
6	The DoH should ensure that Trusts are offering patient-initiated follow-up (PIFU) rather than routine clinical review to suitable patients. Trusts should ensure that there are robust mechanisms in place for such patients to gain timely access back into secondary care.
7	The DoH should ensure that outpatient pathways are standardised across all Trusts to ensure there is consistency nationally for patient undergoing outpatient investigation or treatment.
8	Trusts should rapidly implement a flexible cystoscopy and transurethral laser ablation (TULA) service for 'red patches' and recurrent superficial bladder cancer in the outpatient setting.
Inpatient Urology and HVLC	
9	Trusts should ensure that suitable procedures (flexible cystoscopy, flexible cystoscopy and Botox, transperineal biopsy procedures, urodynamics etc.) are **not** routinely

	performed in Trust theatres. These should be performed in an outpatient procedure room by default, not inpatient theatres '**Right procedure, right place' approach**'.
10	The PIG should ensure that there is continuous improvement work on moving existing in-patient pathways to daycase pathways and moving daycase pathways to an outpatient setting, where appropriate.
11	Trust management should ensure that Trusts are optimising their theatre capacity in order that each urologist has, as a minimum, 2 sessions of theatre activity for 42 weeks of the year, when not Consultant of the Week.
12	Trusts to implement the GIRFT guidance on theatre productivity, with appropriate listing and maximising theatre efficiency with SPPG oversight.
13	Where not already done, The DoH should ensure that Trusts implement an action plan for increasing the percentage of elective operations undertaken as day surgery, using the BADS guidance (Day case surgery - Getting It Right First Time - GIRFT).
14	The DoH should continue to ensure that Trusts have access to and efficiently utilise 'cold' HVLC sites, thereby ensuring that protected elective capacity is maintained regardless of winter or acute care pressures.
15	The Department of Health should continue to encourage Trusts to collaborate ensuring that there is equitable access across Northern Ireland for patients in regard to more specialist services for example: bladder outflow obstruction surgery, Percutaneous nephrolithotomy (PCNL), Extra-corporeal shock wave lithotripsy (ESWL) and Sacral nerve stimulation (SNM).
Urgent and Emergency Care (UEC)	
16	As an immediate action, Urologists (in collaboration with general surgery and emergency department colleagues) should develop contemporary, clear protocols for patients with urological conditions requiring urgent and emergency care (UEC). This is of particular importance for the Northern HSC where re-configuration of the current service is advised.
17	The Department of Health should ensure that Trusts offering on-site UEC services in urology should urgently develop ambulatory assessment facilities, where they do not already exist.
18	The Department of Health should ensure that Trusts offering on-site acute urological care should support clinical teams in developing a fully staffed 24/7 middle grade rota – these can comprise of an extended workforce, including doctors, nurse practitioners and or physicians' associates.
19	Each Trust must ensure there is a clear protocol and service-level agreement in place with an IR provider for the provision of interventional radiology, including out-of-hours cover.
20	Trusts must ensure there are established pathways for the provision of urgent ureteroscopy, extra-corporeal shockwave lithotripsy (ESWL) and bladder outflow surgery after acute presentation.
Specialist Urological Provision	
21	Performance Implementation Group to develop an approach for the delivery of Bladder Outlet Obstruction surgery (BOO) predicated on the use of two HVLC sites in Lagan Valley and Omagh Hospitals with agreed regional pathways.
22	The DoH should ensure that percutaneous nephro-lithotomy (PCNL) surgery for Northern Ireland should be centralised at Craigavon Area Hospital with agreed regional pathways.
23	The DoH should ensure that provision of extra-corporeal shockwave lithotripsy (ESWL) for Northern Ireland should be centralised at Craigavon Area Hospital, providing a timely service for urgent referrals.
24	The DoH should continue to ensure a co-ordinated approach to waiting list validation for outpatient and admitted pathways, with regular reporting of the clinical backlogs.

25	The DoH should continue to actively work to reduce the reliance on external outsourcing of clinical care through implementation of the GIRFT recommendations and principles

3. Project Objectives

The aim of this review was to:

- Identify areas of improvement to help the Department of Health to have a better understanding about how Urology services are being delivered across the country with the ultimate aim of improving patient outcomes.
- Ensure Urology services are being delivered in line with the Elective Care Framework and the Department of Health's strategic direction on the expansion of the elective care centres regional model.
- Identify recommendations to improve the patient pathways for Urology in all Trusts in Northern Ireland through production of a final report.

4. Our Methodology and Approach

We followed the GIRFT methodology, structured as follows:

- **Data gathering** and structuring shared ahead of the deep dive visits
- **RNOH communication** about the programme (including HVLC)
- **Deep dive engagements** for each Trust, with relevant stakeholders present
- **National level report** explaining findings and recommendations.

Prior to each visit we issued a questionnaire to each Trust which asked for information on the workforce; on call arrangements; recruitment and the provision of urology services.

We examined the data looking for unwarranted variation e.g. differences between hospitals in areas such as:

- **Overall Activity Metrics** (Urology elective inpatient spells, day case spells, Virtual outpatient Attendance, RTT Pathways)
- **Emergency Urological Care** (Urology emergency admissions, Emergency stone admissions, Urinary retention, Urinary tract infection /Urosepsis, Testicular torsion)
- **High Volume Low Complexity (HVLC) Procedures** (Transurethral resection of bladder tumour (TURBT) procedures, bladder outflow obstruction procedures, ureteroscopy and stent management procedures)
- **Oncology (Kidney and Ureter)** (radical nephrectomy for cancer procedures, nephrectomy for benign disease procedures, partial nephrectomy procedures)
- **Oncology Prostate** (Radical prostatectomy procedures)
- **Stone management** (PCNL procedures, extracorporeal shockwave lithotripsy (ESWL))
- **Female and Functional** (stress urinary incontinence, colposuspensions, autologous fascial sling procedures, paraurethral bulking agents for incontinence, cystoscopy and botox procedures sacral neuromodulation)
- **Andrology** (Peyronnies disease, Urethroplasty procedures).

The deep dive engagements took place from Tuesday 16th May to Friday 19th May and were led by Kieran O'Flynn and John McGrath. Each deep dive was an opportunity for the Trust to provide an overview of their Urology services and current issues; this was followed by a review of the GIRFT data and a detailed discussion. All the meetings were well attended by a mixture

of colleagues in Urology roles (clinicians, theatre staff, senior managers and allied health professionals) and colleagues from the Department of Health, all of whom contributed to the excellent discussions. This allowed the review team to gain a good understanding of the issues facing each Trust and their hospitals and to suggest improvements.

5. Urology Services Overview

Urology services are provided at four of the five Trusts. There is limited urological provision in the Northern Health and Social Care Trust. Patients requiring urological care are referred, depending on their postcode, to either Belfast Trust or Western Health and Social Care Service based at Altnagelvin. Similar arrangements apply for patients needing urgent and emergency care.

Urology is a broad specialty encompassing diseases of the kidney, bladder, prostate and genitalia. Approximately 40% of referrals are to establish a potential diagnosis of cancer (most commonly prostate or bladder cancer). These referrals are 'red flagged' and, due to their number, pose particular challenges in the arrangements for early assessment and management. Other common reasons for referral are lower urinary tract symptoms in older men and recurrent Urinary tract infections (UTI's - predominantly in women). All Trusts provide routine urological care, but each has encountered different challenges in relation to the timeliness of the care provided and for most patients unfortunately experience significant delays in getting access to both a timely diagnosis and/or treatment. The underlying reasons are explored further in the report.

The provision of specialist urological care is disparate throughout the province and is detailed in **Figure 2**. Most urological oncology (with the exception of penile cancer) is provided at Belfast Trust, with nephrectomy also being performed at Altnagelvin Area Hospital, Craigavon Area Hospital and the Ulster Hospital.

As can be seen from **Figure 2**, many elements of subspecialist practice in Urology are delivered at more than one trust. This has largely developed for historical reasons or due to the interests of a particular surgeon. For many elements of subspecialty practice, the numbers of procedures performed are small and this mitigates against developing a genuine expertise. The ability to deliver such services has also been hampered by the Covid pandemic, when much specialist non-oncological surgery was deferred, leading to de-skilling of surgeons. It is now opportune to consider how these services should be delivered in the future, ensuring that patients get access to high quality care, irrespective of their postcode.

In urological practice, transurethral prostatectomy (TURP) was considered the sentinel operation for the specialty. While bladder outflow obstruction surgery is currently delivered at all trusts, development in this area of urological practice mean that there are a number of newer treatment modalities available, many of which can be delivered safely as daycase procedure. Given the numbers of procedures performed in Northern Ireland each year, it is neither practicable nor financially viable for all newer modalities to be delivered at all trusts. Consolidation of these services is recommended and further discussed in **Section 8** of this report.

Figure 2: Provision of Specialist Services in NI

	Belfast HSC	Northern HSC	South Eastern HSC	Southern HSC	Western HSC
Oncology					
Radical Nephrectomy	Y	N	Lap-nephrectomy only	Y	Y
Partial Nephrectomy	Y	N	Referred to Belfast City Hospital	Referred to Belfast City Hospital	Referred to Belfast City Hospital
Nephro-ureterectomy	Y	N	N	Y	Y
Cystectomy	Y	N	Referred to Belfast City Hospital	Y	Referred to Belfast City Hospital
Radical prostatectomy	Y	N	Referred to Belfast City Hospital	Referred to Belfast City Hospital	Referred to Belfast City Hospital
Penile Cancer	Referred to Altnagelvin Area Hospital	N	Referred to Altnagelvin Area Hospital	Referred to Altnagelvin Area Hospital	Y
Stone disease					
PCNL	Y	N	Y	Y	Y
ESWL	Y	N	N	Y	Y
Female and Functional					
Stress Incontinence	Y	N	N	Y	Y
Bladder reconstruction	Y	N	N	N	Y
SNM	Y	N	N	N	Y
Andrology					
Urethroplasty	N	N	Y	N	Y
Peyronnies surgery	N	N	N	N	Y
Surgery for male stress incontinence	N	N	N	N	N

6. Workforce and Training

The Urology workforce for Northern Ireland is detailed in **Figure 3**. The ratio of urologists per head of the population is one of the lowest in Europe and lags behind that in England.

There are a number of factors that contribute towards Northern Ireland's difficulty in recruiting and retaining a workforce in the specialty. These include geography, national trainee selection, remuneration, onerous on-call rotas and limitations in the ability to develop sub-specialist practice in the specialty. Given the current working conditions with a significant on-call burden, currently limited subspecialty practice and the failure to develop specialist nursing, it is difficult to see how the hospitals in Northern Ireland can continue to attract high calibre consultant Urologists in the future.

Across the four home nations, it is estimated that there are approximately 120 unfilled consultant posts in the specialty. As only 50 National training number's (NTN's) exit training each year with a Certificate of Completion of Training (CCT) in Urology, there is an undersupply of trainees and consultant recruitment for many trusts is challenging. Units with fewer than 8 consultants have particular difficulty attracting new consultants, again largely because of onerous on-call arrangements and a limited subspecialty practice.

Northern Ireland and its constituent hospitals are approaching a tipping point with its over-reliance on a locum workforce and the anticipated retirement and relocation of consultants in the near future. The Department of Health will need to explore methods to incentivise recruitment into units where there have been repeated attempts to appoint substantive consultants but no suitable applicants found. On the mainland, there have been measures such as enhanced salary, improved re-location packages and negotiation on the starting salary point for new appointees. Other measures, such as networked on-call to reduce overall frequency, can enhance a consultant's working life and remove the current disincentives.

Whereas each trust would like to support the development of new consultant appointments in Urology, development of a functioning Urology Area Network model was effectively paused at the onset of the Covid pandemic; in the interim, much discussion has taken place and there is a renewed interest in inter-hospital working. Good progress has been made in developing plans for the provision of specialist services across Northern Ireland and these are discussed elsewhere in the report.

Figure 3: Current medical workforce

Trust	Funded Consultant Urologists	Consultant Urologists WTE	Trainees WTE	Trust doctors WTE	Physician Associate	Comments
Belfast HSC	8.8	8	5 StR (Funded = 5.0wte; 4.4wte in post) and 1 CT Doctor (Funded = 1.0wte)	1 (Funded = 3.0wte; 2 in post inc. 1 agency)	0	2x Trust (Specialty Grade) Doctors recruited Sept 2023 to take up positions before December 2023. In addition, there are, 2x temporary Clinical Fellows and 1x temporary LAS Doctors in post.
Northern HSC	0	0	0	0	0	
South Eastern HSC	7	6 (1 on extended leave)	1	3	2	1 consultant post vacancy 1 locum consultant currently covering extended leave
Southern HSC	6	4.41	3 (4.5 funded)	0.87 (1.1 funded)	0.5 (0.5 funded)	Current advertisement for 3 urologists Includes 1 long term agency locum 1 works half time at Belfast City
Western HSC	9	7.6	3 (0 funded)			2 vacant posts consultant posts

Each unit remains understaffed with respect to Urology Clinical Nurse Specialist (CNS) support, detailed in **Figure 4**, and this has a major impact on the functioning of the unit. There is a paucity of CNS provision in diagnostics, with CNS provision of prostate biopsy, flexible cystoscopy, flexible cystoscopy and Botox limited to Craigavon Area Hospital.

Figure 4: Current Whole Time Equivalent (WTE) clinical nurse specialist (CNS) and physician associate (PA) provision in Urology in NI

Role	Belfast HSC	Northern HSC	South Eastern HSC	Southern HSC	Western HSC
Band> 8c and above	-	-	-	-	-
Band 8b	-	-	-	-	-
Band 8a	1.00	-	1.00	2.42	-
Band 7	2.00	-	1.00	4	6.27
Band 6	3.00	-	2.00	0	3.52
Band 5	0	-	-	0	0
Physician Associate	-	-	2	0.5	-

As shown in **Figure 5,** there is currently no provision of flexible cystoscopy and laser ablation for recurrent superficial bladder cancer across NI; this is frequently delivered by nurse specialists in England (see section on outpatient provision). Such arrangements are standard elsewhere in the UK, where these services are provided in a dedicated outpatient setting / Urology Investigation Unit (UIU).

Figure 5: Provision of clinical nurse specialist roles by Trust

Role	Belfast HSC	Northern HSC	South Eastern HSC	Southern HSC	Western HSC
Flexible Cystoscopy	N	N	Y	Y	N
Flexi Cystoscopy and TULA	N	N	N	N	N
Flexible cystoscopy and botox	N	N	N	Y	N
Male lower urinary tract symptoms	Y		Y	Y	Y
Transperineal prostate biopsy	N	N	N	Y	N
Prostate cancer surveillance	Y	N	Y	Y	Y
Renal cancer surveillance	Y	N	Y	Y	Y
Stone clinic	Y	N	Y	Y	Y
Andrology	N	N	Y	N	Y
Continence	Y	N	N	N	Y

There needs to be rapid expansion in terms of numbers of specialist nurses but also a rapid upskilling of the workforce. The latter may be accelerated using an academy style model at one or more Trusts, where there could be a focused effort on training lists and mentors.

7. Outpatients and diagnostics

The facilities for outpatient assessment in Urology vary considerably across Northern Ireland. Each of the sites are highly constrained by the lack of space and suitable consultation and treatment rooms. The average waits by Health and Social Care Trust and the facilities available are shown in **Figures 6 and 7**. The consequence of this is that patients cannot be seen at the same time by members of the Urology team (doctors, nurses and Physician Associates); as a direct consequence, patients often have repeat appointments to see different staff members and outcomes are delayed. The constraints almost certainly contribute to the heavy reliance on ‘outsourcing’ for outpatient referrals and diagnostics.

Figure 6: Average waits by Health and Social Care Trust Northern Ireland[1] Accessed 16/6/23

	Belfast HSC	Northern HSC	South Eastern HSC	Southern HSC	Western HSC
Red flag*	2	N/A	2	5	1
Urgent**	14	N/A	17	30	7
Routine	68	N/A	87	155	16
Outsourcing arrangements	A percentage of routine appointments.	N/A	A percentage of red flag cystoscopies and TP biopsies.	A majority of red flag and urgent appointments.	A percentage of no-red flag patients and cystoscopies related to COVID backlog.

Red Flag: *These appointments are allocated to patients with suspected Cancer diagnosis and are the highest priority.*
***Urgent:** These appointments are allocated to patients with urgent care needs other than Cancer.*

Trust Urology Teams must, as a matter of urgency, redesign and enhance their capacity to provide single-visit outpatient consulting and assessment (diagnostic) services for patients, avoiding the necessity for outsourcing and repeat attendances.

The most glaring example is at Altnagelvin Area Hospital, where some urology activity is delivered in the ground floor outpatients department, but patients have other elements of outpatient care delivered in rooms adjacent to the ward using rooms and facilities that are cramped and ill-suited for the assigned roles. This is compounded by the fact that neither the nursing offices nor the consultant offices are located close by. Co-location of facilities would enhance team working and greatly facilitate throughput. The lack of dedicated space means that it is not possible to provide a contemporary transperineal prostate cancer diagnostic service as the allocated room is required for flexible cystoscopy and haematuria / recurrent bladder tumour assessments. The direct result is long waiting time for prostate and bladder cancer diagnostics due to inadequate facilities and understaffing.

Craigavon Area Hospital does have a co-located investigation unit though it is currently shared with other services when not required by the Urology service. There is a compelling case to use this area exclusively for urology, given the volume of outpatient and diagnostic work that will need to be delivered. This will be particularly pertinent when outsourcing of outpatient referrals ceases and additional capacity will be needed, which may include a need to expand the current unit to provide additional consulting / procedure rooms.

Relatively low staffing levels in the urology departments of Northern Irelands Hospitals are undoubtedly a source of real pressure when considering the ability to meet the outpatient demand.

The number of clinical nurse specialists is particularly low, given Northern Ireland's size and population. The nurses work exceptionally hard, largely concentrating their work on oncology provision with little dedicated CNS provision for 'benign urology'. At Altnagelvin Area Hospital, the oncology nurses are part of the Oncology directorate and hence lack the flexibility to cover both oncology and functional urology to meet the demands of the service. As discussed in

[1] My Waiting Times NI - DOH/HSCNI Strategic Planning and Performance Group (SPPG) – formerly HSCB

Section 6, there is an urgent need to extend the role of specialist nurses and practitioners to meet the demand of the outpatient workload. Expansion of the medical workforce alone is not a sustainable long-term solution.

There is a definite sense across all units that both the nursing and medical urology team feel under-supported in the provision of contemporary facilities for the delivery of outpatient care. The current models do not serve the specialty well, as most units nationally have or are in the process of transitioning to a Urology Investigation Unit (UIU) type model. A UIU means that flexible cystoscopy, laser ablation, urodynamics and local anaesthetic prostate biopsy can be provided in one location by the extended Urology team, comprising medics and CNS's with a special interest. By co-locating facilities into one place, there is greater scope for one-stop models of care, as well as improved interaction and flexibility within the clinical team. Throughout the country, Urology has largely morphed into an outpatient specialty where, with appropriate and modern practices, patients can be rapidly seen and assessed without recourse to day-case or inpatient attendance. If implemented effectively, a functioning UIU can have a dramatic effect on the number of patients requiring day-case procedures or overnight stays. It is estimated that only 1:12-14 patients seen in UIU will then require some form of admission. One of the highest priorities for redesign of urological care in Northern Ireland should be the delivery of UIUs at all the urology units, scoped to provide a level of future-proofing in regard to the expected growth in demand for urological services, as the population ages. The recommendations are in line with the Richards Report[2] on development of diagnostic facilities.

Figure 7: Availability of outpatient facilities by Trust

Trust	Site	Urology Investigation Unit	Comment
Belfast HSC	Royal Victoria	No	Emergency care only
	Belfast City Hospital	No	Space available on level 3 for development of investigation unit delivering flexi cystoscopy and TPB
Northern HSC	Antrim Area Hospital	No	Limited in-reach model by visiting Urologist. BHSCT provides two clinics a week in Mid Ulster Hospital. SNS follow-up is delivered (nurse led with support from Medtronic)
	Causeway Hospital	No	Outreach OP clinics and flexible cystoscopy (Altnagelvin team)
	Whiteabbey	No	Flexible cystoscopy (delivered by Belfast Trust)
South Eastern HSC	Ulster Hospital	No	Flexible cystoscopy and TPB done in inpatient facility
	Lagan Valley	No	Daycase facilities only at present

[2] NHS England » Diagnostics: Recovery and Renewal – Report of the Independent Review of Diagnostic Services for NHS England

	Downpatrick	No	Limited capacity to deliver flexi cystoscopy
Southern HSC	Craigavon Area Hospital	Yes	Flexible cystoscopy and TPB delivered but facilities shared with other services if rooms not being utilised by the urology team at present
	Daisy Hill Hospital	No	Outpatient activity commenced August 2023, Day case and 23 hours stay facilities only at present
Western HSC	Altnagelvin Area Hospital	No	Disparate facilities across the hospital site
	South West Acute Hospital	No	No outpatient activity
	Omagh Hospital	No	Flexible cystoscopy in daycase theatre

None of Northern Ireland's Urology units offer transurethral ablation of bladder lesions (TULA). Investment in a dedicated handheld laser at each of the sites would enable access to flexible cystoscopy and laser ablation of small bladder tumours, avoiding the necessity for repeat visits or a daycase procedure. Many units nationally have found this investment be worthwhile with significant cost savings. The development of a TULA service has the potential to significantly reduce the requirement for day case cystoscopy and biopsies and treatment of small bladder lesions. The capital outlay is small, and the learning curve is short, with very rapid release of theatre capacity at all sites. As services nationally transition from day case to outpatient delivery, it's important that mechanisms are in place to record this significant activity.

There remain significant pressures with the 'trial without catheter' (TWOC) service in outpatients. Improving this element of the service, with timely access would enable more patients to be put on day surgery pathways and avoid long lengths of stay. A properly resourced TWOC service with a Standard Operating Model (SOP) across the Trusts should be seen as a priority for the Urology teams.

The diagnostic pathway for patients suspected of having prostate cancer is not optimal. Patients referred with a high Prostate Specific Antigen (PSA) and suspected prostate cancer are generally first seen in outpatients and then referred for a prostate MRI scan. Most units in England have adopted a straight to test model, subject to satisfactorily completed pro-forma from the GP. This approach is endorsed by NHS England NHS England Prostate Cancer Timed Diagnostic Pathway. Due to litigation fears, some consultants in NI prefer to see patients in outpatients before ordering an MRI scan. The pathway is also delayed due to limited access to MRI, delays in reporting and frequently delays in accessing transperineal biopsy (LATP) in outpatients and delays in pathology reporting. Without improvements to diagnostic resources in Northern Ireland, it will not be possible to deliver these pathways at the pace that is required for rapid diagnosis. It is noted that the NICAN Urology CRG are currently undertaking a pathway project relating to this and reflecting the approach advocated in the NHS England pathway document. It is recommended that the rapid role of this pathway following the initial pilot is supported across all trusts.

Prostate biopsy services have generally morphed from transrectal to transperineal biopsy, with the majority of services now being delivered in outpatients. The appointment of a prostate

cancer navigator and a nationally agreed pathway has the potential to shorten the pathway and enable an upfront MRI, prior to first appointment, for those patients who meet the criteria. The NICAN Urology Clinical reference group should take this forward.

8. Elective Care

Based on the returned data from each of the Health and Social Trusts, it is difficult to make a direct comparison between the provision of the sentinel procedures in NI compared with England where Model Hospital[3] statistics are collected for 170 different metrics in the specialty. Some general observations can, however, be made. Each clinical team expressed concerns that the data collected did not reflect actual case volumes and while the data provides some insight, it cannot always be relied upon for capacity planning.

There is certainly scope nationally for significant improvement with day-case rates across the 'sentinel' procedures referred to in the GIRFT data pack (exemplars being TURBT and bladder outlet surgery), which should help relieve the pressure on in-patient beds. Further improvement should now be possible if the right facilities are provided and the philosophy regarding 'daycase as default' is built into the booking rules for these procedures and the pathways are supported by a dedicated nursing team. The development of the Daycase Unit at Lagan Valley Hospital has shown that it is possible to deliver TURBT, bladder outflow obstruction and ureteroscopy safely as a day case and this initiative is warmly applauded and should be replicated elsewhere. An important principle has been the concept that it is a system resource that can be used by multiple units, working to common standards. Single Patient Tracking List (PTL) waiting lists will be vital to eliminate inequities in access times between Trusts. This will necessitate consistent approaches to the evaluation and listing of patients for the respective procedures.

When compared to Model Hospital, the daycase rate for TURBT is likely to be below the England average at 19%. The current English national benchmark performance is 44% with examples in exemplar units of 80%. Barriers in NI include the limited availability of daycase facilities, a culture of admitting the patients anticipating an overnight stay although not required, surgeon and patient preference and the limited opening hours of daycase facilities where they exist.

Intravesical Mitomycin instillation is a vital component of TURBT and should be done in theatre at the end of the procedure, followed by a trial without catheter in the recovery area ahead of discharge. Although this is done in some units (for example, WHCST) there were no data available on Mitomycin instillation in the individual units, it was acknowledged that there are difficulties in delivering this effectively across all of NI. Reasons cited include lack of personnel, lack of training and resistance from pharmacy and theatre staff as well as disruption of the day-case pathway.

Urology Units in NI are encouraged to use 'day case as default' for the majority (60-70% at least) of bladder tumour resections and evidence nationally suggests that the *routine* use of post-operative catheterisation is not necessary. There are significant pressures on the delivery of TURBT at the City Hospital, largely due to constraints on access to theatre slots. This issue could potentially be addressed by provision of daycase facilities at either the Mater Hospital or Lagan Valley Hospital. Trans-urethral laser ablation (TULA) for small recurrent bladder lesions, provided in an outpatient setting also has the potential to free up theatre space. All units should implement a TULA service as a matter of priority.

[3] NHS England - Model Hospital

The current provision of surgery for bladder outflow obstruction (BOO), **shown in Figure 8**, is poor, both in terms of treatment options and unacceptably long waiting times. At the time of writing, over 300 patients from across Northern Ireland have been waiting for bladder outflow surgery for more than four years. Whereas most BOO surgery in NI is delivered as an in-patient procedure, daycase surgery for BOO is uncommon but ripe for development. Many units in England now offer daycase surgery for BOO, with the current benchmark for England being 26% and exemplar units achieving a daycase rate in excess of 80%.

Excluding the backlog caused by Covid, men awaiting bladder outlet surgery represents the largest patient cohort nationally on the urology waiting list. Approximately 750 men require BOO surgery on an annual basis in NI. This need is not currently being met with patients experiencing long delays. As a consequence, some patients have been referred to Dublin for their treatment. Men with larger prostates, who have developed urinary retention, do particularly badly as they are not suitable for some of the newer available modalities and cannot currently access Holmium Enucleation of the Prostate (HoLEP) which would be the current standard of care.

Figure 8: Available surgical options for the treatment of male bladder outflow obstruction, by hospital.

Trust	Site	Available options for surgical treatment of BOO	Comment
Belfast HSC	Royal Victoria	Nil	
	Belfast City	TURiS and Prostate artery embolisation (PAE)	
Northern HSC	Antrim Area	None	Mid Ulster Hospital Magheraflt-Urolift
	Causeway	TURiS	
South Eastern HSC	Ulster Hospital	TURiS	HOLEP cases have commenced with mentoring to be completed by September 2023
	Lagan Valley	TURiS, REZUM and Greenlight laser	Urolift in development. Rezum and greenlight at LVH is utilised by other trust surgeons (e.g. Southern)
	Downpatrick	None	
Southern HSC	Craigavon	TURiS, Greenlight	
	Daisy Hill	TURiS	
Western HSC	Altnagelvin	TURiS	
	Omagh	Daycase TURiS	

Bladder outlet obstruction (BOO) surgery is now recognised an area of sub-specialist expertise and there is an emerging consensus that patients should have access to all suitable options,

including Trans Urethral Resection in Saline (TURiS), Greenlight laser, Urolift, REZUM and HoLEP. There should be a two-centre model for the majority of BOO surgery in Northern Ireland, predicated on the nominated, protected elective capacity sites in Lagan Valley Hospital and Omagh Hospital. Holmium laser enucleation of the prostate poses a particular challenge as it is ideal for men with larger prostates but is not currently available at any sites. The service is being developed with mentoring of 2 consultants at the Ulster Hospital. There are 2 Surgeons in Southern Trust are also trained to deliver HoLEP with plans currently in place to utilise the Daisy Hill 23 hour stay elective unit to deliver this

There should be regional pathways in place for patients requiring BOO surgery and ideally there would be nurse-led assessment of these men and nurse-led consent for each of the procedures that form part of a regional pathway. This was explored at each of the deep dive visits and there was broad agreement for nurse-led consent and development of single PTL waiting lists for each of the BOO procedures.

Given the significant pressures on theatre access at inpatient sites, it will be important for patients, nurse specialists and urologists to be aware that a day case option should always be explored first as this will result in more timely care. The GIRFT Academy guide provides an algorithm for patient suitability for each of the procedure types: GIRFT Urology Guidance - Bladder Outlet Obstruction.

The practice of ureteroscopy appears to have changed over the past few years with more hospitals delivering the procedures as day case. 78% of ureteroscopies performed in South Eastern Trust are currently being delivered as day cases in line with contemporary practice in England, undoubtedly aided by the daycentre at Lagan Valley, this is being delivered by surgeons from South Eastern, Belfast and Southern Trusts. Trusts should aim to deliver the same day case rates across NI for all patients undergoing ureteroscopy, recognising that with the move of suitable patients to HVLC centres those patients undergoing ureteroscopy in inpatient setting are inevitably complex and will have a longer LOS.

9. Urgent and Emergency Care (UEC)

The current provision of urgent and emergency care in shown in **Figure 9**. In common with other regions in England, Trusts in Northern Ireland have seen an increase in the number of patients admitted with urological conditions. The true demand for urological care is likely to be under-represented as most patients with a urological diagnosis are coded under General Surgery at the time of initial admission.

There is an overwhelming impression that the pathways for patients with urological diagnoses requiring urgent or emergency care do not function satisfactorily, and a post code lottery exists with regard to adequacy of emergency care provision. There needs to be an urgent addressing of the issues described below.

The underlying problems with UEC relate to poorly designed and functioning pathways, a fragmented middle-tier emergency care urology service and inadequate provision of acute beds for those patients requiring onward admission from Northern Health and Social Care Trust to either Altnagelvin or the Belfast Trust. At the heart of the issue are communication problems between the trusts and a lack of formal dialogue in agreeing these clear and standardised protocols.

Antrim Area Hospital and Causeway Area Hospital have no urological cover on-site and rely on inter-hospital transfer for patients requiring on-going urological care, based on postcode. Surgeons, ED clinicians and medical staff report significant problems referring patients to both Belfast City and Altnagelvin Hospital, with delays and at times a reluctance to transfer certain

patients. There was a specific issue highlighted with deployment of non-specific advice from the on-call urology team ('admit locally' was the term entered in patient notes) and then difficulty getting consistent advice from the neighbouring urology unit the following day. Patients experience delays at Antrim Area Hospital and Causeway Area Hospital and spend an unreasonable length of time, either in the ED department or on a ward, without adequate consultant supervision. Criticism can be levelled both ways. 20-30% of admissions in the generality of surgery have a urological component. Working in a hospital with a functioning ED unit and no urology cover means that the staff will have to engage with urological problems and cannot abrogate responsibility for patients who require admission and stabilisation. There is an urgent need for co-designed urgent and emergency pathways for the common acute urological conditions that outline standards of care for patients and the responsibilities of the referring and the admitting units.

Figure 9: Provision of urgent and emergency care, by hospital.

Trust	Site	Emergency admissions	Inpatient Urology
Belfast HSC	Royal Victoria	Y	Y
	Belfast City	N	Y
Northern HSC	Antrim	Transfer	N
	Causeway	Transfer	N
South Eastern HSC	Ulster Hospital	Y	Y
	Lagan Valley	Transfer	N
	Downpatrick	Transfer	N
Southern HSC	Craigavon	Y	Y
	Daisy Hill	Transfer	Some 23hr stay
Western HSC	Altnagelvin	Y	Y
	SWAH	Transfer	N

It is our recommendation that the current postcode-based system is removed and the arrangements between Trusts simplified in the interests of safe patient care. All patients attending Antrim Area Hospital who require onward care should be directed to Belfast Trust and those attending the Causeway Area Hospital directed to Altnagelvin.

Arrangements at the Royal Victoria for the reception of emergency urological admissions are inadequate. By default, patients are admitted through the ED department as a Urology Assessment Unit does not exist. From ED, patients are then admitted to ward 4 (an orthopaedic ward), which has little dedicated urological nursing and is perceived as having a

lesser interest in the urological patients by comparison to its base specialty of orthopaedics. For a hospital of this size, there should be provision of an ambulatory assessment unit, either as a stand-alone clinical area or within a generic surgical assessment unit. Referrals from general practice or surrounding hospitals would then be sent directly to the assessment unit, allowing more rapid access to urological care and relieving the pressure of inappropriate routing through ED.

Due to service pressures, Urologists have difficulty accessing confidential enquiry into Peri-operative deaths (CEPOD) theatre lists for the acute management of haematuria or emergency ureteroscopy for stones. Under these circumstances, patients are more likely to get a ureteric stent (rather than primary ureteroscopy and laser lithotripsy) with inevitable delays in their long-term management. This contrasts with efficient pathways for emergency cholecystectomy in general surgery. Access for category one cases, such as acute testicular torsion, was reported to be good and there was no sense that these more urgent cases were delayed. The same was true of percutaneous drainage of the kidney in interventional radiology at BCH but this was not the case in other sites.

Whereas most patients with urinary retention do not require admission, patients do require a timely trial without catheter following ED attendance. In many Trusts, the arrangements appear to be haphazard: patients sometimes get a TWOC in the community or at the admitting hospital, but if that fails they are then re-catheterised and referred for consideration of onward surgical treatment. Patients then wait months or years for an appointment and definitive surgical treatment. It is well accepted that patients with indwelling catheters experience greater morbidity with recurrent Urinary tract infections (UTIs), haematuria and urosepsis. The inability to provide a timely service for these patients results in more emergency and unscheduled care. Given the elective backlogs, there is an urgent need to streamline the pathway for men who present with urinary retention and fail a subsequent TWOC. Such measures could include dedicated, rapid-access outpatient slots or a TWOC service based in the setting of a UIU (where there is clinical expertise on-site to support a same-day, shared-decision on the need for bladder outlet surgery).

The situation with regard to patients presenting with ureteric colic varies across the province. There appears to be no up to date pathway in the Northern area for the onward referral of patients needing emergency stone treatment. Clinicians at Antrim and Causeway were unclear as to the modalities of treatment that might be offered for a patient presenting with acute ureteric colic (either ESWL or acute ureteroscopy). Despite NICE guidance supporting its use, acute ESWL is rarely used across the province and provision of acute ureteroscopy is generally poor at all sites. There needs to be a clear pathway in place to ensure that patients can easily be referred from all sites for acute onward ESWL and this should be built into the plans for the fixed-site lithotripsy service at Craigavon Area Hospital. In terms of acute ureteroscopy, pathways should also be developed for either surgery at the time of initial admission (reliant on CEPOD access) or a ‘book and return’ model of care. The latter can also work well in protected elective care sites, such as Lagan Valley.

Access to interventional radiology by trust is detailed in Figure 10 and is essentially limited onsite to normal working hours in most Trusts, with the exception of the Royal Victoria Hospital. Given the current workforce issues in interventional radiology, access to these services will inevitably be constrained; a functioning SOP with service level agreements at each Trust is required to ensure timely access to the service, with a guaranteed repatriation once the immediate crisis is resolved.

10. Specialist Care

10.1 Oncology

The current arrangements for major oncological surgery are shown in **Figure 10** and are derived from the pre-visit questionnaire. The estimated figures for the uro-oncological surgery requirement are shown in **Figure 11** below.

The majority of operative uro-oncology is provided for at Belfast City Hospital, but there are significant capacity challenges in delivering a timely service. At present, Belfast City Hospital has seven theatres, two of which are undergoing refurbishment on a rolling basis. It is estimated that this process will not be completed for the next 18-24 months. Although there is a DaVinci Robot in place, it is underused and even if it was operated at full capacity it is unlikely that an operative programme based on a single robot would be sufficient to meet NI needs. This is particularly true as the provision of radical cystectomy and radical nephrectomy has now moved towards robotically-assisted surgery as the approach of choice.

Figure 10: Provision of Oncology by Health Board in Northern Ireland

	Belfast HSC	South East HSC	Southern HSC	Western HSC
Laparoscopic nephrectomy	Y	Y	Y	Y
Partial nephrectomy	Y	N	N	N
Nephroureterectomy	Y	N	Y	Y
Cystectomy	Y	N	N	N
Radical prostatectomy*	Y	N	N	N
Penile Cancer	N	N	N	Y

**Majority of patients requiring radical prostatectomy are transferred to the Mater Private Hospital in Dublin.*

With appropriate investment and recruitment, there are sufficient volumes of work in NI to justify a second robotic surgery programme at Altnagelvin Hospital. Ideally, it would be implemented as part of a cross-specialty platform, given that colorectal surgery and gynaecological surgery is beginning to transition at pace towards a robotic approach. Recruitment of surgeons with the necessary skills will be the major barrier to expansion of the robotic provision but establishing a second, high-volume robotic service at the Western Trust would appeal to certain individuals and would likely make Western Trust a more attractive place to deliver urology.

Radical prostatectomy; Provision of robotically assisted radical prostatectomy (RARP) is currently predicated on three surgeons operating at Belfast City Hospital. Approximately 56 procedures were performed in 2022 (internal data) with an average length of stay of 1.68 days (England average 1.7 days). Patients requiring RARP from across NI are currently managed on a central register. Because of the numbers involved and constraints on the service, a

majority of patients requiring RARP are then referred to the Mater Hospital in Dublin for their treatment.

Based on the RARP rate of 150 procedures per million of the population in England, it is estimated that the true requirement for RARP on an annual basis in NI is approximately 270 procedures. It is likely that many patients who are eligible for surgery do not currently choose RARP, either in Belfast or Dublin, and instead opt for active surveillance or radiotherapy as a result of the long waits for the procedure or the need to travel. This is a phenomenon that has been observed in more rural parts of England or where access times are poor.

The average specialist unit in England delivers 150 cases per year with each operating surgeon performing an average of 50 cases per annum. Given NI's requirements, supplying the service would require 6 surgeons in the fullness of time, with back-up support from properly staffed nursing and administrative teams. Based on a two-session day, and two RARP being delivered per list, 120 lists would need to be provided across the network to meet the demand.

The Department of Health needs to urgently work with providers to address the under-provision of theatre capacity for the provision of major urological cancer surgery, thereby addressing delays to treatment. In doing so, there should also be a clear commitment to re-patriate pathways for patients who are currently required to travel out of Northern Ireland for specialist cancer surgery

Cancer Nephrectomy; The majority of renal surgery is also likely to become robotically-assisted in the near future, in keeping with this change of practice on the mainland and this will further increase the need for robotic surgery provision.

Both open and laparoscopic nephrectomy are provided at 4 Health and Social Care Trusts in NI. Outside Belfast, laparoscopic nephrectomy is the most commonly performed renal operation. Patients with small renal lesions are referred to Belfast for robotically-assisted partial nephrectomy (RAPN) or ablative treatments. The practice is changing rapidly in England. Robotically-assisted nephrectomy and robotically-assisted partial nephrectomy are becoming established as the standard operative techniques, with the more specialised units providing robotic partial nephrectomy and robotic nephroureterectomy. It is likely that nephroureterectomy followed by radical nephrectomy will transition to a robotically-assisted approach as standard in the future, further decreasing the requirement for open surgery. The ratio for partial nephrectomy to total nephrectomy is approximately 70:30.

Based on the available data, NI has a requirement for approximately 180 nephrectomies per year. In a contemporary practice, approximately 125 will be partial nephrectomies and 55 either laparoscopic or open. Partial nephrectomy (RAPN) surgery should only be on a single site, with IR availability. There is a compelling need to improve the provision of nephrectomy across NI (approximately 180 procedures per annum) and robotically-assisted partial nephrectomy at Belfast City Hospital. This should include a networked service for renal surgery as outlined above.

Within the Department of Health, a discussion should be initiated and a strategy will need to be developed regarding the current viability and future provision of the nephrectomy service across NI. Ideally, there should be provision of total nephrectomy across the Province with a single, virtual service linked by a single MDT, so that sickness and holiday leave can be covered. The minimum requirement in the future should be based on at least six trained surgeons providing the range of robotic and open procedures with appropriate governance and oversight.

Cystectomy; Open cystectomy is currently provided at Belfast City Hospital by three surgeons. There were no data available from the data pack between April 2019 and March 2020, but it is estimated that the annual requirement for cystectomy in NI is a minimum of 56 procedures per year though could be higher depending on disease characteristics. The practice of cystectomy is rapidly changing in the UK and a robotically assisted approach has become the commonest modality in England. By necessity, this change in practice will again need to be factored into a strategic plan for the service; as new consultants take up their posts, most will have completed a robotics fellowship. Radical cystectomy, in common with RAPN, should only be delivered on a single site due to its complexity and lower-case volumes.

There were no concerns expressed in relation to the pathway across NI with respect to cystectomy. Although there is no concrete evidence, there is anecdotal evidence that patients experience significant delays in accessing surgery due to inadequate list availability. Cystectomy is the most time critical pathway in urological oncology and every effort should be made to ensure that patients receive their surgery in a timely fashion (ideally no longer than 30 days from decision to treat). Generally speaking, there will be two patients a week requiring radical cystectomy (when other indications such as pelvic exenteration are included) and the team at BCH should make every effort to regularly provide this capacity and minimise delays in treatment.

There needs to be improved capacity for the provision of radical cystectomy surgery, with adequate and timely theatre access for the delivery of approximately 70-90 procedures per year (based at Belfast City Hospital). Consideration should be given to developing a robotically-assisted approach for this procedure.

Figure 11: Estimated number of urological oncology procedures requiring to be delivered per year in Northern Ireland

Procedure		Estimated number of procedures required /year	Comment
Nephrectomy		180	Based on approximately 70% patient being suitable for partial nephrectomy
	Laparoscopic or open nephrectomy	55	
	Partial nephrectomy	125	
Cystectomy		60-70 (for bladder cancer)	
Radical prostatectomy*		270	
Penile Cancer		25	Many patients will require multiple procedures

Penile Cancer; the penile cancer service is currently based at Altnagelvin Hospital and is essentially staffed by a single consultant with support from an experienced, retired and returned colleague. While this arrangement works well at present there are obvious concerns regarding the resilience of the service in the event of unplanned leave and or sickness. Although the numbers of new penile cancers are relatively small (approx. 30-40 per year), many will require multiple diagnostic and therapeutic procedures. It is important that this service remains linked to a designated penile cancer centre either in North West of England

or in Eire, both to ensure resilience for this single-handed service and peer support for more complex patients. There is currently a MDT in place with the Christie Hospital, Manchester.

Provision of penile cancer surgery should ideally be based on service delivery by two trained surgeons, ensuring the resilience of the service.

10.2 Stone Management

The current provision of stone service in NI can be shown in **Figure 12.** The advancements in both our understanding of the natural history of stone disease allied with developments in technology over the past decade mean that much stone surgery can be delivered endoscopically using suitably powered lasers; all trusts provide ureteroscopy with the exception of the Northern Health and Social Care Board, which are reliant on an in-reach model at Causeway Hospital, supported by the Urology team from Altnagelvin. Extracorporeal shockwave lithotripsy (ESWL) and the provision of percutaneous nephrolithotomy (PCNL) remain important elements of a contemporary service. In England the numbers of PCNLs performed annually have steadily decreased as better technology means that more patients can be treated endoscopically. ESWL retains an important role in the management of renal calculi and the urgent treatment of patients presenting with ureteric colic. Its' use is supported by NICE guidance, both on efficacy and cost comparison.

Figure 12: Current provision of stone services in Northern Ireland

	Belfast HSC	Northern HSC	South Eastern HSC	Southern HSC	Western HSC
Site(s)	Royal Victoria and Belfast City	Causeway	Ulster and Lagan Valley	Craigavon and Daisy Hill	Altnagelvin
Ureteroscopy and laser fragmentation	Y	Y	Y	Y (CAH + DHH)	Y
PCNL	Y	N	Y	Y (CAH)	Y
ESWL	Y	N	N	Y (CAH)	Y

The provision of PCNL is dependent on securing a suitable access track with radiological screening, either performed by the operating surgeon or more commonly an interventional radiologist. The number of patients requiring PCNL in Northern Ireland is small and it is generally agreed that the service should be placed in one hospital, helping to free up theatre time in other units. The agreed model is that centralisation of PCNL surgery and more complex endourological procedures should take place at Craigavon Area Hospital, led by the Southern team. This will require the provision of an all-day operating list for PCNL, supported and funded for a minimum of 42 weeks of the year with two PCNLs on each list. Case volumes for the more complex endourological procedures will also need to be assessed as these will require additional theatre capacity within the unit.

Centralisation of static ESWL should also take place at Craigavon Area Hospital; this will require the provision of ESWL 5 days a week, supported by trained radiographers and clinical staff (including a dedicated clinical nurse specialist). There should be a single referral system in place for all Trusts to enable timely access to both acute and elective ESWL. Such an arrangement will enable the Department of Health to disinvest in mobile lithotripsy services.

Each trust providing an emergency service must ensure there are established pathways for the provision of urgent ureteroscopy and/ or ESWL. Such models of care work well elsewhere in England. For ureteroscopy and laser lithotripsy, this can include a 'book and return' model to the acute site or a HVLC hub site.

10.3 Female and Functional urology

Due to the pressures on core urology, emergency care and limited theatre access, the provision of female and functional urology has struggled for in NI for many years. The Covid pandemic has exacerbated poor access to care for these patients and many women with stress urinary incontinence and other functional issues have had difficulty accessing appropriate surgery.

Figure 13: Current provision of female and functional procedures in Northern Ireland

Procedure /Condition	Current provision(Urology)	Comment
Surgical management of urinary stress incontinence	Belfast City, Craigavon and Altnagelvin	Element of this service should be provided in association with urogynaecology at designated sites
Vesicovaginal repair (VVF)	Altnagelvin and Belfast City and Craigavon	Altnagelvin
Ureteric injury **(Trauma and iatrogenic)**	All centres	Constraints in theatre access at BCH and long waits hamper the service
Bladder augmentation	Altnagelvin and Belfast (in-reach)	As above
Urethral reconstruction*	Altnagelvin	As above
Insertion of artificial urinary sphincter	Not currently commissioned or provided in N Ireland	Service could be provided in a 23-hour surgical unit. Altnagelvin may be best placed to consider this.
Congenital and acquired neuropathic bladder management	Belfast City, Altnagelvin and Craigavon	Provision of services for these patients (including those with MS) occurs on an ad hoc basis
Videourodynamics	Altnagelvin and Belfast City	New facilities developed at Belfast City

*Linkage to sub-specialty MDT

There have, however, been pockets of good care and positive developments in Northern Ireland. The best developments have been at Altnagelvin where video-urodynamics (used to establish a diagnosis with bladder pressure monitoring, combined with radiological imaging) and sacral nerve stimulation (SNS) have been commissioned and are providing a good service for the region. As seen in **Figure 13**, provision of surgery for urinary stress incontinence

(provided by a Urology service) is delivered at Belfast, Craigavon and Altnagelvin. Surgery for Genuine Stress Incontinence (GSI) is also provided by urogynaecologists across Northern Ireland and it is difficult to get precise estimates about how much is being done by each specialty.

Surgery for female and functional problems unfortunately occupies a low priority for many busy hospitals. This is evidenced by the situation at Belfast City and Craigavon where, despite having an Urologist trained in this area of practice, access to theatre is constrained by the unmet demand of the oncology service. This situation is unlikely to be resolved for the foreseeable future. Patients continue to be referred to Belfast City Hospital without a realistic timeframe for surgery.

Compounding this issue is the requirement to deal with other aspects of functional urology which can have a profound effect on patients' lives. These include the surgical management of intractable incontinence, and the long-term management of patients with congenital neuropathic bladder and other neurological issues which affect bladder function (e.g. iatrogenic trauma, MS, stroke, spinal cord injury and vesico-vaginal fistula). Belfast Health and Social Care Trust is the designated Mesh Centre for management of patients with vaginal tape erosions, which requires a combined urogynaecology, urology and pelvic surgery input. While the clinical expertise is available, surgical facilities underpinning activities in functional urology are inadequate to meet current demands. Surgical techniques have developed significantly over the past decade and internationally more of these patients are being managed using robotic techniques, which are destined to become standard management in the next decade. They should be equally available to patients from Northern Ireland. Currently the robot is only commissioned for radical prostatectomy and partial nephrectomy.

Due to the small numbers involved, elements of female and functional urology for NI should be properly commissioned and resourced. Options include limiting investigative and surgical options to one or two centres in the province or considering disinvesting from some elements of the subspecialty (e.g. urethral reconstruction, mitrofanoff procedures). There is little or no prospect of this service being delivered at the City Hospital in Belfast and alternative site(s) must be identified for the provision of care within six months.

10.4 Andrology (including Urethral Reconstruction)

Access to benign andrology and urethral reconstruction surgery in Northern Ireland has been extremely limited over the past few years due to the huge pressures elsewhere in the service, including the long cancer waits, the Covid pandemic and limited theatre access. Northern Ireland has one trained andrologist for the region who is fully committed to delivering a high quality penile cancer.

Figure 14: Estimated Andrology Requirements for Northern Ireland

Procedure	Rates per 100,000 in UK practice*	Anticipated requirement per year in NI (based on population of 1.868 million)
Artificial urinary sphincter insertion	0.63	12
Penile prosthesis insertion (new)	0.44	8
Urethral surgery (including hypospadias repair)	4.2	79
Urethral surgery (excluding hypospadias repair	1.08	20
Penile cancer procedures	0.66	13
Corporoplasty	0.77	15
Male Infertility procedures	0.69	13

The projected andrology requirements for Northern Ireland are shown in **Figure 14**, based on current UK data. In Northern Ireland, at present, two consultants provide urethral reconstruction, but the bulk of their work is in the provision of core urology, stones and emergency care. As a consequence, patients with urethral stricture disease can wait significant periods of time for definitive treatment.

In the England, andrology services are largely predicated on a population of 7 million and the number of surgeons with a low volume practice in the subspecialty has declined significantly over the past few years.

At a minimum, andrology services for NI should be properly commissioned and limited to single centre. However, the anticipated volume of procedures is low and does not lend itself to the development of genuine subspecialty expertise. The Department of Health should commission a review of surgical andrology for NI. Options for the service might include:

1. Centralise the provision of surgical andrology at Altnagelvin hospital. This would require an expansion of current commissioning, an increase in surgeons providing the service (challenging both in terms of geography and identifying the right personnel) allied with increasing specialist nurse support.
2. Centralise the provision of surgical andrology at the Ulster and Lagan Valley Hospital. Much surgical andrology can now be delivered using a 23-hour facility; services would need to be developed at the Lagan Valley Hospital to support this. It would also require an expansion of current commissioning, an increase in surgeons providing the service allied with increased specialist nurse support.
3. Disinvest in the provision of benign surgical andrology and refer patients to units in Ireland or England.
4. Examine the feasibility of a solution based on a population of 7 million.

Annex A - Full list of hospitals

Trust	Hospital
Northern Trust	Antrim Area Hospital
	Causeway Hospital
	Mid Ulster Hospital
	Magherafelt Hospital
Western Trust	Altnagelvin Hospital
	Omagh Hospital and Primary Care Complex
	South West Acute Hospital
	Roe Valley Hospital
	Limavady Hospital
Southern Trust	Craigavon Area Hospital
	Daisy Hill Hospital
South Eastern Trust	Ulster Hospital
	Lagan Valley Hospital
Belfast Trust	Belfast City Hospital
	Mater Hospital
	Royal Victoria Hospital

Annex B - Southern Health and Social Care Trust Findings and Recommendations

Findings	Recommendations
Workforce	
The medical workforce remains reliant on locum appointments and has difficulty recruiting to substantive posts. This is a recognised problem nationally across the UK due to unfilled consultant posts and a lack of National Training Number's (NTN's) accredited each year.	The Trust should continue to address barriers to recruitment, where these are within their control. A middle grade rota can comprise an extended workforce that can include advanced nurse practitioners and physician's associates in addition to more usual medical roles. Developing areas of sub-specialist practice can also aid recruitment and retention of staff.
The unit receives 3 NTN's per year; there is an unequal distribution of trainee numbers across Northern Ireland.	The Training Programme Director (TPD) for urology should continue to work with individual units to ensure that trainees are allocated to departments in line with the trainees' educational needs and that areas of particular training value are utilised well.
Facilities including HVLC site	
While outpatient facilities for consulting, diagnostic procedures and therapeutic interventions are adequate, much of the Urology Investigation Unit (UIU) is currently occupied by other services if there is an outpatient room available. Urology has primary use of the outpatient rooms in Thorndale, it is only utilised by other services if the rooms are not utilised	Subject to funding, the Trust needs to urgently re-establish the UIU. Facilities to consult, perform outpatient diagnostics and offer therapeutic interventions need to be brought into one place and be future-proofed in terms of the anticipated growth in outpatient work
Theatre capacity has not been restored following the pandemic and the consultants no longer have access to an all-day theatre list.	Trust management should ensure that Trusts are optimising their theatre capacity in order that each urologist has, as a minimum, 2 sessions of theatre activity for 42 weeks of the year, when not Consultant of the Week.
The protected elective capacity at Lagan Valley Hospital is an impressive development, led by the South Eastern Trust but also utilised by Southern and Belfast teams. It has enhanced the daycase opportunities and created a hub for a regional bladder outlet service, enabling significant progress on recovering the waiting list. The unit is highly efficient and appears to be working well.	The Lagan Valley facility is a key component of elective recovery. The Southern Trust needs to ensure that the facility is used to maximum effect by its clinicians, aiming for maximum utilisation of available lists and unnecessary cancellations at short notice due to annual leave and professional leave.
Outpatients and diagnostics	
Cancer pathways need to be further streamlined and designed to avoid inefficiencies in terms of clinician time.	There should be a 'straight to test' approach for suspected prostate cancer patients requiring an MRI scan. It is not good use of clinician time to telephone patients in

	advance of the test and this could be managed by standard template letters. There should be protected ultrasound slots for patients being assessed for suspected cancer in relation to haematuria. With development of the UIU, a gold standard approach would be a sonographer working alongside the haematuria flexible cystoscopy list.
Turnaround times for MRI scans and reporting delays in biopsy results mean that the suspected prostate cancer pathway is significant delayed.	Further efforts must be made to reduce the delays in access to and reporting of imaging and pathology.
Oncology	
Up to 25% of patients currently admitted for a transurethral resection of bladder tumour (TURBT) or bladder biopsy could be managed as an outpatient under local anaesthesia using TULA.	A TULA service should be implemented promptly. It is a low-cost innovation with a short learning curve and could lead to rapid capacity release in theatres, by moving such patients out of theatre and into an outpatient setting.
Approximately 40-50% of TURBT procedures can be done as a day case, facilitated by in-theatre administration of Mitomycin-C.	The day case TURBT pathway for Craigavon Area Hospital should be developed further at Lagan Valley Hospital and Daisy Hill Hospital for stable ASA 3 patients and below and become the default pathway for patients who are suitable for a day case approach.
Current provision of Mitomycin-C is problematic	In theatre Mitomycin-C should be the default option for suitable patients, irrespective of the facility in which the procedure is performed.
Radical nephrectomy is provided by two surgeons at Craigavon Area Hospital. Patients requiring partial nephrectomy are referred to Belfast City Hospital using an in-reach model	The nephrectomy service should be formally provided as part of a networked service across the various Trusts that offer this surgery in Northern Ireland. There should be a single MDT and the ability to cross-cover each other's clinical practice in the situation whereby a single-handed surgeon is on leave or absent from work for other reasons.
Urgent and emergency care	
Further improvements could be made with regard to the management of acute stone patients. This includes improved access to 'hot' ureteroscopy and improved use of acute extra-corporeal shockwave lithotripsy (ESWL).	The department should further develop their use of a 'book and return' pathway for urgent ureteroscopy at Lagan Valley Hospital. Once established, the acute lithotripsy service at Craigavon Area Hospital should be

	used by default for primary treatment in suitable patients. A seamless referral pathway needs to be agreed across Urology departments in NI.
Men awaiting bladder outlet surgery represent one of the longest backlogs in urology and is a particular problem in NI. Men at greatest risk of poor care are those who have indwelling catheters.	The department should have a urinary retention pathway that allows for rapid access back to the service for a TWOC and or assessment for bladder outlet surgery. The pathway should dovetail with the work that has already been done on the BOO surgery at the Lagan Valley facility.
Specialist services	
Stone service.	It has been agreed that Extra-Corporeal Shock Wave Lithotripsy (ESWL) and Percutaneous Nephrolithotomy (PCNL) surgery will be centralised at Craigavon Area Hospital. This will require the provision of 42 all day lists per year (2 procedures per list).There will need to be additional capacity for other types of complex endourological stone procedures.
ESWL.	The facilities for the delivery of ESWL will need to be upgraded to facilitate the delivery of 4-5 patients for ESWL per half-day list.
There is currently under-provision of benign andrology surgery across NI.	Given the regionalisation of this service in WHSCT the trust should consider disinvesting in the provision of benign andrology. There are now good examples nationally of delivering andrology surgery in 'cold' elective sites. Clinicians with expertise in this area should work as part of a regional andrology service for NI, including the continued provision of penile cancer surgery at Altnagelvin Hospital.
Pathways for female and functional urological treatments need to be clearly agreed and described.	Assessment and common treatments (such as botox / intra-vesical therapies) should be provided at the Trust. There is consensus that the service for more complex or refractory patients will be centralised to Altnagelvin Hospital.

Annex C - South Eastern Health and Social Care Trust Findings and Recommendations

Finding	Recommendation
Workforce	
The specialist nursing team is under-staffed when compared to the workload. There are significant opportunities that could be explored for extended roles.	Subject to funding, the Clinical Nurse Specialist (CNS) team should be expanded further as a priority area of development for the Trust. Their roles should continue to be extended to include delivery of LA trans-perineal prostate biopsy, flexible cystoscopy and Botox. TULA could also be considered, once established. Given the expansion of bladder outlet surgery services, a CNS should be employed to manage the lower urinary tract symptoms (LUTS) pathway.
There are two physician's associates (PAs) in post in the unit and there is significant scope for them to support service delivery in both acute and elective care.	The department should refer to the new Urology PA curriculum that has been developed as well as the GIRFT Academy UIU guide to map out the career development plan for the PAs and how they will contribute to the long-term vision for the service.
The unit only receives 1 NTN trainee per year but there is significant scope to offer more training within the unit (*e.g*. training in BOO surgery at Lagan Valley).	The TPD for urology should continue to work with individual units to ensure that trainees are allocated to departments in line with the trainees' educational needs and that areas of particular training value are utilised well.
Facilities including HVLC site	
The current outpatient and diagnostic facilities are not adequate for the service, given that a majority of urological investigations treatment are outpatient-based.	A headline priority for the Trust should be the urgent development and delivery of a UIU subject to funding. Facilities to consult, perform outpatient diagnostics and offer therapeutic interventions need to be brought into one place and be future-proofed in terms of the anticipated growth in outpatient work (including re-patriation of outsourced work). A UIU is the ideal place to provide office accommodation for clinical and administrative staff so that training and clinical interaction can be facilitated.
The protected elective capacity at Lagan Valley is an impressive development, led by the South Eastern Trust but also utilised by Southern and	The Lagan Valley facility warrants continued support and expansion of capacity. It is a key component of elective recovery. Likewise,

Belfast teams. It has enhanced the day case opportunities and created a hub for a regional bladder outlet service, enabling significant progress on recovering the waiting list. The unit is highly efficient and appears to be working well.	investment in any further technologies that are required is likely to be good use of resources with the opportunity for patients across NI benefitting from this excellent service. The South Eastern team should continue to lead on development of the networked BOO surgery service across NI.
Outpatients and diagnostics	
Cancer pathways need to be further streamlined and designed to avoid inefficiencies in terms of clinician time.	There should be a 'straight to test' approach for suspected prostate cancer patients requiring an MRI scan. It is not good use of clinician time to telephone patients in advance of the test and this could be managed by standard template letters. There should be protected ultrasound slots for patients being assessed for suspected cancer in relation to haematuria. With development of the UIU, a gold standard approach would be a sonographer working alongside the haematuria flexible cystoscopy list.
Turnaround times for MRI scans and reporting delays in biopsy results mean that the suspected prostate cancer pathway is significant delayed.	Further efforts must be made to reduce the delays in access to and reporting of imaging and pathology.
Oncology	
Up to 25% of patients currently admitted for a TURBT or bladder biopsy could be managed as an outpatient under local anaesthesia using TULA.	A TULA service should be implemented promptly. It is a low-cost innovation with a short learning curve and could lead to rapid capacity release in theatres, by moving such patients out of theatre and into an outpatient setting. Lagan Valley Hospital would be a good site for this service, based in a procedure room.
Approximately 40-50% of TURBT procedures can be done as a day case, facilitated by in-theatre administration of Mitomycin-C.	The day case TURBT pathway should be developed further at Lagan Valley Hospital and become the default pathway for patients who are suitable for a day case approach.
Radical nephrectomy is provided by a single surgeon at the Ulster Hospital. Patients requiring partial nephrectomy are referred to BCH.	The nephrectomy service should be formally provided as part of a networked service across the various Trusts that offer this surgery in NI. There should be a single MDT and the ability to cross-cover each other's clinical practice in the situation whereby a single-handed surgeon is on leave or absent

	from work for other reasons. This will also mitigate against differences in access times should they occur.
Urgent and emergency care	
Further improvements could be made with regard to the management of acute stone patients. This includes improved access to 'hot' ureteroscopy and improved use of acute extra-corporeal shockwave lithotripsy (ESWL).	The department should further develop their use of a 'book and return' pathway for urgent ureteroscopy at Lagan Valley Hospital. Once established, the acute lithotripsy service at Craigavon Area Hospital should be used by default for primary treatment in suitable patients. A seamless referral pathway needs to be agreed between the two departments.
Men awaiting bladder outlet surgery represent one of the longest backlogs in urology and is a particular problem in NI. Men at greatest risk of poor care are those who have indwelling catheters.	The department should have a urinary retention pathway that allows for rapid access back to the service for a TWOC and or assessment for bladder outlet surgery. The pathway should dovetail with the excellent work that has already been done on the BOO surgery service to date.
Specialist services	
There is currently under-provision of benign andrology surgery across NI.	There are now good examples nationally of delivering andrology surgery in 'cold' elective sites. Clinicians with expertise in this area should work as part of a regional andrology service for NI, including the continued provision of penile cancer surgery at Altnagelvin.
PCNL is done in small numbers currently and this should be addressed.	It has been agreed that PCNL surgery will be centralised at Craigavon Area Hospital and the business case has already been worked through.
Pathways for female and functional urological treatments need to be clearly agreed and described.	Assessment and common treatments (such as botox / intra-vesical therapies) should be provided at the Trust. There is consensus that the service for more complex or refractory patients will be centralised to Altnagelvin Hospital.

Annex D - Belfast Health and Social Care Trust Findings and Recommendations

Finding	Recommendation
Workforce	
For a major cancer centre, the specialist nursing team is grossly under-staffed when compared to the workload. There are significant opportunities that could be explored for extended roles, once staffing levels are improved.	The CNS team should be expanded further as an urgent action for the Trust. A cancer centre serving 1.8 million people would be expected to have a CNS team that is sub-specialised, with each CNS having a specific area of interest (bladder, kidney, prostate and penile / testicular). They should be able to cross-cover colleagues. Nursing roles should continue to be extended to include delivery of LA trans-perineal prostate biopsy, flexible cystoscopy and Botox. TULA could also be considered, once established.
The current consultant complement is currently understaffed to provide the cancer services with respect to robotic prostatectomy, cystectomy and elements of renal cancer surgery	The trust should expand the number of consultants to provide urological surgical oncology for Northern Ireland subject to funding.
Cross-site working is challenging for the Belfast team as they are required to cover both the City Hospital and the Royal Victoria Hospital.	Expansion of middle grade support is needed to support the delivery of emergency care and to alleviate some of the issues associated with split-site working. A modern, middle grade workforce should include extended roles such as physician associates or nurse practitioners.
Outpatients and diagnostics	
The current outpatient and diagnostic facilities are not adequate for the service, given that a majority of urological investigations treatment are outpatient-based.	A headline priority for the Trust should be the urgent development and delivery of a UIU subject to funding. Facilities to consult, perform outpatient diagnostics and offer therapeutic interventions need to be brought into one place and be future-proofed in terms of the anticipated growth in outpatient work (including re-patriation of outsourced work). A UIU is the ideal place to provide office accommodation for clinical and administrative staff so that training and clinical interaction can be facilitated.
Up to 25% of patients currently admitted for a TURBT or bladder biopsy could be managed as	A TULA service should be implemented promptly. It is a low-cost innovation with a

an outpatient under local anaesthesia using TULA.	short learning curve and could lead to rapid capacity release in theatres, by moving such patients out of theatre and into an outpatient setting.
Facilities including HVLC site	
There can be difficulties in offering timely treatment for patients requiring less major forms of surgery (for example, TURBT). This is due to the pressures associated with the major surgery workload.	The day case TURBT pathway should be developed further, with consideration given to using the facilities at either the Mater Hospital or at Lagan Valley Hospital. Daycase TURBT should become the default pathway for patients who are suitable for a day case approach. Decompressing the service at Belfast City Hospital would help to alleviate pressures and ensure more equitable access to surgery for patients.
Approximately 40-50% of TURBT procedures can be done as a day case, facilitated by in-theatre administration of Mitomycin-C.	Every effort must be made to ensure that suitable patients get access to intravesical Mitomycin at the time of their surgery.
Men awaiting bladder outlet surgery represent one of the longest backlogs in urology and is a particular problem in NI. Men at greatest risk of poor care are those who have indwelling catheters.	Addressing the waiting time for men with lower urinary tract symptoms should be a priority for the trust. The pathway should dovetail with the work that has already been done on the networked BOO surgery service to date. The delivery of elective BOO surgery should be focused on the South Eastern team, which will also alleviate some of the pressures in Belfast due to the major cancer workload.
Oncology	
Theatre provision is wholly inadequate for the delivery of major urological cancer surgery in N Ireland. There are long delays to treatment and a high proportion of patients needing specific forms of cancer surgery (radical prostatectomy) are required to travel to Southern Ireland for their care. A DaVinci robot is available, with trained surgeons, but it is significantly under-utilised.	There is the clinical expertise to be able to offer the full range of surgical treatment options to patients from across NI, diagnosed with urological cancer. The prime reason that patients are currently delayed in their care or having to travel elsewhere is due to the lack of theatre facilities at Belfast City Hospital. All specialties are competing for theatre access in a highly constrained environment comprising only 5 functioning operating theatres. This capacity gap needs to be urgently addressed and this report includes estimates of the capacity that is required to make the service self-sufficient and able to treat the

	population without the need to travel out of NI. Trust management to ensure the robot is utilised throughout the week, given the volume of robotic surgery that needs to be performed. Subject to funding, serious consideration needs to be given to a second robotic service in Altnagelvin Hospital, as Belfast Trust is clearly not in a position to accommodate the required expansion of services necessary to meet the population need. Robotically-Assisted Partial Nephrectomy (RAPN) and radical cystectomy should remain on a single site but robotic-assisted laparoscopic prostatectomy (RALP) and other renal surgery could be performed across two sites with robust MDT and governance arrangements. The Trust need to be extremely cautious of expanding robotic programmes into new surgical specialties ahead of addressing their capacity for the treatment of patients with urological cancer, where robotically-assisted surgery is the standard of care for major urological cancer. DN this needs to be moved to WHSCT or as a regional recommendation
There is expertise in the delivery of more complex aspects of major kidney cancer surgery.	The Belfast team should participate in the formation of a virtual MDT with colleagues undertaking single-handed, laparoscopic nephrectomy across NI to ensure equitable access to surgery in the event of consultant annual leave / unexpected absence.
Urgent and emergency care	
The Royal Victoria Hospital lacks an ambulatory area for urology and patients are initially directed to ED from primary care.	For a centre of this size, the Royal Victoria Hospital should have a dedicated ambulatory area for the management of patients with urological conditions requiring urgent and emergency care. Patients should not be directed to ED from primary care or other centres. This is inappropriate and they should be managed through an ambulatory unit.
There is currently a postcode-based system for patients who attend Antrim Area Hospital, with	It is our recommendation that the current postcode-based system is removed and the

an overly complex arrangement that extends to Altnagelvin Hospital. It is not conducive with safe patient care and there needs to be greater ownership of this issue by a single provider.	arrangements between Trusts simplified in the interests of safe patient care. All patients attending Antrim Area Hospital who require onward care should be directed to Belfast Trust and those attending the Causeway Hospital directed to Altnagelvin Hospital (see Western recommendations).
Patients requiring admission are currently admitted to a ward that is predominantly focused on orthopaedics and not overly experienced in urological care.	The current ward setting is not working well for the provision of admitted emergency care for patients with urgent urological conditions. The Trust needs to urgently develop a more suitable ward base in order to meet this need.
There are no offices available to the Urology team on the Royal Victoria Hospital site, where the majority of acute services are delivered.	The clinical team should be provided with access to adequate office facilities to allow them to undertake their administrative work whilst on call.
Further improvements could be made with regard to the management of acute stone patients. This should include improved access to 'hot' ureteroscopy and improved use of acute ESWL.	The department should further develop their use of a 'book and return' pathway for urgent ureteroscopy, offering suitable patients treatment at Royal Victoria Hospital. Once established, the acute lithotripsy service at Craigavon Area Hospital should be used by default for primary treatment in suitable patients. A seamless referral pathway needs to be agreed between the two departments.
Men presenting with acute urinary retention face long delays in getting access to appropriate treatments.	The department should have a urinary retention pathway that allows for rapid access back to the service for a TWOC and or assessment for bladder outlet surgery. The pathway should dovetail with the work that has already been done on the networked BOO surgery service to date. The delivery of BOO surgery should be focused on the South Eastern team, which has the potential to alleviate some of the pressures in Belfast due to the major cancer workload.
Specialist services	
PCNL is done in small numbers currently and this should be addressed.	It has been agreed that PCNL surgery will be centralised at Craigavon Area Hospital and the business case has already been worked through.

Pathways for female and functional urological treatments need to be clearly agreed and described.	Assessment and common treatments (such as botox / intra-vesical therapies) should be provided at the Trust.
Because of the pressure on theatre space at Belfast City Hospital, there are long delays for patients requiring benign reconstructive surgery.	Greater use should be made of HVLC sites (Lagan Valley Hospital (day case) and potentially the Mater Hospital for the delivery of short stay (23 hours) female and functional urology For patients requiring more complex surgery, services should be developed at Altnagelvin Hospital with an in-reach model

Annex E - Western Health and Social Care Trust Findings and Recommendations

Finding	Recommendation
Workforce	
The specialist nursing workforce is a strength at Altnagelvin Hospital, with CNS's delivering flexible cystoscopy, LUTS assessment clinics, ED clinics and cancer follow-up clinics.	Subject to funding, the CNS team should be expanded further as a priority area of development for the Trust. Their roles should be extended to include delivery of LA trans-perineal prostate biopsy, flexible cystoscopy and Botox. TULA could also be considered, once established.
The medical workforce remains reliant on locum appointments and has difficulty recruiting to substantive posts. This is a recognised problem nationally across the UK due to unfilled consultant posts and a lack of NTNs accredited each year.	The department should continue to address barriers to recruitment, where these are within their control. This would include a more robust middle grade rota of cover for on-call as the current consultants are largely the first point of contact for four acute Trusts (Causeway, SWAH, Antrim and Altnagelvin). A middle grade rota can comprise an extended workforce that can include advanced nurse practitioners and physician's associates in addition to more usual medical roles. Developing areas of sub-specialist practice can also aid recruitment and retention of staff. Please see below regarding robotic surgery. The Department of Health should also consider incentivisation of terms and conditions in the Western Trust, in order to attract consultants into the area.
Outpatients and diagnostics	
Waiting access times for outpatients at the Western Trust are the best in NI (see Figure 5). The team are to be congratulated on this, particularly given the lack of dedicated outpatient facilities highlighted below.	Learning from the Western Trust should be shared with other sites to understand how the waiting times can be improved at other Trusts.
Accommodation for medical and nursing staff is inadequate with cramped facilities and poorly linked to other clinical areas.	Please see the recommendation on development of a UIU.
Outpatient facilities for consulting, diagnostic procedures and therapeutic interventions are wholly inadequate and are of the lowest standard of all the urology units in NI. They are also disparate in terms of their location throughout the Trust. It will remain difficult provide efficient and timely outpatient care	The Trust needs to urgently develop and deliver plans for a co-located UIU subject to funding. Facilities to consult, perform outpatient diagnostics and offer therapeutic interventions need to be brought into one place and be future-proofed in terms of the anticipated growth in outpatient work. A UIU is the ideal place to provide office

without urgent investment and re-design of facilities.	accommodation for clinical and administrative staff so that training and clinical interaction can be facilitated.
Cancer pathways need to be further streamlined and designed to avoid inefficiencies in terms of clinician time.	There should be a 'straight to test' approach for suspected prostate cancer patients requiring an MRI scan. It is not good use of clinician time to telephone patients in advance of the test and this could be managed by standard template letters. There should be protected ultrasound slots for patients being assessed for suspected cancer in relation to haematuria. With development of the UIU, a gold standard approach would be a sonographer working alongside the haematuria flexible cystoscopy list.
Up to 25% of patients currently admitted for a TURBT or bladder biopsy could be managed as an outpatient under local anaesthesia using TULA.	A TULA service should be implemented promptly. It is a low-cost innovation with a short learning curve and could lead to rapid capacity release in theatres, by moving such patients out of theatre and into an outpatient setting.
Facilities including HVLC sites	
Theatre facilities at Altnagelvin Hospital are inadequate, with the majority of operating lists being offered in a theatre that has been decommissioned previously, on more than one occasion. The theatre footprint is too small for a modern operating theatre and cannot safely accommodate the patient, the staff and the wide array of urological equipment that is needed to undertake contemporary urological surgery.	There need to be urgent plans for the provision of suitable operating theatres for urological surgery. A majority of such surgery can be performed in daycase facilities, with a smaller component requiring in-patient care (usually due to patient co-morbidity or case complexity). It is not acceptable to continue delivering surgery in the existing facilities in the medium to long term.
Theatre capacity has not been restored following the pandemic and the consultants no longer have access to an all-day theatre list.	As a minimum, each consultant needs access to a main theatre for 2 sessions per week 42 weeks of the year.
Minor and intermediate procedures continue to be undertaken in theatre at the Causeway Hospital but the set-up is highly inefficient. The team have not been given access to daycase beds and problems with patient flow means that start-times of 10.30am or later are common. The lists are poorly utilised in terms of volume of work.	Elective surgical work at the Causeway Hospital should be reviewed with consideration of future provision in-house at Altnagelvin Hospital or Omagh.
Flexible cystoscopies are being performed in theatre at the Causeway Hospital.	This practice needs to stop and should be provided in an outpatient setting by default. It is an inappropriate use of a theatre environment.

Oncology	
Given the significant shortfall in the ability of Belfast Trust to provide the necessary resource for major cancer surgery, serious consideration needs to be given to a second robotic platform at Altnagelvin Hospital.	With appropriate investment and recruitment, there are sufficient volumes of work in NI to justify a second robotic surgery programme at Altnagelvin Hospital. Ideally, it would be implemented as part of a cross-specialty platform, given that colorectal surgery and gynaecological surgery is beginning to transition at pace towards a robotic approach. At present, only 50 of an estimated 250 men undergo RALP in Belfast and our predictions are that the province needs 5-6 RALP surgeons across the two sites if it is to meet this need. Renal surgery is also likely to become robotically-assisted in the near future, in keeping with this change of practice on the mainland. Recruitment of surgeons with the necessary skills will be the major barrier but establishing a high-volume robotic service at the Trust would appeal to certain individuals and make Western Trust a more attractive place to deliver urology. It would also complement the facilities that are provided at the oncology centre for patients requiring radiotherapy or chemotherapy. This development could be critical in ensuring long-term viability of the urology service in the West. Implementation of this recommendation will be subject to funding.
Radical nephrectomy is provided by a single surgeon at Altnagelvin Hospital. Patients requiring partial nephrectomy are referred to Belfast City Hospital.	The nephrectomy service should be formally provided as part of a networked service across the various Trusts that offer this surgery in NI. There should be a single MDT and the ability to cross-cover each other's clinical practice in the situation whereby a single-handed surgeon is on leave or absent from work for other reasons. This will also mitigate against differences in access times should they occur.
Altnagelvin Hospital is the referral site for penile cancer services in NI. It is predominantly a single-handed practice with over 75% of the consultant's theatre capacity being used this work. For this reason There is very little benign work being performed.	Ideally, the service would be expanded with appointment of another andrologist but, in the current climate, it is unlikely that another andrologist could be found and appointed due to a national shortage. To mitigate the risks associated with single-handed practice, the unit needs to have a close-working

	relationship with services on the mainland. This is currently at The Christie NHS Foundation Trust in Manchester.
Urgent and emergency care	
Urgent and emergency care pathways are not functioning consistently across the Trusts that sit within catchment for the Altnagelvin on-call team. This is particularly true in regard to the Trusts in the Northern sector (Causeway and Antrim) but also applies to South West Acute Hospital (SWAH). As a result, there is significant variation in the provision of acute urological care leading to postcode variation for patients.	Urgent action is needed to clarify these pathways and agree the arrangements for the provision of urgent and emergency care. The Urology Teams at Altnagelvin, in association with General Surgery and ED colleagues in the Northern Trust and Belfast Health and Social Care Trust, should develop contemporary clear protocols and care pathways for Urology patients requiring transfer and onward specialist urological treatment. These should include pathways for acute ureteric colic, urinary retention, haematuria and urosepsis management. It is our recommendation that the current postcode-based system is removed and the arrangements between Trusts simplified in the interests of safe patient care. All patients attending Antrim Area Hospital who require onward care should be directed to Belfast Trust and those attending the Causeway Hospital directed to Altnagelvin Hospital.
Interventional radiology provision is predicated on a single radiologist and is predominantly only available 'in-hours'. There are plans for an outreach, networked model later this year supported by Belfast Trust.	Ensure there is a clear protocol in place with associated access arrangements for the provision of interventional radiology, including out-of-hours cover.
Improvements could be made with regard to the management of acute stone patients. This includes improved access to 'hot' ureteroscopy and improved use of acute ESWL.	The department should further develop their use of a 'book and return' pathway for urgent ureteroscopy. Once established, the acute lithotripsy service at Craigavon Area Hospital should be used by default for suitable patients. A seamless referral pathway needs to be agreed between the Western team and Craigavon Area Hospital.
Specialist services	
While andrology surgery is offered at Altnagelvin Hospital, the service is reliant on a single surgeon and with the pressures of the penile cancer service, there is little time or resource available for the service	Ideally, the service would be expanded with appointment of another andrologist but, in the current climate, it is unlikely that another andrologist could be found and appointed due to a national shortage.
Stone service	It has been agreed that ESWL and PCNL surgery will be centralised at Craigavon Area Hospital.

Men awaiting bladder outlet surgery represent one of the longest backlogs in urology and is a particular problem in NI. Men at greatest risk of poor care are those who have indwelling catheters.	The department should have a urinary retention pathway that allows for rapid access back to the service for a TWOC and or assessment for bladder outlet surgery. The pathway should dovetail with the work that has already been done on the BOO surgery pathway at the Lagan Valley facility. There should be a networked approached to this service.
Pathways for female and functional urological treatments need to be clearly agreed and described.	Assessment and common treatments (such as botox / intra-vesical therapies) should be provided at the Trust. There is consensus that the service for more complex or refractory patients will be centralised to Altnagelvin Hospital.
Other observations	
The clinicians cited a disconnect between the previous management team and the clinical team, with a lack of business meetings since the initial COVID surge. It was felt that there was still some work to do to ensure the current relationships functioned well.	There should be a regular (monthly at least) meeting between the clinical team and the service management team, with opportunities to link in with more senior managers and executives. Meetings should have formal agendas, minutes and actions. Actions should be reviewed at each meeting.

Annex F - Northern Trust Findings and Recommendations

Findings	Recommendation
Workforce	
The community continence team nursing team is under-resourced and communication with the Urology teams at Altnagelvin Area Hospital and Belfast City Hospital is patchy.	Strengthening the links between the community team and urological services would enable better access to urological services (e.g. LUTS treatment and Stone management) for patients .
Outpatients and diagnostics	
Patients are traveling long distances to either Belfast or Derry for outpatient consultations	A priority for the Trust should be the further development of the UIU at Whiteabbey. Facilities to consult, perform outpatient diagnostics and offer therapeutic interventions need to be brought into one place enabling patients to be seen and managed without having to travel into Belfast
Facilities including HVLC sites	
Under-utilisation of Urology daycase facilities at both Causeway Hospital and Antrim Area Hospital.	Given the current shortage of urological in the Western Health Trust a review of elective urology at Causeway should be undertaken. Better use of the daycase facility at Antrim Area Hospital aligned with GIRFT principles should be introduced.
Urgent and emergency care (UEC)	
There is no on-site provision of specialist urological care in Antrim Area Hospital or Causeway Hospital. Initial triage and care for common urological conditions (including torsion) is provided by the acute general surgical team. A percentage of patients also end up being cared for by physicians on the medical wards. Depending on a patient's postcode, patients requiring onward urological care are referred to either Altnagelvin Hospital or Belfast Trust. A number of concerns were raised by the local teams (represented by ED, general surgery, medicine and anaesthesia at the site visit). • There were no clear protocols in use for the management of common urological conditions. • Although advice could be sought from the urology on-call team at Altnagelvin or Belfast Trust, specific management plans were not always clear. • 'Admit locally' was said to be a common initial instruction from the on-call team to	It is our recommendation that the current postcode-based system is removed and the arrangements between Trusts simplified in the interests of safe patient care. All patients attending Antrim Area Hospital who require onward care should be directed to Belfast Trust and those attending the Causeway Hospital directed to Altnagelvin. As a matter of urgency, senior clinical leaders from the relevant specialties at each Trust should meet and agree the re-configuration of services. There needs to be clear protocols in place for the common urological emergencies. As a minimum, these should include pathways for urosepsis, haematuria, acute ureteric colic, urinary retention and epididymo-orchitis. The focus should be on ambulatory models of care, where safe to do so. There should be explicit guidance as to how patients could be reviewed at Belfast Trust for longer-term management plans or subsequent attendance at urology ambulatory assessment units.

ED / acute take, leading to further calls between hospitals to clarify the plans for onward care. • When transfers were required, they were often delayed and subject to site meetings between the referring and receiving Trusts. • There was consensus that patients requiring urological input were not receiving the same timely input or urological oversight that patients in the urology units had access to.	Operational site teams should be part of these discussions, to agree how patient transfer can be optimised in order to mitigate against delays in specialist urological input. The urology on-call team at the receiving unit(should ensure that clear plans are given for immediate care of the acute urology patients as well as clear advice on what follow-up is required and how that will be arranged. Following introduction of these pathways, a follow-up meeting between clinical leads should take place after 3 months to check that they are effective in delivering safe urological care in the acute setting.
Oncology and Subspecialist Urology	
When patients who had undergone oncological procedures performed at another trust presented with complications, there were unnecessary delays in transferring patients.	A SLA and clear pathways should be rapidly instituted to enable the swift transfer of patients requiring specialist urological care.
Other	
Clinicians and senior managers present at the site visit could not recall any recent meetings between clinical leads at each Trust to address issues of mutual concern.	Given the issues raised in this review, it would be sensible to schedule an annual meeting between senior clinical leaders across the Trusts to ensure ongoing oversight and governance.

Annex G: Useful links to GIRFT Urology Pathways and Good Practice Guidance

To access the documentation, please click on the links below.

1) NHS England - Model Hospital
2) GIRFT National Urology Report
3) Diagnostics: Recovery and Renewal Report.
4) MedTech Funding Mandate policy 2022/23: guidance for NHS commissioners and providers of NHS-funded care
5) Day case surgery rates
6) GIRFT Good Practice Guide for Urology
7) Clinically-led Specialty Outpatient Guidance
8) Urology Outpatient Transformation
9) Urology: Towards better care for patients with bladder cancer
10) Urology: Towards better care for patients with acute urinary tract stones
11) Urology: towards better care for patients with bladder outlet obstruction
12) Urology: the path to recovery
13) Specialised kidney, bladder and prostate cancer services.
14) Minor peno-scrotal surgery pathway
15) Cystoscopy plus (rigid cystoscopy, endoscopic lower urinary tract procedures)

Annex H: Glossary of Terms and Abbreviations

Abbreviation	Term
A and G	Advice and guidance
BADS	British Association of Day Surgery
BOO	Bladder outflow obstruction
BPH	Benign Prostatic Hyperplasia
Bladder reconstruction	A surgical procedure to form a storage place for urine following a *cystectomy*. Usually, a piece of bowel is removed and is formed into a balloon-shaped sac, which is stitched to the *ureters* and the top of the urethra. This allows urine to be passed in the usual way.
CEPOD	Confidential enquiry into Peri-operative deaths; CEPOD lists are a means of prioritising patients for surgery, based on clinical need
CNS	Clinical Nurse Specialist
Cystectomy	Surgery to remove all or part of the bladder.
Cystoscope	A thin, lighted instrument used to look inside the bladder and remove tissue samples or small tumours.
ED	Emergency department or erectile dysfunction
ESWL	Extra-corporeal shock wave lithotripsy
GIRFT	Getting it Right First Time
GSI	Genuine stress incontinence
Haematuria	The presence of blood in the urine. Macroscopic haematuria is visible to the naked eye, whilst microscopic haematuria is only visible with the aid of a microscope.
HES	Hospital Episode Statistics. HES is the national statistical data warehouse for England of the care provided by NHS hospitals and NHS hospital patients treated elsewhere.
HoLEP	Holmium enucleation of the prostate; surgical treatment for BPH
HVLC	High volume low complexity
LATP	local anaesthetic transperineal (prostate biopsy)
LUTS	lower urinary tract symptoms
IR	Interventional radiology
Laparoscopic surgery	Surgery performed using a laparoscope; a special type of endoscope inserted through a small incision in the abdominal wall.
MRI	Magnetic resonance imaging. A non-invasive method of imaging which allows the form and metabolism of tissues and organs to be visualised (also known as nuclear magnetic resonance).
MDT	Multi-disciplinary teams
NICaN	Northern Ireland Cancer Network
NICE	National Institute for Health Care Excellence
NIEPC	Northern Ireland Electronic Patient Care
NIMDTA	Northern Ireland Medical and Dental Training Authority
NTN	National training number
PCNL	Percutaneous nephrolithotomy; key hole surgery on the kidney to treat renal stones
Prostatectomy	Surgery to remove part, or all of the *prostate gland*. Radical prostatectomy is the removal of the entire *prostate gland* and some of the surrounding tissue.
PA	Physician Associate

PAE	Prostate artery embolisation
RARP	Robotically-assisted radical prostatectomy
PIFU	Patient initiated follow-up
Rezum	Surgical treatment for benign prostate enlargement
RNOH	Royal National Orthopaedic Hospital
PSA	Prostate Specific Antigen
RTT	Referral to treatment time
SLA	Service level agreement
SOP	Standard operating procedure
SNS	Sacral nerve stimulation (treatment for refractory bladder over-activity)
TP	Trans perineal (as in transperineal biopsy)
TPD	Training Programme Director
TRUS	Tran-rectal ultrasound
TULA	Transurethral laser ablation
TUR	Trans-urethral resection
TURBT	Transurethral resection of bladder tumour
TURis	Trans-urethral resection in saline
TURP	Trans-urethral resection of the prostate (TURP); Surgery to remove tissue from the prostate using an instrument inserted through the urethra. Used to remove part of the tumour which is blocking the urethra.
TWOC	Trial without catheter
UAN	Urology Area Network
UEC	Unplanned and emergency care
UIU	Urology Investigation Unit
Urolift	Surgical treatment for benign prostate enlargement
VVF	Vesico-vaginal fistula (an abnormal communication between the bladder and vagina)
WTE	Whole time equivalent