RCSI SURGICAL AFFAIRS

NCPS
NATIONAL CLINICAL PROGRAMME IN SURGERY



# Urology
## A model of care for Ireland

Improving Surgery in Ireland

HSE

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**UROLOGY**
MODEL OF CARE FOR IRELAND

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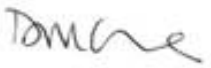
19. This edition of a Model of Care for Urology must be updated on a scheduled basis to ensure its implementation continues to be based on best evidence

# 04 FOREWORD

Urology is one of the oldest surgical specialties and delivers care that has the potential to be life-saving as well as having the capacity to significantly improve quality of life. The frequency of urinary symptoms and pathology increases with age, so Ireland's changing demographics mean that a radical reconsideration of how best to deliver urology services is necessary.

The NCPS Clinical Advisor in Urology commissioned by the HSE, Mr Eamonn Rogers, and his colleagues in the Irish Society of Urology have embraced this challenge. This model of care envisages a system of urology care that serves the majority of patients in the community, in primary care centres or in their local hospital, while assuring appropriate clinical governance to support a safe and high quality service. Its implementation in full is necessary for an efficient and economically viable service so that we can improve the access of patients across Ireland to the services they require as they get older, delivered by a range of healthcare providers including general practitioners, physiotherapists, clinical nurse specialists, advanced nurse practitioners, physician associates and urologists.

At the same time, highly specialised urologic surgery and renal transplantation surgery must continue to be supported for those patients who face life-threatening conditions like cancer and renal failure. System services to optimise co-morbidity management, to deliver pre-operative anaesthetic assessment and to access rehabilitation in a timely fashion are all essential for modern practice. Implementation of this model of care will be critical to enable every patient to benefit from quality improvement in all aspects of their healthcare journey. We commend and thank Mr Eamonn Rogers, National Clinical Advisor for Urology to the National Clinical Programme in Surgery (NCPS) for his leadership, enthusiasm and hard work to bring this project to fruition.



**Professor Deborah McNamara**
Joint Lead, National Clinical Programme in Surgery

**Professor John Hyland**
Joint Lead, National Clinical Programme in Surgery

# 05 INTRODUCTION

In 2013, The National Clinical Programme in Surgery (NCPS) published models of care defining the generic standards of care that should apply for acute (unscheduled) (NCPS, 2013) and elective (scheduled) (NCPS, 2013) surgical care in Irish hospitals. These services are delivered by multidisciplinary teams in a range of disciplines.

The development of specialty models of care is the next step in defining best practice. It allows a deeper understanding of the range of activity delivered by specialist services as well as areas where there are unmet needs. It is also an opportunity for each specialty in surgery to define how the multidisciplinary surgical workforce can best deliver the care required by Irish patients, taking into consideration the new ways of working that are now the standard of care. Improvement of surgical services will require surgical specialties and the wider health service to consider novel approaches to care delivery, such as: one-stop clinics; and, delivery of services by health and social care professionals, clinical nurse specialists (CNSs), advanced nurse practitioners (ANPs), general practitioners with specialist interests (GPSIs), physiotherapists and other healthcare associates where appropriate. In accordance with best evidence and quality assurance, the health service will also need to consider transitioning surgical management towards community-based care, instead of inpatient care, as envisaged in Sláintecare (Houses of the Oireachtas, 2017).

New technology and ways of working have the potential to change not only the diagnostic and therapeutic procedures that can be performed but also the way that surgeons communicate with patients, interdisciplinary team members, colleagues in the community and their fellow surgeons.

Specialty models of care must be focused on the needs of Irish patients and the responsibility of those delivering care to ensure that surgical services are safe, accessible, equitable, and of high quality. They must also be delivered in a cost-effective and sustainable way.

**RECOMMENDATION 16**
Coding of urological procedures should follow the HPO guidance on tips for documentation improvement-clinical language document

To understand the issues that face urology in Ireland, we must first understand the scope of the discipline. The 25 commonest principal diagnoses in the specialty of urology are outlined in Table 3 and the 25 commonest principal procedures (clinical and surgical) are outlined in Table 4. By reviewing such data, a number of issues are immediately apparent. First, it is clear that any subspecialty model of care must take into account both scheduled and unscheduled presentations, as well as inpatient, outpatient and ambulatory day care. Second, these activity reports emphasise that improving surgical service delivery will require input from all members of the surgical interdisciplinary team to ensure an efficient and high-quality service. Finally, in certain areas there is room to improve the clinical detail available to coders so that they have the information they need to deliver high-quality care.

In some areas, demand exists but current theatre capacity or ways of working are inadequate to meet this demand, resulting in excessive waiting lists for outpatient ambulatory and scheduled care. Inpatient and outpatient waiting lists for treatment are outlined in table 5 and 6, respectively. While this reflects the current status of the known unmet need within the specialty, including patients who are awaiting outpatient consultation and those who have already been seen by a specialist and advised to have a procedure, it does not currently record patients who have been seen by a specialist and advised to have diagnostic tests, for example an x-ray or a scan. Indeed, there is no metric that measures repeated outpatient visits by patients forced to re-attend to obtain diagnostic results or assess the response to treatment. This is an inefficient use of outpatient resources, as many patients can be followed up in primary care a nurse-led service, or have diagnostic tests available at the time of initial visit.

Urology: a model of care for Ireland aims to build on the published initiatives of the National Clinical Programme in Surgery (NCPS, 2013a. NCPS 2013b). It uses original national and international evidence-based methodologies designed to provide a high standard of urological care and professionalism that is delivered by a multidisciplinary workforce. This model of care is designed to be patient centred, but challenges stakeholders to resource the structures that implement better care, and to shape the training, education and regulation of all members of the urological multidisciplinary team involved in the delivery of urology care.


"Modern urology services should be designed to achieve accessible, high-quality, effective and sensitive services that place the patient at the centre and respond to his or her values and preferences"

(Qualitasconsortium.com, 2005)

# 06 WHAT 'GOOD' LOOKS LIKE

1. Appoint a clinical lead for urology in each hospital group
2. Develop and implement urology referral protocols, allocating patients using a centralised validation system in each hospital group
3. Incorporate innovation with health information technology
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# 07 OVERVIEW OF SPECIALTY

Irish urologists have made considerable contributions to urology throughout modern history, particularly in the areas of endoscopy and prostate surgery. The pan-endoscope was perfected by Sir Francis Cruise in 1865, while Sir Peter Freyer and Sir Terence Millin pioneered and modernised open prostate surgery (Millin, 1946). Millin's unique surgical approach to the prostate served as the basis for the modern procedure of radical prostatectomy in the treatment of prostate cancer.

In 1956, the first dedicated urology unit was designed and opened in Ireland by Mr Thomas J D Lane, at the Meath Hospital, Dublin. The benefits of specialised units for urology were demonstrated when an overall mortality of 2.3% in 1,540 consecutive prostatectomies was reported (O'Brien, Galvin & Mulhall, 2009).

In the contemporary era, our urological workforce includes specialists who have trained in international centres of excellence and offer patients cutting-edge technologies in urological surgery, such as robotic surgery, allied to tremendous clinical expertise accrued from national and international training.

The professional body for urologists, the Irish Society of Urology (ISU), works closely with the RCSI with regard to urological training and with the NCPS at the RCSI and the National Cancer Control Programme (NCCP) regarding the delivery of urological surgery.


Figure 1: Irish Society of Urology

Irish urologists are trained under the supervision of the Postgraduate Training Committee of the joint Royal Colleges of Surgery of Ireland, England, Edinburgh and Glasgow. Competence is assessed following a minimum of eight years of structured specialist training, which is continuously assessed, followed by a formal examination by the joint colleges. Success in the final examination leads to the awarding of the Fellowship of Royal College of Surgeons in Urology (FRCS Urol.). Successful candidates are then eligible for inclusion on the specialist register of the Irish Medical Council as accredited urologists. Many accredited urologists seek further subspecialist training, for example reconstruction, andrology, endourology etc.

There are a number of challenges confronting urology mainly around the demand for services and the desire to change the way that care is delivered.

# 07 OVERVIEW OF SPECIALTY

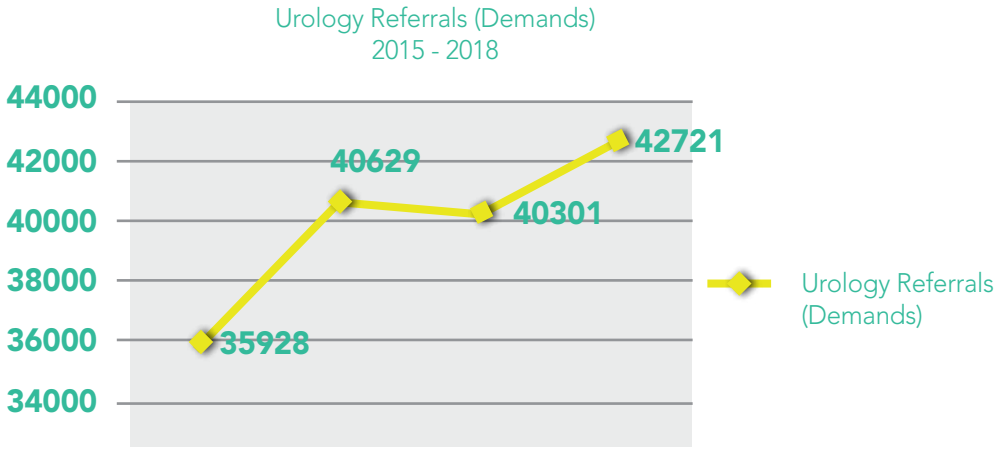



Figure 2 Urology demand 2015-2018. Source: Business intelligence unit April 2019

Demand for urology services is rising and the pattern of disease is changing, particularly in patients aged older than 65 years

- The Irish Longitudinal Study on Ageing (TILDA) has shown an increased prevalence of urinary incontinence in Irish citizens aged over 50 years along with an undeclared demand for urological treatment (TILDA).
- Prostate disease incidence is rising rapidly, and requests for prostate-specific antigen (PSA) tests are generating further demand. The National Cancer Strategy 2017 - 2026 estimates that the number of cases of prostate cancer will increase by 45% (4,687) by 2025, and 99% (6,426) by 2040 (Department of Health, 2017).
- Increasing cancer survivorship demands urological expertise in rehabilitation of incontinence and sexual dysfunction, and management of radiation co-morbidities such as haematuria and voiding dysfunction.
- Lower urinary tract symptoms (LUTS) impacting on physical, mental and social well-being are more prevalent among the elderly (Siroky, 2004).
- Demand caused by haematuria/bladder disease is also rising, stimulated by the combined availability of dipsticks and flexible cystoscopes.
- The incidence of kidney stones is increasing in both sexes in the Western World (1 in 20 persons in 1994 versus 1 in 11 persons in 2013) (Scales, Jr *et al.*, 2012)
- There is increasing need for andrology services to rehabilitate primary difficulties in sexuality, as patients live longer and seek improvements in health-related quality of life.
- Urological work is shifting away from traditional surgery towards diagnostics followed by medical treatment:
  - » increasing use of medication as first-line treatments
  - » drugs for erectile dysfunction; benign prostatic hyperplasia (BPH); urinary tract infections; urinary incontinence
  - » physiotherapy.
- There is less open surgery:
  - » increased minimally invasive surgery
  - » The most prevalent urological procedure required by urology patients is cystoscopy (39%) (Table 7).

# 07 OVERVIEW OF SPECIALTY

National policy requirements are driving surgical specialties to look for different approaches and new models of care

Sláintecare is a vision for a new health service in Ireland detailed in the report from the Oireachtas Committee on the Future of Healthcare published on 30 May 2017 (Houses of the Oireachtas, 2017).

The fundamental principles of the Sláintecare Action Plan (Health.gov.ie, 2019) include:

**Patient is Paramount:**
All care is planned and provided so that the patient/service user is paramount, ensuring appropriate care pathways and seamless transition backed-up by full patient record and information.

**Timely Access:**
To all health and social care according to medical need

**Prevention and Public Health:**
Patients accessing care at the most appropriate, cost effective service level with a strong emphasis on prevention and public health.

**Workforce:**
The health service workforce is appropriate, accountable, flexible, well-resourced, supported and valued.

**Accountability:**
Effective organisational alignment and good governance are central to the organisation and functioning of the health system.

**Engagement:**
Create a modern, responsive, integrated public health system, comparable to other European countries. Through building long-term public and political confidence in the delivery and implementation of this plan

These principles challenge the urological workforce to provide care at the lowest level of complexity, often outside of hospitals in the community, in an integrated way; to use eHealth technologies; to prioritise waiting times for access to urological services; to recruit and retain a multidisciplinary urological workforce and to seek appropriate ring-fenced health funding for transitioning services and accessing diagnostics in the community.

In addition to aspiring to the principles of Sláintecare, urologists must work within the structures of the health system and engage with key stakeholders that include:
Urologists, as many other specialties, are increasingly challenged to:

- achieve faster and more effective access to services
- identify and unlock diagnostic bottlenecks
- meet the increase in demand for new referrals for urological services and provide new outpatient models that meet the needs for rapid patient access and diagnosis
- provide treatments that reduce hospital stays and support patients in local medical services to receive care closer to home
- develop management strategies for the increasing number of follow-up patients.

This urology model of care proposes the development of pathways to specifically improve and redesign the steps taken along the urology patient's journey from primary care referral to the optimal delivery of diagnostics, treatment, discharge and follow-up, either in local hospitals or in the community.

08

# CURRENT SCALE OF THE PROBLEM

According to Organisation for Economic Co-operation and Development (OECD) 2015 Health Statistics, healthcare spending in Ireland in public hospitals ranks seventh in the OECD per capita (Figure 3).

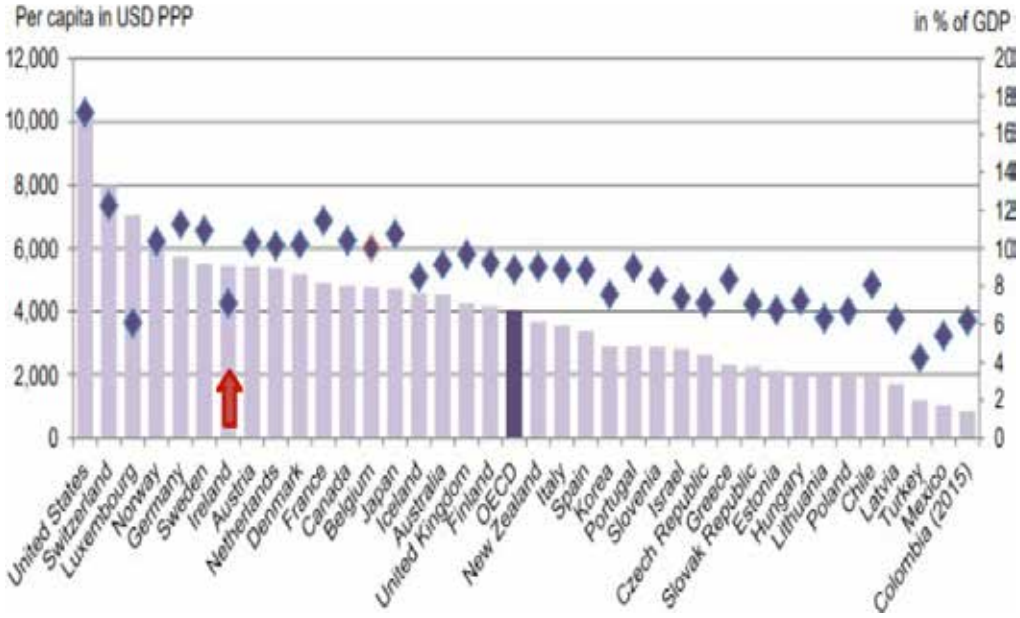



Figure 3 OECD Health Statistics 2015. Data source OECD Health Statistics

In the UK, the per capita healthcare spend increases with age (Figure 4). Similarly, in Ireland demographic data confirms that the Irish population is living longer (TILDA). Iinevitably, healthcare spending in Ireland will increase by age. Consequently, scarce healthcare resources targeted at elderly populations must be used efficiently.

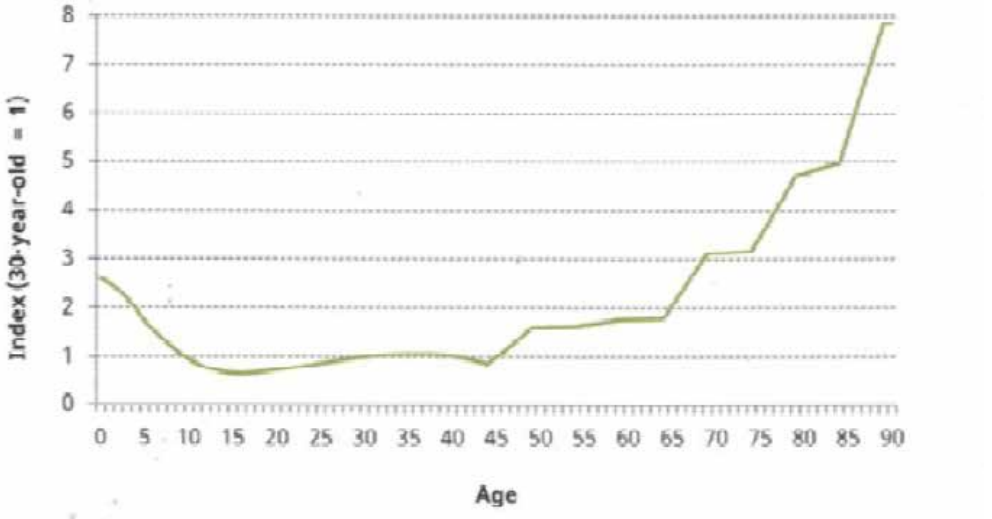



Figure 4 profile of UK Public Spending on health. Source (Cdn.obr.uk, 2017)

# 08 CURRENT SCALE OF THE PROBLEM

Table 3: Scheduled and unscheduled discharges including day care by speciality

| Discharged in 2017 | National | Child HG | DMHG | IEHG | RCSIHG | Saolta | SSWHG | ULHG |
|---|---|---|---|---|---|---|---|---|
| General Surgery | 169906 | 1628 | 27086 | 37019 | 26912 | 33916 | 31847 | 11498 |
| Orthopaedics | 69702 | 3074 | 10089 | 16060 | 7129 | 14207 | 14118 | 5055 |
| Ophthalmology | 58494 | 791 | ## | 27791 | 849 | 13223 | 10159 | 5681 |
| Urology | 43650 | 260 | 7211 | 6846 | 8835 | 5718 | 9948 | 4832 |
| Gynaecology | 41524 | 15 | 5611 | 7756 | 8640 | 9566 | 7761 | 2175 |
| Plastic Surgery | 28988 | 2199 | 3528 | 4486 | 5826 | 7313 | 5608 | 28 |
| Gastro Intestinal surgery | 10393 | ## | 846 | 2606 | 4201 | ## | 2056 | 683 |
| Vascular surgery | 10382 | ## | 1932 | 1275 | 2304 | 1369 | 2214 | 1289 |
| Maxiofacial | 5653 | 95 | 1525 | ## | ## | 1131 | 1008 | 1895 |
| Cardio Thoracic surgery | 4297 | 591 | 951 | 1251 | ## | 665 | 839 | ## |
| Neurosurgery | 4268 | 307 | 123 | ## | 2502 | ## | 1336 | ## |
| Dental surgery | 3884 | 473 | 257 | 509 | 553 | 837 | 294 | 961 |
| Paediatric surgery | 3406 | 3391 | 15 | ## | ## | ## | ## | ## |
| Obstetrics/ gynaecology | 2669 | ## | ## | 520 | 378 | 1712 | ## | 57 |
| Breast surgery | 2570 | ## | ## | ## | 944 | 89 | 1520 | 14 |
| Hepato biliary surgery | 997 | ## | ## | ## | ## | ## | 997 | ## |
| Paediatric Ortopaedic surgery | 93 | 933 | ## | ## | ## | ## | ## | ## |
| Oral surgery | 586 | ## | ## | 61 | ## | 472 | 52 | ## |
| Paediatric ENT | 332 | 326 | 6 | ## | ## | ## | ## | ## |
| Paediatric neurosurgery | 325 | ## | ## | ## | 324 | ## | ## | ## |
| Renal transplantation | 189 | ## | ## | ## | 189 | ## | ## | ## |
| Paediatric Urology | 134 | 134 | ## | ## | ## | ## | ## | ## |
| **Total** | **498858** | **17072** | **63004** | **113391** | **76289** | **97427** | **95264** | **36411** |

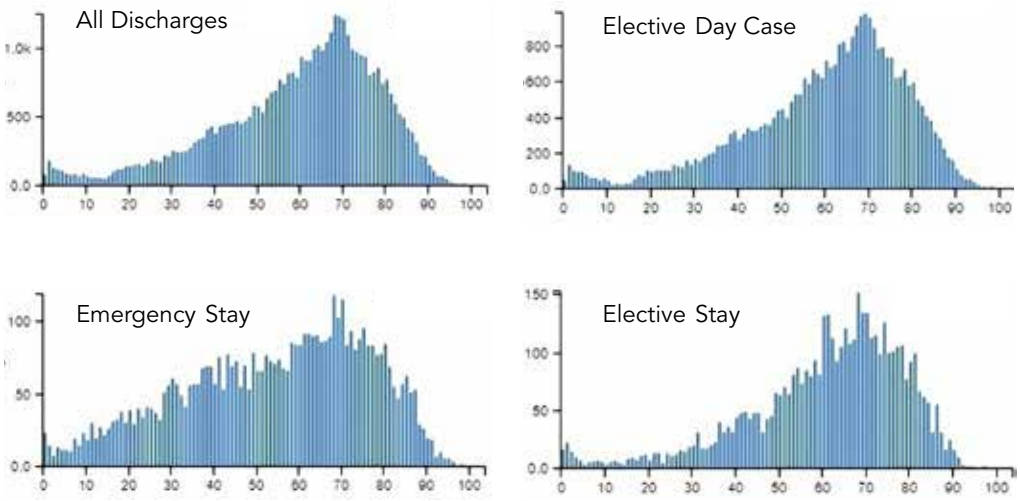
| | |
|---|---|
| Child HG | Children's Hospital Group |
| Dub ML | Dublin Midlands Hospital Group |
| IEHG | Ireland East Hospital Group |
| RCSI HG | Royal College of Surgeons in Ireland Hospital Group |
| Saolta | Saolta Health Care Hospital Group |
| Sth SW | South South West Hospital Group |
| UL HG | University of Limerick Hospital Group |

Source: NQAIS Clinical (App,2018)

## – Values under 5 are not displayed Urology and peadiatric urology specialty discharges in 2017 from National Quality Assurance Improvement System (NQAIS) Clinical, which uses Hospital In-Patient Enquiry (HIPE) data from the Healthcare Pricing Office (HPO).

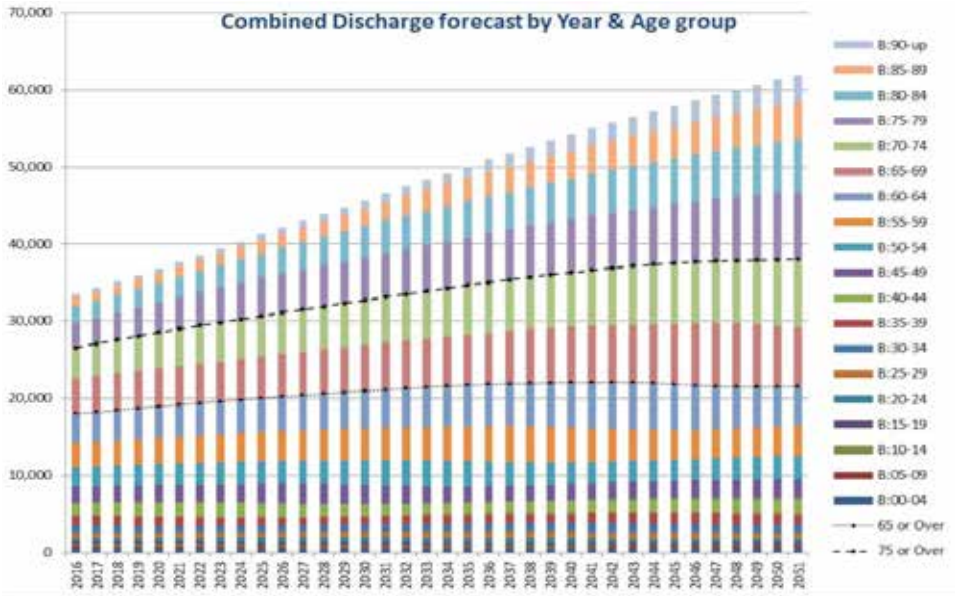
The Health Service Executive (HSE) data in Table 3 reveals that on the basis of surgical discharges urology is the fourth busiest surgical discipline in Ireland, discharging 43,784 patients between 1 January 2017 and 31 December 2017.

Figure 5: Age profile of urology discharges



# 08 CURRENT SCALE OF THE PROBLEM

The number of patients requiring urological care peak at the age of 70 (Figure 5). Elective day case and inpatient admissions are more prevalent in patients aged from 60 to 80 years (Figure 5). Unscheduled urological care is skewed towards a younger population, reflecting the fact that the preponderance of acute urological emergencies occurs in the younger patient.




| Combined | 2016 | 2021 | 2026 | 2031 | 2036 | 2041 | 2046 | 2051 |
|---|---|---|---|---|---|---|---|---|
| Discharges | 33 477 | 37 703 | 42 132 | 46 573 | 50 918 | 54 997 | 58 685 | 61 888 |

Table 4: Projections for Projections for elective day case and emergency same day, excluding elective and emergency stay. Data source: CSO

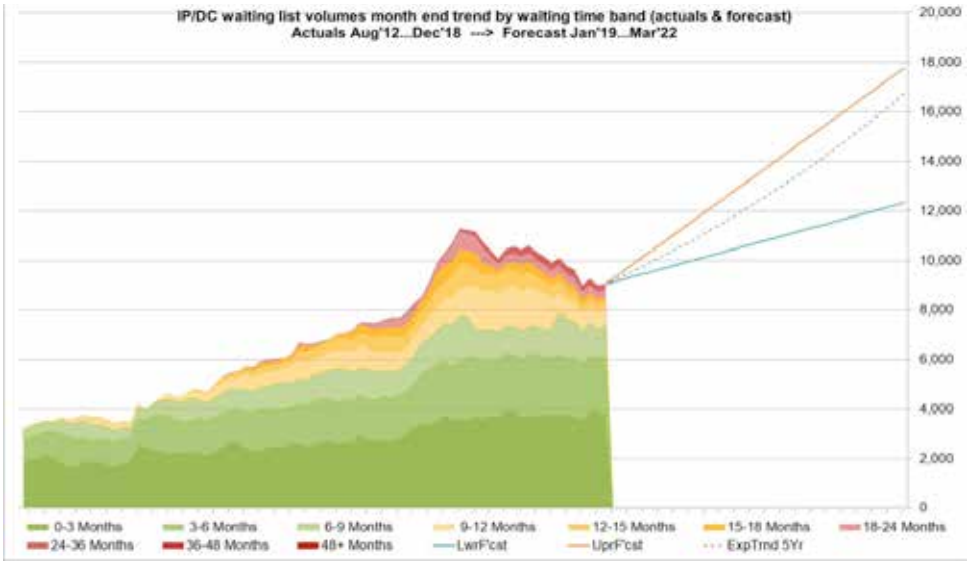



Figure 6 Urology inpatient/daycare waiting list volumes, actual and forecast. Source: NQAIS Clinical (App, 2018) Date January 2019 – March 2022

There are currently 30,905 (Table 5) patients waiting to see a urologist at an outpatient clinic (March 2019). This figure is expected to increase progressively over the next three years, despite intervention by the National Treatment Purchase Fund (NTPF). The forcast of unmet need is shown in figure 7.

# 08 CURRENT SCALE OF THE PROBLEM

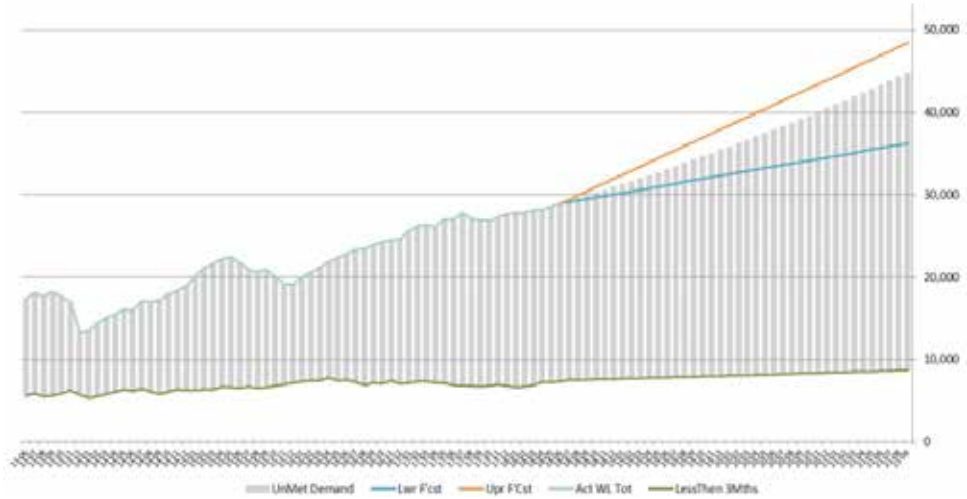



Figure 7: Urology outpatient volumes: forecast of unmet need

| | 2019-March | 2019-Sept | 2020-March | 2020-Sept | 2021-March | 2021-Sept | 2022-03 |
|---|---|---|---|---|---|---|---|
| Waiting under 13 weeks | 5196 | 5293 | 5391 | 5491 | 5592 | 5696 | 5802 |
| Unmet demand waiting over 13 weeks | 25707 | 27817 | 30081 | 32511 | 35120 | 37921 | 40927 |
| Total number waiting forecast | 30905 | 33109 | 35471 | 38002 | 40713 | 43617 | 46729 |

Table 5 Urology outpatient volumes: forecast of unmet need. Source NTPF

Waiting lists for urological services are growing and current capacity or ways of working are inadequate to meet demand, resulting in waiting lists for outpatient ambulatory and scheduled care (Figures 7 and Table 5). While this reflects the current status of the known unmet need within the specialty, including patients who are awaiting outpatient consultation and those who have already been seen by a specialist and advised to have a procedure, it does not currently record patients who have been seen by a specialist and advised to have diagnostic tests, for example an imaging or urodynamics.

The data outlined in (Figures 7 and Table 5) shows that the increasing rate of demand for urological services, the existing prolonged waiting times for urological services, along with the unmet need of urology outpatients, represents an immediate challenge that the current service provision is unable to meet.

# 08 CURRENT SCALE OF THE PROBLEM

Table 6 Top 25 principal diagnoses for patients discharged by urology specialty 2017

| Top 25 CCS of Diagnoses - 2017 | National | Child HG | DubML | IEHG | RCSI HG | Saolta | SthSW | UL HG |
|---|---|---|---|---|---|---|---|---|
| Genitourinary ill defined | 12180 | 42 | 2545 | 1540 | 3165 | 1365 | 2409 | 1114 |
| Urinary tract calculus | 4981 | 25 | 1089 | 633 | 815 | 611 | 893 | 915 |
| Other aftercare | 3443 | 9 | 685 | 589 | 449 | 565 | 829 | 317 |
| Bladder & urethra other | 3309 | 22 | 420 | 532 | 931 | 306 | 775 | 323 |
| Prostate hyperplasia | 3052 | ## | 312 | 368 | 941 | 229 | 868 | 334 |
| Urinary tract infection | 2560 | 14 | 296 | 384 | 571 | 373 | 641 | 281 |
| Cancer prostate | 2148 | ## | 187 | 705 | 82 | 458 | 649 | 67 |
| Male genital other | 2065 | 40 | 158 | 334 | 342 | 368 | 441 | 382 |
| Cancer bladder | 1927 | ## | 277 | 324 | 309 | 310 | 537 | 170 |
| Kidney disease other | 1338 | 34 | 189 | 298 | 234 | 195 | 321 | 67 |
| Male genital Inflammatory | 691 | ## | 64 | 131 | 86 | 130 | 153 | 125 |
| Residual codes – unclassified | 666 | ## | 102 | 152 | 40 | 120 | 43 | 209 |
| Chemotherapy, radiotherapy | 628 | ## | 67 | 129 | 105 | ## | 258 | 65 |
| Cancer kidney | 549 | ## | 90 | 131 | 67 | 100 | 136 | 25 |
| Congenital anomaly genitourinary | 495 | 91 | 17 | 16 | 13 | 60 | 195 | 103 |
| Screening other | 486 | ## | 308 | 20 | 42 | 23 | 87 | 6 |
| Surgical/medical complication | 315 | 8 | 34 | 85 | 61 | 33 | 52 | 42 |
| Benign neoplasm other | 288 | ## | 50 | 18 | 26 | 151 | 36 | 7 |
| Neoplasm unspecified nature | 262 | ## | 27 | 22 | 26 | 29 | 67 | 91 |
| Complication implant, graft | 207 | ## | 29 | 40 | 46 | 41 | 29 | 21 |
| Abdominal pain | 199 | 16 | 36 | 24 | 36 | 22 | 40 | 25 |
| Care of prosthesis/ device | 185 | ## | 21 | 60 | 49 | 17 | 36 | ## |
| Cancer testis | 143 | ## | 23 | 20 | 20 | 17 | 52 | 11 |
| Sepsis agent | 141 | ## | 10 | 45 | 24 | 21 | 36 | ## |
| Contraceptive and procreative management | 94 | ## | 7 | 16 | 57 | ## | 7 | ## |
| Rest of CCS's of Diagnoses | 1432 | 89 | 168 | 230 | 298 | 165 | 358 | 124 |
| Total | 43784 | 394 | 7211 | 6846 | 8835 | 5718 | 9948 | 4832 |

| | |
|---|---|
| Child HG | Children's Hospital Group |
| Dub ML | Dublin Midlands Hospital Group |
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Source: NQAIS Clinical (App,2018)

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\- No data
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# 08 CURRENT SCALE OF THE PROBLEM

Table 7 Top 25 principal procedures for patients discharged by urology specialty 2017

| Top 25 Procedures - 2017 | National | Child HG | DubML | IEHG | RCSI HG | Saolta | SthSW | UL HG |
|---|---|---|---|---|---|---|---|---|
| Cystoscopy | 14146 | 31 | 2701 | 2223 | 2646 | 2170 | 2619 | 1756 |
| No procedure | 3440 | 75 | 405 | 606 | 567 | 498 | 662 | 627 |
| Transrectal needle biopsy of prostate | 2636 | ## | 375 | 791 | ## | 640 | 648 | 177 |
| Urine flow study | 2155 | ## | 126 | 14 | 1,158 | 56 | 750 | 51 |
| ESWL of urinary tract | 2143 | 10 | 489 | 149 | 258 | 235 | 469 | 533 |
| Endosc replace indwel urinary catheter | 1415 | ## | 482 | 153 | 315 | 24 | 312 | 128 |
| Endoscopic removal of ureteric stent | 1208 | 23 | 284 | 192 | 248 | 176 | 217 | 68 |
| Endoscopic destruction ureteric lesion | 1059 | ## | 265 | 245 | 308 | 115 | 75 | 51 |
| Male circumcision | 921 | 28 | 72 | 159 | 157 | 96 | 154 | 255 |
| Endoscopic insertion of ureteric stent | 676 | ## | 105 | 96 | 145 | 85 | 121 | 122 |
| Intracv admin pharmac agent oth & unsp | 636 | ## | 115 | 76 | 85 | 20 | 335 | ## |
| Endosc admin of agt into bladder wall | 617 | 10 | 54 | 38 | 353 | 31 | 72 | 59 |
| Transurethral resection of prostate | 601 | ## | 70 | 133 | 162 | 37 | 100 | 99 |
| Intracv admin of pharmac agent antineopl | 597 | ## | 59 | 123 | 101 | ## | 248 | 62 |
| Endosc resec lsn / tiss bladder <= 2 cm | 593 | ## | 95 | 121 | 119 | 102 | 103 | 53 |
| Replacement of cystostomy tube | 573 | ## | ## | 71 | 184 | 9 | 286 | 22 |
| Removal other urinary drainage device | 551 | 13 | ## | 62 | 158 | 27 | 287 | ## |
| Bladder catheterisation | 352 | ## | 287 | 13 | 20 | 7 | 24 | ## |
| Endoscopic replacement of ureteric stent | 343 | ## | 65 | 64 | 43 | 71 | 64 | 36 |
| Endoscopic biopsy of bladder | 323 | ## | 80 | 31 | 71 | 64 | 46 | 31 |
| Endosc dest bladder lsn / tiss <= 2 cm | 284 | ## | 41 | 38 | 40 | 55 | 67 | 43 |
| Cystometrography | 283 | ## | ## | ## | 281 | ## | ## | ## |
| Other assessment/ consultation/ evaluation | 264 | ## | ## | ## | ## | ## | 256 | ## |
| Excision of hydrocele | 220 | ## | 25 | 55 | 33 | 28 | 44 | 33 |
| Orchidopexy for undescended testis, uni | 218 | 19 | ## | ## | ## | 24 | 95 | 74 |
| Rest of procedures | 7530 | 179 | 1003 | 1390 | 1376 | 1143 | 1894 | 545 |
| Total | 43784 | 394 | 7211 | 6846 | 8835 | 5718 | 9948 | 4832 |

| | |
|---|---|
| Child HG | Children's Hospital Group |
| Dub ML | Dublin Midlands Hospital Group |
| IEHG | Ireland East Hospital Group |
| RCSI HG | Royal College of Surgeons in Ireland Hospital Group |
| Saolta | Saolta Health Care Hospital Group |
| Sth SW | South South West Hospital Group |
| UL HG | University of Limerick Hospital Group |

NQAIS Clinical uses HIPE data is supplied by the HPO
## values 5 or less are not shown
Urology & Paediatric Urology discharges in 2017
Urology and peadiatric urology specialty discharges in 2017 from National Quality Assurance Improvement System (NQAIS) Clinical, which uses Hospital In-Patient Enquiry (HIPE) data from the Healthcare Pricing Office (HPO).

*No procedure this is classified as a person who is admitted to hospital and has no health intervention under the Australian coding standards, examples of this in urology are potential UTI for observation or unspecified heamaturia with no intervention

# 08 CURRENT SCALE OF THE PROBLEM

The preponderance of urological diseases diagnosed in Ireland are identified in Table 6. These are derived from HIPE data. The 25 most commonly used urological procedures required to diagnose and treat urological disease, derived from HIPE data, are listed in Table 7. A substantial number of patients do not require a surgical procedure, while 20 of the listed procedures are of low complexity, suitable for day-care management, and many requiring only local anaesthesia. These low complexity day-care/inpatient procedures are what patients cannot access expeditiously and wait excessively for on day-care or inpatient treatment waiting lists (Figure 5). The low complexity of these common procedures also suggests that they are suitable for alternative treatment pathways provided in facilities such as Model 2 and 3 hospitals, endoscopy suites or in the community facilities such as primary care centres.

The current and future demands for urological services (Figures 1, 7 and 8), particularly focused on optimal cancer and survivorship treatment, are a considerable human resource challenge to Ireland's ability to provide and maintain core urological services while striving to maintain internationally recognised expertise in urological sub-specialisation such as robotics and cancer surgery. The skills needed to provide the vast majority of the commonest urological procedures competently, are generic to all urologists and others can be performed by advanced nurse practitioners.

This mandates an examination of how urological manpower is equipped to meet the current and future demands.

# 08 CURRENT SCALE OF THE PROBLEM

## WORKFORCE

International literature recommend that there should be one urologist per 50 000 population (American Urological Association, 1995). The Irish population has one of the lowest ratios of accredited urologists in the Western world (Table 4)

**RECOMMENDATION 8**
Implement a structured approach to specialty multidisciplinary workforce planning based on demographics, the needs of the Hospital Groups, and subspecialty requirements.

Table 8 Urological workforce: How does Ireland compare?

| Country | No. of urologists | Population | Ratio |
|---|---|---|---|
| Spain | 2400 | 47737943 | 1:19890 |
| Sweden | 480 | 9851852 | 1:20524 |
| Denmark | 253* | 5690750 | 1:22493 |
| New Zealand | 120 | 4565185 | 1:38043 |
| France | 1350 | 64811043 | 1:48008 |
| Australia | 380 | 24168303 | 1:63500 |
| United Kingdom | 1017 | 65648100 | 1:64550 |
| Ireland | 37 | 4700000 | 1:127027 |

Source Baus.org.uk, 2016

Urologists have a significant workload of scheduled and unscheduled care (Table 3). This estimated workload is calculated from 45,664 discharges (Table 3) per 37 urologists (Table 8). This estimates that1,234 patients are discharged from Urology services per consultant per annum (27.4 per week based on a 45-week working year). This does not factor in important-rate limiting factors such as case complexity, allocated theatre sessions or outpatient work. Therefore, it is especially concerning that it is projected that day case and inpatient work will continue to increase in those aged 65 or older up to 2051 (Figure 4).

It is also imperative to examine both the current breakdown of workforce levels and the current specialist skill mix of accredited Irish urologists in 2018 (Tables 9 and 10).

| | |
|---|---|
| Child HG | Children's Hospital Group |
| Dub ML | Dublin Midlands Hospital Group |
| IEHG | Ireland East Hospital Group |
| RCSI HG | Royal College of Surgeons in Ireland Hospital Group |
| Saolta | Saolta Health Care Hospital Group |
| Sth SW | South South West Hospital Group |
| UL HG | University of Limerick Hospital Group |

Table 9 Consultant workforce in HSE

| Urologists working in HSE December 2018 NB Numbers may change at time of publication | | | |
|---|---|---|---|
| Hospital group | Population | | Ratio* |
| RCSI HG | 860,000 | (9.5) | 1: 90526 |
| IEHG | 1,100,000 | (8) | 1:137500 |
| DMHG | 800,000 | (5) | 1:160000 |
| SSWHG | 1,200,000 | (7) | 1:171000 |
| ULHG | 370,000 | (2) | 1:185000 |
| SaoltaHG | 710,000 | (9) | 1: 78888 |
| Total | | (40.5) | 1:124444 |

*rounded to nearest 1000 patients, source HSE, 201)

Table 10 Urology manpower based on hospital models

| | Urologist WTE |
|---|---|
| Model 4 | 34.5 |
| Model 3 | 6 |
| Model 2 | 0 |
| Total Consultant Workforce | 40.5 |
| Percentage working in a Model 4 hospital | 85% |
| Percentage working in a Model 2/3 hospital | 15% |

# 08 CURRENT SCALE OF THE PROBLEM

Almost uniquely, there is a considerable degree of diverse subspecialisation within the discipline of urology. Internationally recognised subspecialist services governed by urology are listed in Table 11.

Table 11 Sub-specialisation of urology

| | |
|---|---|
| Cancer extirpative surgery and reconstruction (open, laparoscopic and robotic) | • Prostate cancer<br>• Kidney and upper urinary tract cancer<br>• Bladder cancer<br>• Penile cancer<br>• Testis cancer and retroperitoneal surgery |
| Reconstructive urology and urinary incontinence | • Female urology<br>• Urinary reconstruction<br>• Neuro-urology |
| Renal transplantation | |
| Endourology and stones | |
| Urethral surgery and reconstruction | |
| Andrology | |
| Male infertility | |
| Paediatric urology | |

Despite such subspecialties, all urologists are still required to be competent in generic urological procedures such as open surgical skills, minimally invasive endourological techniques and urodynamics.

Internationally, urologists with subspecialist skills rarely manage patients with diseases outside their subspecialty interest. Traditionally, in Ireland, a proportion of urologists are expected to manage patients within their subspecialist field, alongside a cohort of patients who represent generic urology, e.g. haematuria, male lower urinary tract difficulties, urinary incontinence and urinary tract infection.

It is apparent that the vast majority of Irish urologists work in Model 4 hospitals, (Table 10). Yet, as Tables 6 and 7show, the preponderance of disease presentation and management can be described as falling within 'generic urology', the management of which lies within the competence of all accredited urologists. Other professionals such as advanced nurse practitioners (ANPs) and general practitioners with a special interest (GPSIs) will also have the training and skills to deal competently with certain generic urological diseases, e.g., medical management of benign prostatic hyperplasia (BPH and LUTS).

# 08 CURRENT SCALE OF THE PROBLEM

## TRAINING

**RECOMMENDATION 11**
The specialty training and competency professional programme (CPD) programmes from the Royal College of Surgeons in Ireland (RCSI) should reflect future urological workforce requirements including the appointment and regulation of Urologists whos training is focused on generic urological skills

There is clear evidence that we do not have enough trainees in urology to replace retiring urologists, fill existing posts and to expand new services with new consultants (Baus.org.uk, 2016). The current increasing and unmet demand for urological services reflects both a lack of urological manpower and the fact that current urological services are skewed towards the large Model 4 hospitals. Model 4 hospitals must prioritise critical infrastructural, human and diagnostic resources, such as theatre availability and accredited subspecialist urological manpower, to urgent and complex conditions such as surgical treatment of urological cancer and complex reconstruction of the urinary system. This means that less complex and benign urological diseases and treatments are challenged to access Model 4 hospitals. As we will subsequently show in new ways of working chapter 8, patients with lower urinary tract symptoms (LUTS), urinary incontinence and urinary infection, tend to languish on waiting lists. However, their quality of life is no less affected by their urinary difficulties (Bruskewitz, 2003). This creates a considerable argument to relocate a substantial amount of urological outpatient, day case and inpatient workload to Model 2 and 3 hospitals within each hospital group.

In light of the constraints on urological manpower, it must be asked who will manage traditional urological diseases in the future? There are a number of candidates:

- Primary care practitioners
- Primary care practitioners with a special interest in urology
- Traditional hospital-based urologist (often subspecialised) taking patient presentations
- Urologists specialists in generic urology
- Urologists with defined subspecialist interests
- Uro-gynaecologists
- Advanced nurse practitioners/clinical nurse specialists
- Health and social care professionals.

Another fundamental question is: where will this work take place?

- Primary care centres
- Hospitals (Model 2; Model 3; Model 4)
- Designated cancer centres.

It is clear that servicing the urological care of Irish patients now and in the future require new ways of working, centred on patient needs and safe practice.

# 09 NEW WAYS OF WORKING

In 2016 a national survey of consultant urologists was carried out by the ISU. The primary aim was to identify concerns facing the specialty in the management of urological disease. The top three priorities of concern to urologists in both outpatient and inpatient care are outlined in Table 12.

Table 12 Identifying issues concerning the specialty

| | Priorities for inpatient care | Priority for outpatient care |
|---|---|---|
| 1 | Dedicated urology theatre for inpatient treatment | Develop rapid access haematuria clinics |
| 2 | Create a hub and spoke model between Model 4 (hub) and Model 3 (spoke) hospitals | Develop nurse-led urology clinics |
| 3 | Develop robotic surgery with appropriate governance | Develop shared care initiatives between primary care and urology departments in hospitals |

There is clearly an appetite for change within the clinician community of Irish urologists. This appetite to embrace change is echoed in the National Health Service (NHS) in the UK, (NHS, 2018) which also shows patient support for new approaches to managing urology referral and treatments (Qualitasconsortium.com, 2005). Patients present anxiety with and worry about symptoms, seeking prompt diagnosis so that effective remedies can be targeted at the identified cause. It is logical therefore that before strategies can be targeted to improve patient management, the prevalence of various symptoms referred for urological management to a urology outpatient department (OPD) in Ireland must be identified.

Consequently, in Quarter 1, 2017, the then Outpatient Service Performance Improvement Programme (OSPIP) and the NCPS conducted studies to determine the most prevalent symptoms of patients referred to a urology clinic in Ireland. The studies analysed patients in two cohorts. First, the symptoms of all 1,000 patients waiting for a urology outpatient appointment at a Model 3 hospital in 2017 were recorded and illustrated in figure 8. Patients presenting with elevated prostate-specific antigen (PSA) or other features suggesting prostate cancer were not included in this study. Such patients under 70 years of age are referred to the rapid access prostate clinics of the NCCP.

Model 3 Sample analysis January-December 2017 referrals total: 1000

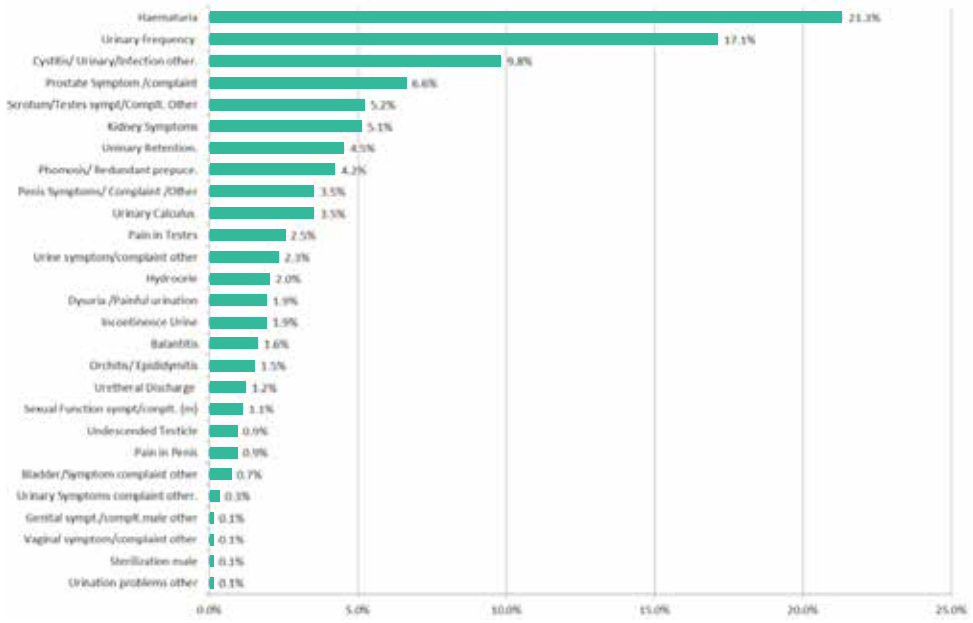



Figure 8 Prevalence of patient symptoms presenting to Urology Outpatient in Model.
Source Saolta Hospital Group

# 09 NEW WAYS OF WORKING

Model 4 Sample analysis of 2,161 referrals 2017

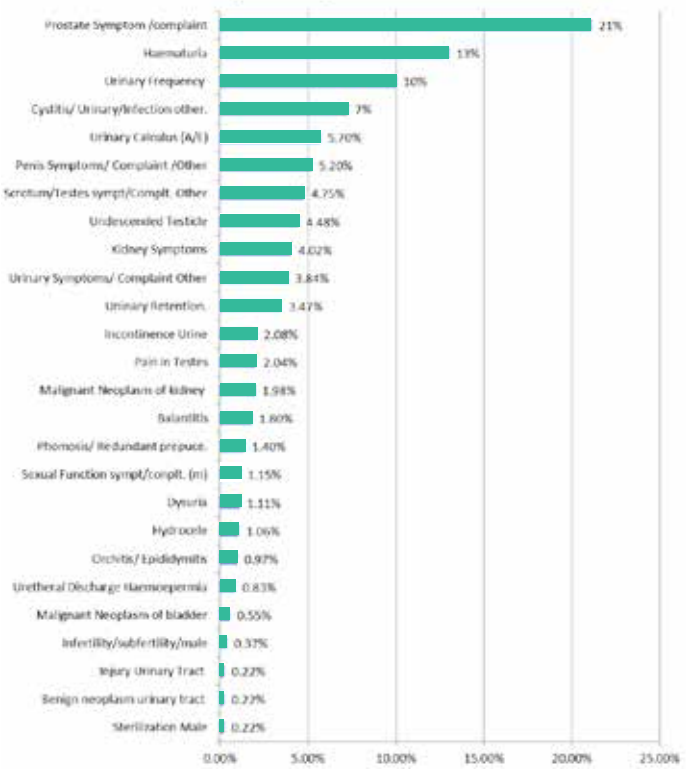



Figure 9: Prevalence of patient symptoms presenting to Urology Outpatient in Model 4 hospital. Source Saolta Hospital Group

The most prevalent symptoms presenting to outpatients in a Model 3 hospital were haematuria, male LUTS, and urinary infection with/without urinary incontinence (Figure 8). The study then analysed the prevalence of symptoms of 2,000 patients presenting to a urology outpatients in a Model 4 hospital in 2017 (Figure 9). Symtoms/signs of Prostate Cancer were the most prevalent in the Model 4 hospital, which was also a recognised centre for the management of urological cancer. However, after prostate cancer was excluded, the most prevalent symptoms were haematuria, male LUTS, and urinary infection, similar to the Model 3 hospital.

From these evidence based studies of symptom presentation to model 3 and model 4 HSE hospitals, and bearing in mind that symptoms and signs of prostate cancer are referred to the most prevalent presentation symptoms it can be postulated that strategies targeting haematuria, male LUTS, urine infection and/or urinary incontinence will expedite access to and management of a majority of urological patients awaiting outpatient appointments.

Similar conclusions were independently identified by Paddy O'Reilly (former president of the British Association of Urological Surgeons [BAUS]) and co-author (Qualitasconsortium.com, 2005). They identified pathways designed to improve the urology service in the NHS:

- Generic referral systems change
- Continence and catheter care
- Prostate pathway, both benign and malignant
- Haematuria and bladder pathway
- Scrotal pathway for pain and lumps.

Similar pathways, designed from Irish evidence, are used to target strategies at the most prevalent symptoms presenting for urological management, and have been adopted in this model of care.

# 09 NEW WAYS OF WORKING

## GENERIC SYSTEM CHANGE

The Model of Care for Elective Surgery (NCPS 2013) aims to improve the patient journey along the elective surgical pathway by delivering on access, quality and cost. It has agreed targets for elective 'day' and 'stay' procedures within the surgical specialties, which are designed to save bed days and reduce surgical waiting lists and surgical waiting times. Pathways for pre-admission assessment clinics, day surgery, day-of-surgery admissions and discharge planning have been developed, each of which has the potential to reduce average length-of-stay (AvLOS). The theatre quality improvement programme (TQIP) monitors how this valuable surgical resource is used to maximum efficiency.

In addition to the initiatives developed through the Model of Care for Elective Surgery, it is recommended that the patient's pathway from primary care to urological assessment and treatment should be improved by a number of innovations, which are listed in Table 10. There is particular emphasis on shared care initiatives between primary and secondary care that ultimately aim to transition selected, appropriate urological services from acute hospital-based care to community care delivered closer to home (HSE, 2016).

**RECOMMENDATION 14**
To ensure uniform standards of patient safety and quality of care, a consultant urologist should be responsible for the clinical governance of multidisciplinary community and hospital models of urology care delivery

**RECOMMENDATION 5**
Develop shared care initiatives between primary and secondary care that ultimately aim to transition appropriate urological service from acute hospital based care to community care delivered closer to home.

**RECOMMENDATION 2**
Develop and manage urology referral protocols, allocating patients using a centralised system in each hospital group.

Table 10 Service redesign innovations

| | |
|---|---|
| Pre hospital | Improve diagnostic bottleneck by allowing primary care to access ultrasound (e.g., at a primary care centre/hospital) |
| | Perform vasectomies in primary care |
| | Assess patients in primary care centres or local community hospitals using GPs, GPs with a specialist interest, or nurse led shared care initiatives with consultant-led secondary care (e.g., benign prostatic disease; scrotal lumps) |
| | Direct referral to ANP/CNS/specialist physiotherapist in womens' health who act as senior decision maker for specific conditions, e.g., incontinence or LUTS located outside of acute hospitals. |
| | Primary care centre staffed by existing GPs with a special interest in a urological condition e.g. LUTS/male health and nurse specialists and advanced roles with same-day access to radiology, cystoscopy and urodynamics with prompt, ideally same day |
| | General practitioners who aspire to developing a special interest in urology should have access to specialist training commissioned by RCSI with appropriate funding |
| Managing referrals | Redesign booking systems and utilise electronic referral to facilitate and accelerate patient management |
| | Centralised pooling of referrals enabling patients in different locations (within the same hospital group) to access services with shorter waiting lists |
| | Urology referrals manager who actively manages referrals to specialty |
| | A duty/triage consultant available at any time throughout working day to advise and support GP enquiries via phone/email to maintain patients at home wherever possible |
| | Phased introduction of national guidelines citing appropriate wait times for urological symptoms (OSPIP prioritisation guidelines adopted for triage [Tables 13, 14 & 15]) |
| Reorganisation of clinics | Implementation of one-stop clinics for specific presentations including heamaturia |
| | Synchronise outpatient appointment with diagnostic tests, e.g., ultrasound, to reduce hospital visits (Figure 15; Table 8) |
| | 'See and treat' patients directly as day patients with cystoscopy and imaging (computed tomography [CT]/ultrasound [US]), avoiding outpatient visit. Haematuria prevalence has prompted the development of rapid access assessment for visible (frank) haematuria |

Patients who require access to a specialist review by a urologist should be categorised using the prioritisation model as nationally agreed by the NCPS and HSE (Table 13.

# 09 NEW WAYS OF WORKING

**RECOMMENDATION 1**
Phased implementation of recommended scheduled care outpatient and day case clinical prioritisation time frames

Table 13 Referral guidelines summary

| Prioritisation outcome | Clinical characteristics/outcomes of conditions within category | Recommended time to consultation to minimise risk and/or achieve best clinical outcome | Notes/discussion points |
|---|---|---|---|
| Immediate | • Imminent risk of death<br>• Trauma major or minor<br>• Irreversible deterioration if not seen immediately | Same day | Patients should be sent to emergency department (ED)/ acute medical assessment unit (AMAU) as appropriate, or same-day rapid access clinic where that facility exists |
| Urgent | • Risk of permanent damage to organ system if treatment is delayed beyond CRT<br>• Major functional impairment<br>• Suspected malignant neoplastic disease<br>• Rapidly progressing dysfunction (over a period of days or weeks) in established conditions | < 28 days | NCCP/individual specialties and/or subspecialties may set urgent CRT at less than 28 days (e.g., as per breast) |
| Semi-urgent | • Risk of damage to organ system if treatment is delayed beyond CRT<br>• Moderate functional impairment or progressive loss of function over a period of months or years<br>• Benign neoplastic disease<br>• Significant restriction of economic activity | < 13 weeks | Individual specialties and/ or sub specialties may set semi-urgent CRT at less than 13 weeks for internal clinical management |
| Non-urgent | • Minimal risk of damage to organ system if treatment is delayed beyond 13 weeks<br>• Moderate functional impairment<br>• Significant restriction of social activity<br>• Management issues in established conditions<br>• Reassessment of stable/chronic conditions that meet the criteria for review | < 26 weeks | |
| Excluded | • Conditions that have no impact on physical well-being, e.g., work assessment, cosmetic surgery<br>• Subacute or minor conditions/ complaints that will be safely diagnosed and/or managed in primary care | | |

This prioritisation model has been categorised by the NCPS and the HSE for urology symptoms as listed in Table 14. It is not yet adopted for widespread use within the HSE, but is being implemented on a phased basis. The rapid access haematuria pathway (RAHP) outlined in Chapter 9 prioritises the diagnosis of patients with visible haematuria within 28 days of referral as outlined in Table 13.

# 09 NEW WAYS OF WORKING

Table 14 Urology referral pathway – in development

| Symptoms/system | Clinical priority and recommended time-frame |
|---|---|
| Genitourinary trauma | |
| All trauma | Immediate (same day) |
| Urinary tract symptoms/presentation | |
| Septicaemia of suspected urinary origin | Immediate (same day) |
| Acute and chronic urinary retention | Immediate (same day) |
| Acute Ureteric colic | Urgent (< 28 days) |
| Hydronephrosis | Urgent (< 28 days) |
| Visible, painless haematuria in adults or children | Urgent (< 28 days) |
| Microscopic haematuria in adults over 50 years | Urgent (< 28 days) |
| Microscopic haematuria in patients aged less than 50 | Semi-urgent (< 13 weeks) |
| Females aged 40 years and older who present with recurrent or persistent urinary tract infection associated with haematuria | Semi-urgent (< 13 weeks) |
| Any UTI in a male | Semi-urgent (< 13 weeks) |
| Females with recurrent, three or more per year, or persistent UTI | Semi-urgent (< 13 weeks) |
| Lower urinary tract symptoms classified severe as per International Prostate Symptom Score, with or without renal impairment, yet no evidence of urinary retention | Urgent (< 28 days) |
| Lower urinary tract symptoms, classified as moderate as per International Prostate Symptom Score, with no renal impairment | Non-urgent (<26 weeks) |
| Lower urinary tract symptoms, classified as mild as per International Prostate Symptom Score, with no renal impairment | Manage in primary care (option for with or without advice) |
| Female incontinence where conservative management fails | Non-urgent (<26 weeks) |
| Suspicious abdominal masses originating from the urinary tract found on examination and/or imaging | Urgent (< 28 days) |
| Abdominal pain suggestive of urinary tract origin but not typical acute ureteric colic | Urgent (< 28 days) |
| Renal calculi | Semi-urgent (< 13 weeks) |
| Suspected neurogenic bladder | Semi-urgent (< 13 weeks) |

# 09 NEW WAYS OF WORKING

Table 15 Urology referral pathway – in development

| Symptoms/System | Clinical priority and recommended time-frame |
|---|---|
| Scrotal Symptoms | |
| Acute scrotal pain | Immediate (Samesame day) |
| Chronic scrotal pain | Semi-Urgenturgent (< 13 weeks) |
| Scrotal swellings suspicious for testicular cancer | Urgent (< 28 days) |
| Suspected hydrocele on clinical examination, or proven on ultrasound | Non-Urgent (<urgent (< 26 weeks) |
| Suspected epididymal cyst on clinical examination, or proven on ultrasound | Non-Urgent (<26urgent (<2 6 weeks) |
| Adolescent varicocoele | Semi-Urgent (< 13 weeks) |
| An undescended testis (one that cannot be manipulated into the bottom of the scrotum) in child > 3 months | Semi-Urgent (< 13 weeks) |
| Prostate | |
| Elevated age-specific prostate-specific antigen (PSA) in men under 70 in accordance with current NCCP guidelines | Urgent (< 28 days) |
| Elevated age-specific prostate-specific antigen (PSA) in men over 70 in accordance with current NCCP guidelines | Urgent (< 28 days) |
| Hard, irregular prostate suspicious of prostate carcinoma (see NCCP guidelines) | Urgent (< 28 days) |
| See urinary tract symptoms for additional prostate-related conditions (option to repeat here) | |
| Penis | |
| Priapism | Immediate (same day) |
| Suspected Peyronie's disease | Semi-urgent (< 13 weeks) |
| Penile lesion suspicious for penile cancer | Urgent (< 28 days) |
| Chronic penile pain | Semi-urgent (< 13 weeks) |
| Erectile dysfunction | Non-urgent (<26 weeks) |
| Non-retractile foreskin | Non-urgent (< 26 weeks) |
| General male fertility and reproductive/sexual health | |
| Loss of libido in males | Non-urgent (< 26 weeks) |
| Male infertility | Non-urgent (< 26 weeks) |
| Vasectomy/reversal of vasectomy | Non-urgent (< 26 weeks) |
| Pelvic symptoms | |
| Chronic pelvic pain | Semi-urgent (< 13 weeks) |

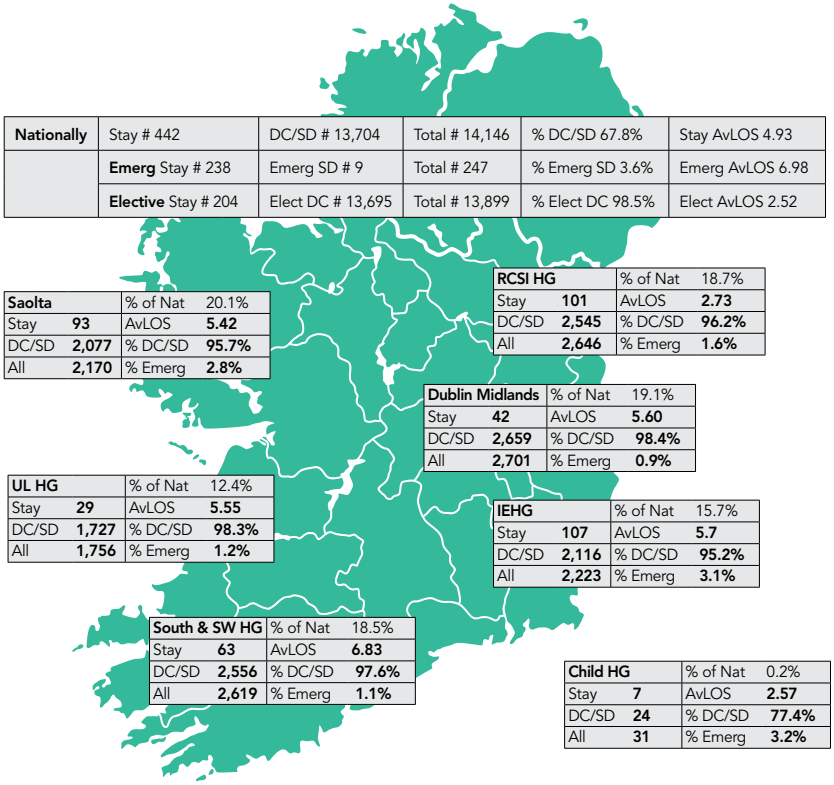
Clearly, looking at the current data and aspirations for treatment and review times set out in Tables 14 and 15, there needs to be a reorganisation of service delivery.

# 09 NEW WAYS OF WORKING

## HUB AND SPOKE

The majority (85%) of Irish urologists work in Model 4 hospitals. However, the preponderance of urological workload is 'generic' urology (Tables 6 and 7). The use of Model 2 and 3 hospitals provides a ready-made source of infrastructure for management of urological patients. Yet, only a minority of Irish urologists work in these institutions (15%). Cystoscopy is the commonest urological procedure performed by urologists (Table 7), and also the commonest procedure waited on by patients (Figure 8).

**RECOMMENDATION 7**
Optimise urological treatments using 'hub and spoke' strategies between Model 4 and Model 2/3 hospitals




DC = day case, DC/SD = day case/ same-day discharge
Source: HIPE Data (HSE, 2017)

Figure 10 Urology: Elective and emergency discharges who had a cystoscopy primary procedure in 2017

Data from the Saolta Healthcare Group shown in Figure 10 demonstrates how the waiting list in University College Hospital in Galway (a Model 4 hospital; the hub) was substantially reduced when patients were transferred to a Model 2 hospital (Roscommon University Hospital; the spoke) to expedite their treatment in 2017.

# 09 NEW WAYS OF WORKING

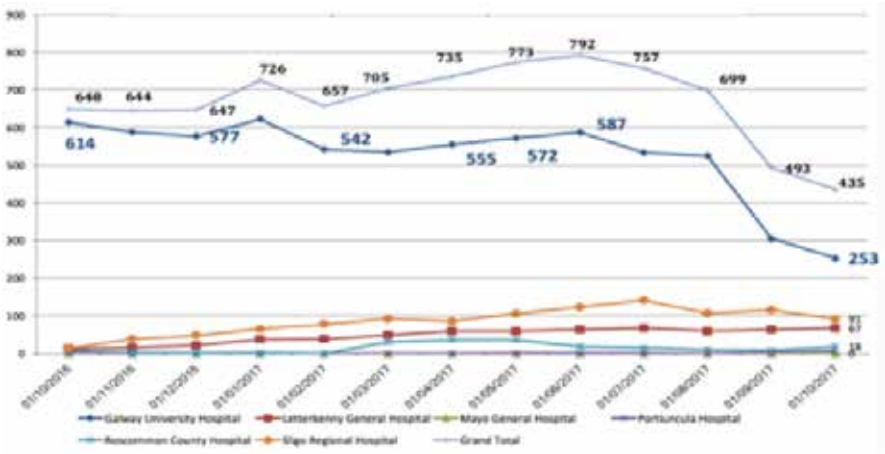



Figure 11 Impact of transferring urology day case cystoscopy to spoke site Saolta 2017

**RECOMMENDATION 7**
Optimise urological treatments using 'hub and spoke' strategies between Model 4 and Model 2/3 hospitals

The use of a 'hub and spoke model', where Model 2 and 3 hospitals are spokes for a Model 4 hub, is becoming more and more common in Irish hospital groups. They can be used to improve both outpatient and day-case waiting lists.

The use of spoke sites has multiple benefits:
- reducing outpatient and day case waiting lists, in both spoke and hub sites
- patient centred by reducing travel and waiting times for patients
- consultant led, requiring minimal NCHD support, assisting in manpower planning
- supports and maintains services in Model 3 hospitals.

The use of 'spoke sites' to expedite cancer diagnostics is currently undergoing evaluation within the Saolta Group. A national rapid access haematuria pilot for patients presenting with visible blood in the urine has commenced in Roscommon University Hospital (Model 2). All patients presenting to the hospitals of the Saolta Healthcare Group (including UHG; Model 4) will be referred to Roscommon University Hospital utilising cystoscopy and imaging that must be prioritised within 28 days in accordance with national prioritisation guidelines (Table 13).

Those waiting longest for inpatient urology treatment are those with benign conditions that cannot be treated as day cases. The increased use of spoke sites will liberate Model 4 hospitals to manage complex treatments.

**Recommendations**
Treatment systems for urological disease must be redesigned as follows:

1. Complex surgery or surgery in complicated patients to be performed in Model 4 hospitals:
   - » cancer
   - » reconstruction
   - » stones
2. Elective surgery in appropriately selected patients in Model 2 and 3 hospitals:
   - » 23 of the top 25 most common urological procedures can be performed in Model 3 hospitals as day cases in patients with no significant co-morbidity
   - » with appropriate management systems supporting elective surgery, transurethral resection of the prostate (TURP) or endoscopic destruction of bladder tumours less than 2 cm diameter can be performed in Model 3 hospitals in patients with no significant co-morbidity.

# 09 NEW WAYS OF WORKING

**RECOMMENDATION 13**
Optimise resources by employing regional and national centres of excellence for subspecialist urological diseases including cancer, reconstruction, transplantation, endourology and paediatric urology

3. National supra-regional referral centres for rare/complex urological surgery:
   - complex surgery on specific cancers
   - renal transplantation
   - removal of mesh from genitourinary system
   - complex urethral surgery
   - sacral neuromodulation
   - extracorporeal shockwave lithotripsy
   - genitourinary prosthetics
   - rehabilitation of Peyronie's disease
   - complex paediatric urology.

4. Admit patients who present with acute unscheduled urological illnesses, that fit the locally agreed admission criteria for management via to an Acute Surgical Assessment Units (ASAU) (NCPS, 2017)
   - improve patient flow
   - provide better access to assessment, investigation and senior decision makers
   - improved PET time

**RECOMMENDATION 15**
Urology patients who patients who fulfil the acute surgical assessment unit (ASAU) admission criteria should be streamed to the ASAU.

## RADIOLOGY SUPPORT

The development of Urology Services in The Republic of Ireland requires appropriate access to Diagnostic & Interventional Radiology Services on a 24/7 basis. Plain film Radiography (KUB), Ultrasound (US), Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Nuclear Medicine (NM) and Interventional Radiology (IR) contribute to the management of a significant number of Urological diseases. It is essential that these services are adequately resourced by funding for Radiographers and Radiologists with sub-specialty training in Urogenital and Interventional Radiology. There is latent equipment capacity with regard to some types of radiology equipment in Irish hospitals. Ultrasound units and magnetic resonance imaging (MRI) scanners often lie idle in the evenings and at weekends in many hospitals. The principal reason for this is the shortage of technical manpower needed to operate such machinery (i.e., radiographers), and clinical manpower to report on such studies (i.e., radiologists). To exploit such equipment latency, the NCPS advocates a recruitment drive for specialised radiographers and radiologists. This would serve to improve access to radiology services for urology patients, decrease patient journey times, and lead to speedier diagnosis and thus earlier treatment.

The National Clinical Programme in Radiology has defined the radiology consultant speciality consultant ratio requirements as follows:

Table 16 radiology support

| | |
|---|---|
| Urology | 0.33 WTE Consultant Radiologist for every 1 WTE Consultant Urologist appointment. Special interest in Urogenital Radiology and/or Interventional Radiology essential. |

# 09 NEW WAYS OF WORKING

**RECOMMENDATION 12**
Educators and regulators of allied medical, nursing and health and social care professionals should promote education and training in urological disease

## ROLE OF NURSING IN UROLOGY

There are a variety of roles for nurses to manage patients with urological disease, including advanced and specialist roles in Urology illustrated in Table 17. However, it is also imperative that pre and post-operative urology patients receive appropriate care delivered by competent and well educated ward based nurses. The finding of the Staffing and Skill mix report phase 1, (DoH, 2018) principles should be implemented in acute surgical wards caring for urology patients. When looking at new role development for advanced practice consideration should be given for a role that bridges primary and secondary care, focusing on hospital avoidance and wait list reduction in line with Slaintecare, as well as having a high standard of patient satisfaction.

Table 17 Specialist and advanced nursing roles for urology

| | |
|---|---|
| Benign urological disease (adults and children) | Urology CNS: Inpatient demand and to assist ANP with their cohort of patients such as self-intermittent catheterisation, catheter care education, teaching. CNS can also assist with benign urology intervesical instillation in conjunction with ANP in that area. |
| | ANP urology:<br>• non-neurological male patients with lower urinary tract dysfunction.<br>• neurological patients with lower urinary tract dysfunction<br>• voiding dysfunction in children<br>• non-neurogenic females with lower urinary tract dysfunction.<br>• Erectile dysfunction, counselling, pharmacological support as well as instruction in injection technique.<br><br>ANP in stone disease: Performs extra-corporeal shockwave lithotripsy (ESWL) |

**RECOMMENDATION 9**
Increase the delivery of new services utilising general practitioners with special interests in Urology, advanced nurse practitioners, health and social care professionals and physician Associates

## ROLE OF PHYSICIAN ASSOCIATES IN UROLOGY

Physician associates (PAs) have a future role in urology services for the specialty (Louis et al., 2015). These roles may include pre-admission assessments, operating room assistance and specialised skills (e.g. TRUS biopsies). PAs have the potential to take over the administration duties of specialist registrars (SpRs), freeing up time for training and ensuring adherence to the European Working Time Directive (EWTD).

## GENERAL PRACTITIONERS WITH A SPECIAL INTEREST (GPSI) IN UROLOGY

A small survey suggests that 25-40% of GPs have in interest in urological conditions ranging from sexual dysfunction to management of prostate diseases (Primarycareurologysociety.org, 2019). In the Saolta group, many andrology conditions are manged by a GP colleague with a specialist interest in psycho-sexual disease. There is need for educational and networking programmes to support healthcare professionals both in primary and community care as well as those undertaking GPSI roles.

# 09 NEW WAYS OF WORKING

## INCORPORATE INNOVATION WITH HEALTH INFORMATION TECHNOLOGY

Follow-up systems using telemedicine could also be employed within the speciality

Image courtesy of InTouch Health

- mobile apps for post-op follow-up
- discharge instructions/advice/patient summary available to urological specialised nurses within hospital group
- regional urology specialised nurse follow-up with 24/7 availability for patient communication
- telephone patient at home:
  - » monitoring PSA
  - » post-op enquiry
- Skype clinics/telehealth

A study incorporating elements of the aforementioned generic pathway in an Irish urology outpatient departments was performed in 2017. The referral letters of 508 patients waiting greater than 15 months for a urology outpatient appointment at Letterkenny University Hospital were reviewed (Table 18). Instead of seeing the patient initially at outpatients and ordering diagnostic tests and/or instituting treatment as traditionally practised, each letter was triaged by a consultant urologist, and the patient's management was allocated to specific pathways as illustrated in Table 18:

- direct (conventional) clinic appointment
  - » e.g., phimosis; chronic pain
  - » book ultrasound of urinary system initially and then see in clinic, e.g., scrotal lumps; complex urinary infections
  - » refer directly to specialised nurse-led urology assessment clinic (UAC), e.g., male LUTS
  - » refer directly to day care cystoscopy (see and treat), e.g., painless haematuria
- refer directly for cystoscopy and upper tract imaging for painless frank haematuria (such referrals should be made only by consultant urologists and higher-level SpR urology trainees (year 3 and up) on approved surgical training programmes)
- patient removed from waiting list after validation
- patient returned to GP.

Table 18 Proportion of patients allocated to discrete outpatient pathways in Letterkenny study

| Pathway | Number |
|---|---|
| Direct clinic appointment | 185 |
| Ultra sound clinic appointment | 148 |
| Appointment to Urinary Assessment Clinic (Advanced Nurse Practitioner) | 62 |
| Direct Day Case Cystoscopy | 16 |
| Direct Day Case Cystoscopy and Ultra Sound Scan | 30 |
| Validation Removal Waiting List | 44 |
| Return to GP | 1 |
| Transfer to another specialty | 2 |
| Already appointed to a core clinic | 20 |
| Total | 508 |

Following this waiting list validation in Letterkenny, over 30% of those waiting more than 15 months did not need to come to a clinic, and with the availability of an ultrasound before being seen, many patients needed to visit the clinic just once (Figure 12).

# 09 NEW WAYS OF WORKING

Figure 12 Urology clinical validation outcome

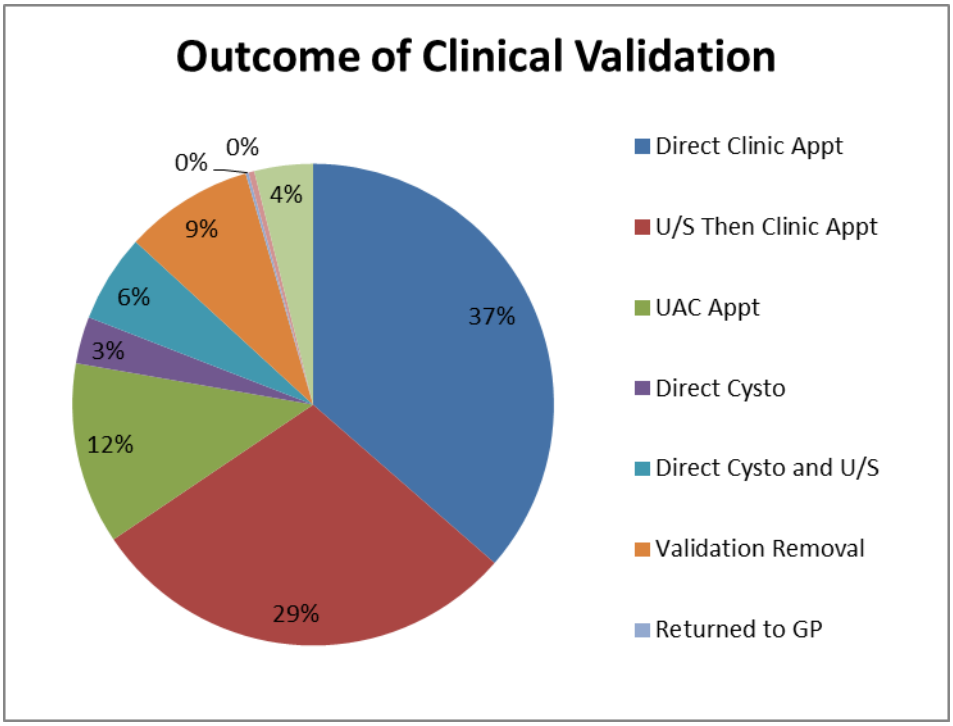
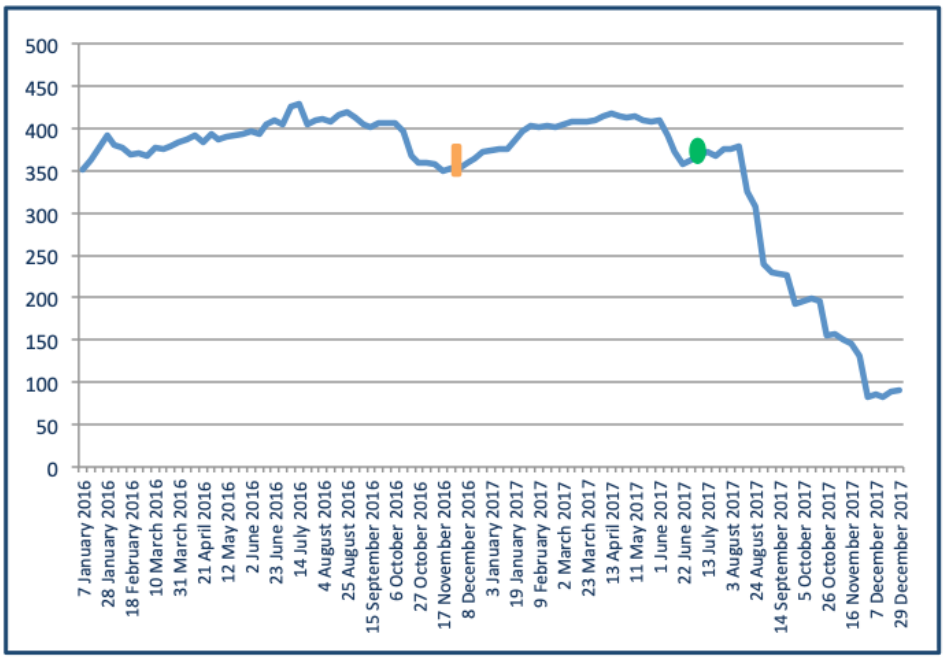



Figure 13 12-month urology waiting list data – Letterkenny



# 09 NEW WAYS OF WORKING

The new way of working consists of the triaging consultant actioning the patient at triage and sending the patient for diagnostic tests if necessary before their first outpatient appointment. This means the patient has had all the necessary tests for the consultant to make a treatment plan on the patients first visit to outpatients thus greatly increasing the service efficiency. Figure 13 shows the dramatic decrease of patients waiting greater than 1 year for their first outpatient appointment since the beginning of the pilot (green dot). The decrease in numbers entering the greater than 12 month category is down to the new way of working as explained above.

Figure 14 Six-month urology waiting list data – Letterkenny Data

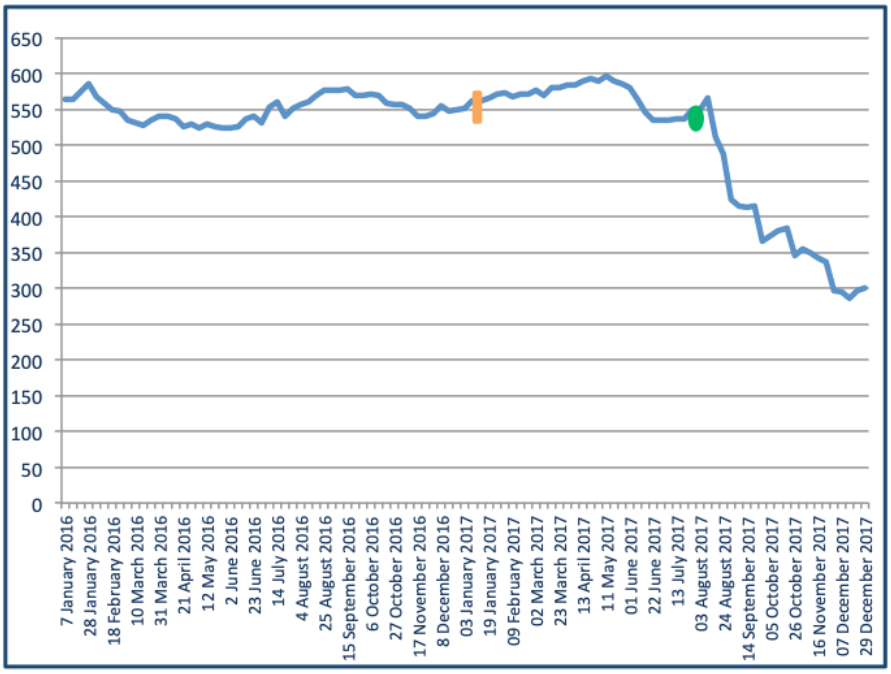
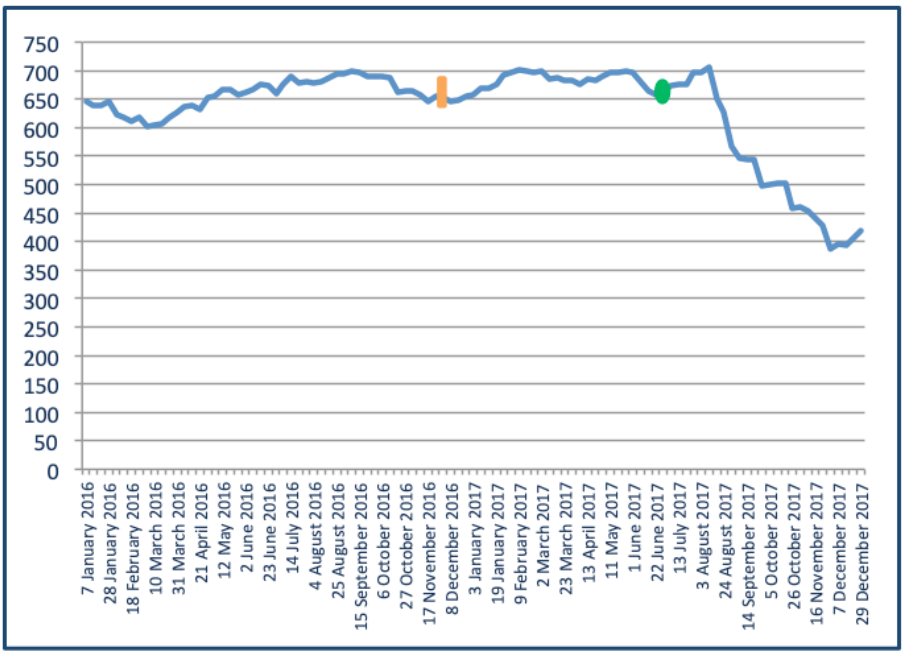



Figure 15 Three-month urology waiting list data – Letterkenny



# 09 NEW WAYS OF WORKING

**RECOMMENDATION 6**
Use 'see and treat' models of care

The new way of working has proven to be successful due to the corresponding decrease in the >6 month and >3 month categories. A larger cohort of patients are being seen within these timeframes and thus the number of patients entering the >12 month category are significantly reduced.

It must be stated that this study pertains to patients waiting greater than 15 months. Nevertheless, the use of a see and treat model, the availability of ultrasound prior to the clinic visit and the availability of a nurse-led clinic attended by both an ANP and a CNS undoubtedly reduced both the initial need to attend a clinic and the necessity for re-attendance at a urology outpatient clinic in the acute hospital system.

Adopting such an approach prospectively to new patients reduced patient waiting times for urology OPD at 3, 6 and 12 months (Figures 13, 14 & 15).

**RECOMMENDATION 10**
Develop strategies that promote use of day case and where possible ambulatory treatments instead of inpatient care for flexible cystoscopy and urodynamics

## SUMMARY OF NEW WAYS OF WORKING

It is proposed that the introduction of the evidence-based strategies outlined in this chapter (one-stop; availability of diagnostic ultrasound; shared care initiatives; see and treat models; use of hub and spoke; multidisciplinary primary care-based care, telemedicine; disease-specific referral centres) can substantially improve access to urology services, while maintaining cost-effectiveness and utilising urological manpower optimally. Each strategy improves the patients journey from diagnosis to treatment and follow up.

It is also apparent that the projected manpower requirements for urological services mandate new ways of working with services delivered by the multidisciplinary team including ANP's, CNS's and health and social care professionals. This system works better where all concerned parties work within a common governance structure. This should be governed by Urologists.

While specialised urological care remains essential, a greater emphasis on the need for generic urological expertise both in terms of recruitment and urological training among all stakeholder health professionals is urgently required.

10

# SPECIFIC PATHWAYS FOR UROLOGICAL CARE

Specific urological pathways, chosen on the basis of their prevalence in the Irish system and risk of harm to patients:

- continence care pathway
- prostate and catheter care pathway (benign; cancer)
- haematuria pathway
- scrotal care pathway (masses).

Each pathway incorporates the generic initiatives also outlined in Chapter 8.

## CONTINENCE CARE PATHWAY

Urinary incontinence affects a vast number of patients. The Irish Longtitudinal Study on Ageing publication 'Health and Wellbeing: Active Ageing for Older Adults in Ireland' has shown that urinary incontinence increases with age and leads to increased GP visits (Figures 16 and 17).

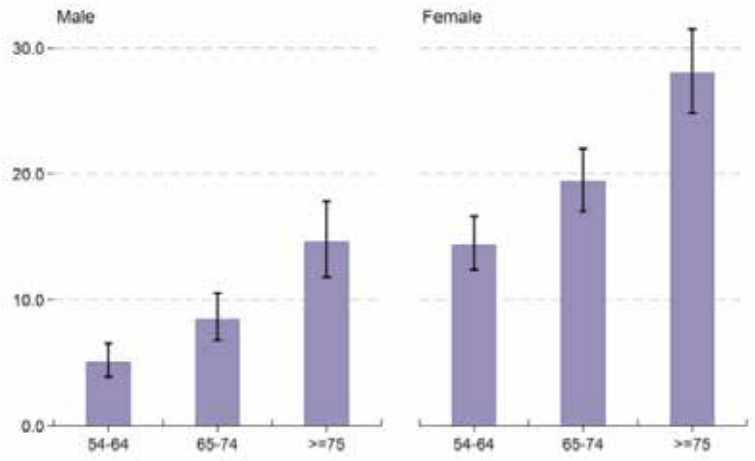



Figure 16 Prevalence of urinary incontinence, by age group and sex. Source: (TILDA)

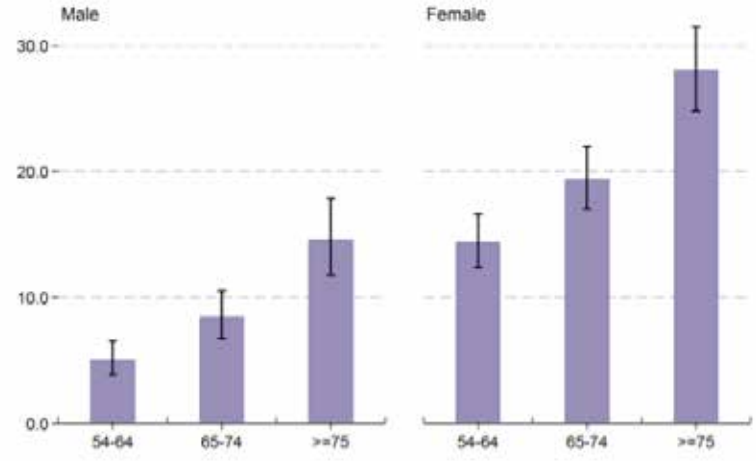



Figure 17 Number of GP visits in the past year, by urinary incontinence, age group and sex. Source: (TILDA)

# 10 SPECIFIC PATHWAYS FOR UROLOGICAL CARE

International studies suggest urinary incontinence is prevalent in 17% of the total female population, and is probably underestimated. It has a documented impact on one's physical, psychological and social well-being (Sinclair and Ramsay, 2011). It affects patients ranging from women after childbirth, the elderly of both sexes, those with neurological disease such as Multiple sclerosis and Parkinson's disease, to those with spinal cord injury, to children, patients with intellectual disability, and those who survive colorectal, gynecological or urinary tract cancer.

The pathway is chosen as many sufferers do not seek medical support. Continence care in Ireland is largely un-coordinated. This leads to poor use of resources and unsatisfactory patient experience. Evidence shows that patients suffering from urinary incontinence are often slow and embarrassed to seek help (Sinclair and Ramsay, 2011). Lack of any perceived system to assist these patients and those that care for them reinforces and compounds patient discontent.

The need for coordinated strategic planning for continence care is reinforced by studies such as TILDA, which show increased visits to GPs with incontinence as patients age (Figure 17). Managing urinary incontinence centres on the fact the underlying cause is treatable, rather than one that requires supports such as the use of incontinence pads (Table 19).

Table 19 Benefits of treating incontinence

| Benefits to patients and the health service by identifying and treating the underlying cause of urinary incontinence | |
|---|---|
| Extends quality of life<br>Cure or partial improvement are both beneficial | |
| Reduces emergency admission to acute hospitals | Reduction in bed days used |
| Reduces healthcare costs | £100 to £600 per annum for life with pads against treatment by nurse or physiotherapist at a one-off total of £150 (Qualitasconsortium.com, 2005) |
| 30% lower cost for treatments initiated by continence nurse advisers supported by primary care and physiotherapy | |

Continence care delivered in primary care could benefit from the implementation of an integrated care plan that can be applied nationally. An Audit carried out in Roscommon Primary Care, Nurse - Led Continence Care Clinics for Adults (seen by Continence Advisor) and the Integrated Continence Care Clinics for Men following Radical Prostatectomy (seen by Continence Advisor and clinical specialist physiotherapist) have shown that

- On average there was an overall 66% significant improvement in patient symptom's on discharge from the clinics.
- 97% of patients attending for change of long term urethral and supra pubic catheters in Nurse - Led Continence Care Clinics did not need to attend the acute hospital services for change of catheter.

Average cost saving of patients attending Nurse- Led Continence Care Clinics and the Integrated Continence Care Clinics for Men (average 3-4 clinic visits) is 65 % when compared to average annual cost of disposal continence pads.

# 10 SPECIFIC PATHWAYS FOR UROLOGICAL CARE

**RECOMMENDATION 5**
Develop shared care initiatives between primary and secondary care that ultimately aim to transition selected urological services from acute hospital- based care to community care delivered closer to home

A shared care plan for continence care primarily based in the community will include the following components:

1. Incontinence assessed in primary care by GP.
2. GP refers to primary care based one stop clinic for urinary incontinence managed by ANP and clinical nurse specialist or physiotherapist in incontinence, providing additional assessment with potential urodynamic studies.
3. Treatment and follow-up are delivered by ANP and AHP with follow-up by telemedicine clinic with practitioner discharge policy.
4. Those who fail to respond to treatment or have complex urological and/or gynaecological diseases are referred to a Urology multidisciplinary team (MDT) in the acute hospital in accordance with agreed guidelines.
5. MDT decides appropriate patients for specialist assessment within acute hospital system
6. Urological and gynaecological services share similar protocols for treatment, discharge and follow-up with primary care and nurse/physio-led clinic.
7. Regional, urological and gynaecological leads implement and monitor the links between primary and secondary care, ideally through a continence steering group.

Table 20 recommended roles for primary care of urinary incontinence

| | |
|---|---|
| ANP community continence care adviser | Includes catheter changes, nurse prescribing, and continence assessments (both paediatric and adult) and offers support and education to patients carrying out intermittent self-catheterisation. Use of pessaries for female incontinence. Use of PTNS (percutaneous tibial nerve stimulation) for erectile dysfunction and male incontinence |
| Clinical specialist physiotherapist in women's health | Bladder training and education of patients, such as women after childbirth, in prevention strategies. Use of pessaries for female incontinence. Use of PTNS (percutaneous tibial nerve stimulation) for erectile dysfunction and male incontinence |

**RECOMMENDATION 12**
Educators and regulators of allied medical, nursing and health and social care professionals should promote education and training in urological disease

## Catheter Management

Catheters are frequently inserted to control urine incontinence. Inappropriate insertion of urinary catheters or those left in place for excessive periods can become hazardous to patients (Cdc.gov, 2009). Patients with a catheter are frequently sent to an acute hospital when complications occur, which leads to increased bed occupancy.

A number of alternative options are available to reduce hospital attendance:

- catheter care managed by community ANP continence adviser
- community ANP continence adviser referral for catheter management by eReferral
- coordinated catheter care plan at national and hospital group level
- patients in urinary retention attending GP or emergency department can be started on medical therapy and have their catheter removed by community ANP continence adviser, and followed up to assess their ability to urinate efficiently
- If the patient fails to pass urine, there is the option to attend a nurse-led clinic where self-intermittent catheterisation can be taught in the expectation that the patient will ultimately urinate.

# 10 SPECIFIC PATHWAYS FOR UROLOGICAL CARE

## PROSTATE CARE

This pathway involves the management of:
- prostate cancer
- benign prostatic hyperplasia

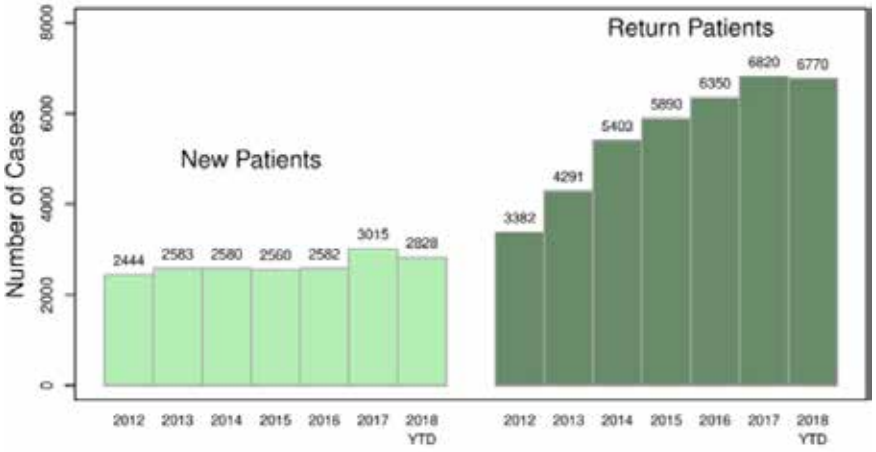
Both conditions are among the most prevalent symptoms in males presenting to Irish Urology outpatient clinics (Figure 9).

The National Cancer Strategy 2017 – 2026 has identified that the numbers of patients with prostate cancer will increase dramatically in the coming years:
- 10% - 2015
- 45% - 2025
- 99% - 2045

In recent years, much has been done in the management of prostate cancer in men aged between 40 and 70 in Ireland. The focus of this work has been to:
- improve early detection
- improve treatment and care.

Much of this success has been brought about by organising the delivery of prostate care and the implementation of:
- national referral guidelines for GPs
- rapid access prostatic assessment clinics (Figure 18)

Figure 18 Number of new/return attendances to rapid access prostate clinics 2012–2018. Source:




Male patients presenting with symptoms of BPH most commonly complain of bothersome LUTS including poor urine flow, difficulty starting urination and having to empty the bladder frequently, especially at night. Symptomatic BPH is one of the commonest conditions presenting to a general urology outpatient department in Ireland (Figure 8 & 9).
- LUTS are more prevalent among the elderly, and clinical urodynamic studies have demonstrated advancing age to be associated with a reduced bladder capacity, an increase in uninhibited contractions, decreased urinary flow rate, diminished urethral pressure profile (particularly in women), and increased post-void residual urine volume (Siroky, 2004).
- Waiting times for prostate assessment and diagnosis in suspected BPH are exceptionally long, as many patients have been screened for dangerous diseases such as prostate cancer (by use of PSA) and visible haematuria, which are managed urgently.
- The primary care physician and urologist should establish a partnership to co-manage the broad spectrum of factors affecting continence in elderly patients (DuBeau, 2006).

# 10 SPECIFIC PATHWAYS FOR UROLOGICAL CARE

## LOWER URINARY TRACT SYMPTOMS SHARED CARE INITIATIVE AND NURSE-LED SERVICE

**RECOMMENDATION 17**
Implement in each hospital group an advanced nurse practitioner (ANP)-led male lower urinary tract symptom clinic

The specific aims of this initiative are to prevent patients requiring hospital access, to use one-stop concepts, and to reduce waiting times for assessment. The initiative is based on the use of the International Prostate Symptom Score (IPPS) (Table 21) The IPSS is a validated screening tool used to screen for, rapidly diagnose, track the symptoms of, and suggest management of the symptoms of BPH.

Table 21 International Prostate Symptom Score (IPSS)

| Patient name: | | Date of birth: | | | Date completed: | | |
|---|---|---|---|---|---|---|---|
| In the past month: | Not at all | Less than 1-5 times | Less than half the time | About half the time | More than half the time | Almost always | Your score |
| **1. Incomplete Emptying** How often have you had the sensation of not emptying your bladder? | 0 | 1 | 2 | 3 | 4 | 5 | |
| **4. Frequency** How often have you had to urinate less than two hourly? | 0 | 1 | 2 | 3 | 4 | 5 | |
| **5. Intermittency** How often have you found you stopped and started again several times when you urinated? | 0 | 1 | 2 | 3 | 4 | 5 | |
| **6. Urgency** How often have you found it difficult to postpone urination? | 0 | 1 | 2 | 3 | 4 | 5 | |
| **7. Weak stream** How often have you had a weak urinary stream? | 0 | 1 | 2 | 3 | 4 | 5 | |
| **8. Straining** How often have you had to strain to start urination? | 0 | 1 | 2 | 3 | 4 | 5 | |
| | None | 1 Time | 2 Times | 3 Times | 4 Times | 5 Times | |
| **7. Nocturia** How many times did you typically get up at night to urinate? | 0 | 1 | 2 | 3 | 4 | 5 | |
| Total IPSS Score | | | | | | | |
| Score: 1-7: Mild \| 8-19: Moderate \| 20-35: Severe | | | | | | | |
| Quality of life due to urinary symptoms | Delighted | Pleased | Mostly satisfied | Mixed | Mostly sissatisfied | Unhappy | Terrible |
| If you were to spend the rest of your life with your urinary condition just the way it is now, how would you feel about that? | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

Patients with LUTS presenting to primary care undergo an assessment with the IPSS, a physical examination of the prostate and laboratory tests that include a serum PSA test to assess for prostate cancer, a serum creatinine to assess renal impairment, and urine analysis to check for blood. In the event that there is an abnormality in any of these tests, or a suspicion of prostate cancer on physical examination, the patient is not enrolled in the shared care initiative. Further management is dictated by the severity of the IPSS (Madersbacher et al., 2004).

A urology male lower urinary tract symptom pathway is shown in Figure 19. The management and referral of the patient in primary care is dictated by the severity of the patient's symptoms as dictated by the IPSS. Clear pathways exist for patients with mild to moderate symptoms in primary care, with both consultant and nurse specialist support available if needed. Similarly, a clear path exists for prompt assessment of patients with severe symptoms and who are in danger.

# 10 SPECIFIC PATHWAYS FOR UROLOGICAL CARE

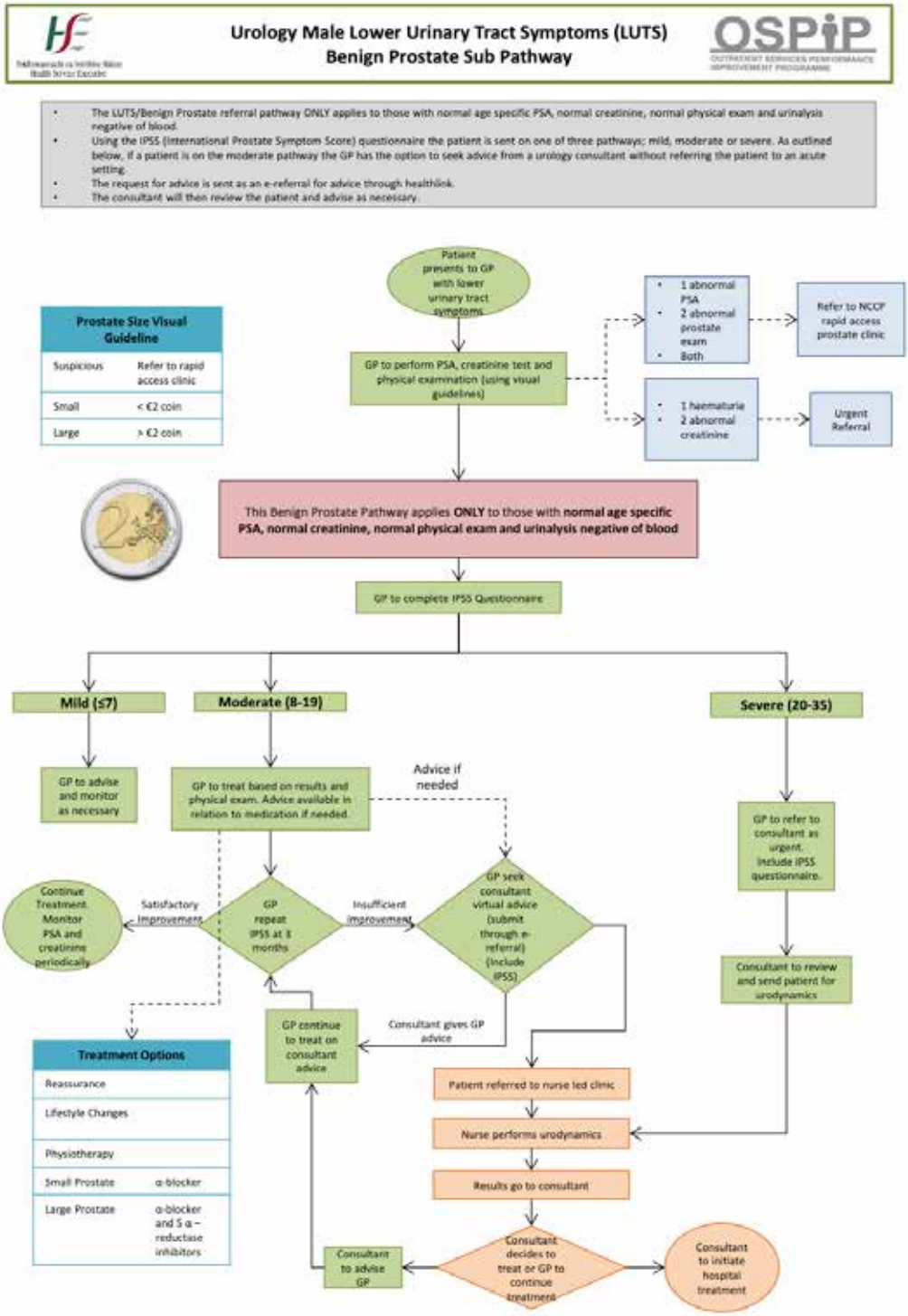



Figure 19 LUTs pathway.

# 10 SPECIFIC PATHWAYS FOR UROLOGICAL CARE

The initiative uses the IPSS to triage patients with LUTS who require hospital assessment and includes a number of generic processes:

- » triage management in primary care
- » consultant-led virtual support and advice
- » ANP-delivered support and advice
- » ANP-led LUTS clinic.

- Where a patient has to be maintained by re-insertion of a long-term catheter or fails to urinate despite appropriate medication, surgical therapies have to be considered necessitating referral to hospital for urological assessment.
- Where the patient passes urine successfully, it is important that they are followed up in primary care to monitor kidney function and PSA.
- Such pathways are supported by patient information systems and clinical audit.

What is required for establishment of an ANP delivered Male LUTs clinic?
**Resources:** Advanced nurse practitioner, clinic room with access to toilet and examination couch . Administrative support for scheduling appointments, waiting list management, typing, chart retrieval etc, Specific waiting list on IPMS. Urine flow meter and bladder scanner for measurement of post void residual, urinalysis machine, BP measurement, computer, printer
**Type of patients:** Males with symptoms of LUT,
**Additional supports:** Blood tests from GP, IPSS carried out in primary care, access to booking and reviewing radiology and laboratory results

### Innovations in Surgical Management of BPH

When medical therapy fails, monopolar transurethral resection of the prostate (TURP) has been the gold standard for the surgical management of BPH over the past decades. It is one of the most frequently performed procedures encountering delays on urological inpatient waiting lists. Traditionally inpatient hospital stays for TURP are three to five days. It can lead to immediate complications such as bleeding, TURP syndrome, or complications that require readmission such as secondary haemorrhage or incomplete resection (Roos et al., 1989).

**RECOMMENDATION 7**
Optimise urological treatments using 'hub and spoke' strategies between Model 4 and Model 2/3 hospitals

The development of lasers and bipolar technology (Elmansy, Kotb and Elhilali, 2011), new enucleative techniques to remove the prostatic adenoma/adenomata, and other diverse technologies (Embolisation; Urolift; Rezum) significantly minimise the risk of complications, inpatient bed stay and readmission rates. Prostate Artery Embolisation (PAE) performed by Interventional Radiologists can be considered as a potential therapeutic option for the management of BPH (Challacombe and Sabharwal, 2019).

These new technologies should be embraced whenever appropriate evidence of costs, risk–benefit ratios and surgical expertise shows equivalence with TURP (Mayoclinic.org, 2019). Their use can be facilitated in dedicated hospital units designed for short-stay hospital admission (two- to four-day admission) in each region. Such units are ideally situated in scheduled surgery centres such as Model 3 hospitals if the appropriate capital, human resource and diagnostic resources are available. The availability of dedicated nurse-led clinics in acute hospitals which facilitates patients to be discharged earlier from hospital with an indwelling catheter, which can be removed at an appropriate time in a nurse-led clinic. Telephone follow-up may reduce return visits to OPD.

### Suprapubic Catheters

A national policy for the insertion of suprapubic catheters must be developed. These are used when urethral catheters are either contraindicated or fail to work. Unlike the insertion of urethral catheters, there are strict guidelines for insertion by urologists or interventional radiologists, and they are not suitable for primary insertion in the community. However, once inserted, they can be replaced in the community. Evidence is now available indicating that accurate insertion of suprapubic urinary catheters should be performed using radiological imaging for guidance (Baus.org.uk, 2015). It is important that there is sufficient radiological backup available in hospitals to provide this service on a 24/7 basis, and that there is a dedicated interventional radiology (IR) suite available so that valuable operating theatre space is not wasted on such procedures.

# 10 SPECIFIC PATHWAYS FOR UROLOGICAL CARE

## HAEMATURIA PATHWAY

The painless passage of blood in the urine is a serious medical condition and strongly associated with an underlying malignancy, particularly bladder and kidney cancers (Buntinx and Wauters, 1997). Patients presenting with either visible or microscopic haematuria are among the most prevalent attending urology outpatients in Ireland (Figure 9).

An analysis of the prevalence of urinary symptoms presenting to urology outpatients (Figure 9) revealed that 13% of their urology outpatient waiting list represented patients with haematuria (visible and microscopic). Table 22 estimates the number of patients by all hospital groups who are likely to have haematuria based on the data extrapolated from this analysis.

Table 22 Haematuria – national estimated figures. Source: Data from HSE Office of National Lead for Elective Care, Acute Strategy and Planning 'Tableau' Data

| Urology outpatient waiting list 19/07/2018. | | | |
|---|---|---|---|
| **All hospital groups** | **Patients on waiting list** | **Patients with haematuria (13%)** | **Patients with possible urological cancer:**10.3% PPV (positive predictive value) with visible haematuria |
| **Child HG** | 1161 | 151 | 13 |
| **Dub ML** | 7264 | 944 | 82 |
| **IEHG** | 3879 | 543 | 44 |
| **RCSI HG** | 3965 | 515 | 45 |
| **Saolta** | 5939 | 772 | 67 |
| **Sth SW** | 5012 | 652 | 57 |
| **UL HG** | 2147 | 279 | 24 |
| **Total** | **29,367** | **3856** | **333** |

| | |
|---|---|
| Child HG | Children's Hospital Group |
| Dub ML | Dublin Midlands Hospital Group |
| IEHG | Ireland East Hospital Group |
| RCSI HG | Royal College of Surgeons in Ireland Hospital Group |
| Saolta | Saolta Health Care Hospital Group |
| Sth SW | South South West Hospital Group |
| UL HG | University of Limerick Hospital Group |

Patients with visible haematuria represent a higher-risk group for malignancy than those presenting with microscopic haematuria, who are still at risk albeit lower. However, most importantly, visible haematuria has a high diagnostic yield for urological malignancy

The NCCP, the National Clinical Programme for Radiology and the NCPS have agreed to collaborate to develop a standardised network of 'one-stop' rapid access haematuria pathway (RAHP) a proposed referral form is found at appendix A.

The RAHP will initially focus on visible frank haematuria and be facilitated in one site per hospital group, ideally a Model 2/3 spoke hospital, linked with a Model 4 hospital that is a national cancer centre. Treatment led by a cancer centre urologist attending the Model 2/3 hospital is currently accessed by GP or consultant referral illustrated by appendix B. If the current pilot proves the concept then the referral pathway is likely to be extended nationally and to include ANP/AHP referrals.

**RECOMMENDATION 17**
Use one-stop clinics with combined tests/pre-booked diagnostic tests, particularly ultrasound and uroflowmetry

The RAHP pathway involves:

1. the patient attending for their "see and treat" appointment as a day-case, avoiding attendance at outpatients altogether.
2. Access to the most appropriate diagnostic imaging test (ultrasound or CT)
3. Access to cystoscopy.
4. Clinical review with the cross-sectional imaging report and discharge or referral on to an appropriate service.
5. Follow up MDTs to discuss the management of patients with cancer

# 10 SPECIFIC PATHWAYS FOR UROLOGICAL CARE

The pathway is illustrated in appendix B.
The vision for a RAHP includes the following:

- patients to have a rapid clinic experience
- reduce patient waiting times
- increase early diagnosis
- reduce burden on outpatient departments
- receive appropriate diagnostics in a timely manner
- streamline access to services nationwide
- improve communication with GPs
- reduce burden on Model 4 cancer centres
- access to appropriate cross sectional imaging

The results from the Saolta Hospital Group pilot based on key performance indicators (KPIs) of cancer detection rates, etc should provide proof that this is safe and cost-effective.

## SCROTAL CARE PATHWAY

Young males are encouraged to self-examine for scrotal lumps. The majority of scrotal lumps are benign hydrocoeles or epididymal cysts, which seldom require treatment. Nevertheless, they are a source of anxiety when detected by the patient who needs reassurance that the lump is not malignant. As shown in Figure 8, the detection of a scrotal lump is one of the most frequent presentations to urology outpatients in Ireland.

Timely access to diagnostic Ultrasound is required for the evaluation of scrotal pathology. The availability of a diagnostic scrotal ultrasound to the GP would definitively diagnose whether a scrotal lump is benign or malignant, while it is more accurate than physical examination. Ultrasonic confirmation that a scrotal lump is benign before referral to outpatients would reduce the number of referrals. Where a referral occurred, the availability of a diagnostic ultrasound would ensure that the visit was one stop, rather than the current common practice of a patient having to attend outpatients at least twice; initially to be seen, and the second time to obtain the result of an ultrasound ordered at the initial outpatient appointment.

# 11 SUB-SPECIALTY UROLOGY MODELS OF CARE:

## Urological Cancers: Kidney, Retroperitoneum, Bladder, Prostate, Testis and Penis

The ISU, as the professional body for Irish urologists, has a role in advising the NCCP, NCPS and HSE regarding best practice for urological surgery, including cancer, reconstruction including use of mesh, etc. The philosophy of the ISU is that surgical management of urological cancer will be practised in accordance with the international guidelines and governance laid down by the European Association of Urology (EAU), the British Association of Urological Surgeons (BAUS), the American Urological Association (AUA), and the National Cancer Control Network (NCCN).

Table 23 Key points of the National Cancer Strategy 2017—2026

| Reduce Cancer Burden | Provide Optimal Care | Maximise Patient Involvement and QOL | Enable and Assure Change |
|---|---|---|---|
| Priortise Prevention | Ensure effective treatment throughout care pathway | Enhance patients role in delivery of cancer care | Strengthen role of NCCP in oversight of cancer control and implementation of strategy |
| Improve symptom awareness | further develop infrastructure | develop and implemenr survivorship programmes | ongoing workforce planning to fulfill changing needs |
| Increase early diagnosis | Focus on safety and quality assurance | | Utilise technology, data and research |
| Focus on social inequalities | Ensure effective palliatie care | | Build better systems and processes to ensure evidence-based prioritisation and service delivery |

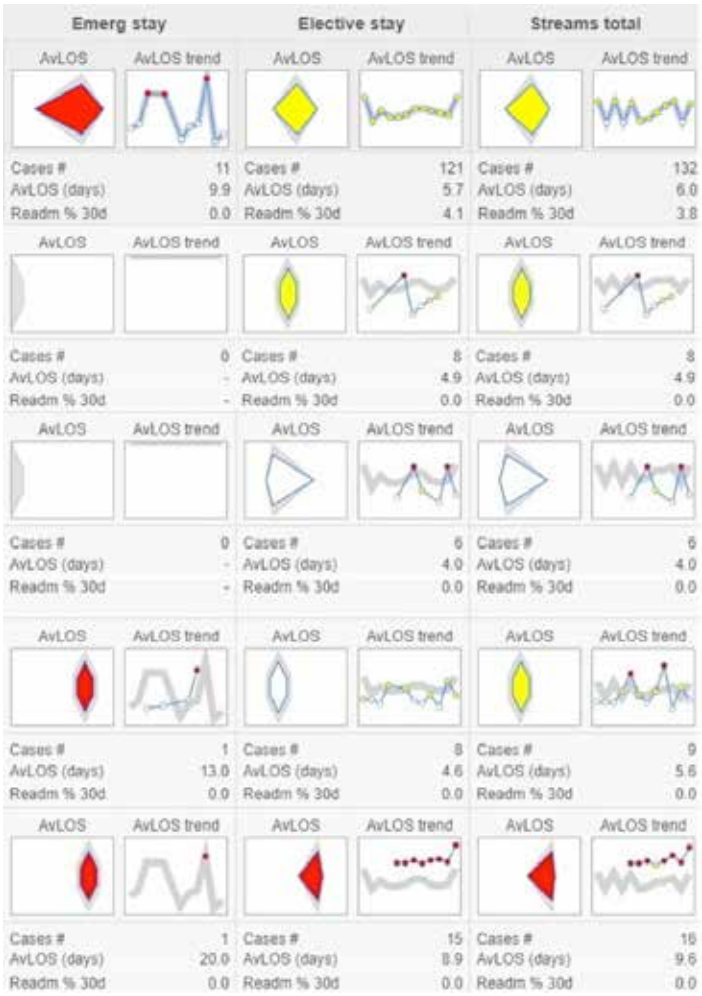
Urologists who treat cancers must assist the NCCP to implement the following key recommendations from the National Cancer Strategy 2017–2026.

- The NCCP, working with key stakeholders, will develop criteria for the referral of patients with suspected cancer (kidney, bladder), who fall outside of existing rapid access clinics (prostate), for diagnostic tests:
- Develop the RAHP outlined above.
- The centralisation of diagnosis, treatment planning and surgical services for urological cancers will be organised in line with best international practice:
  - robotic surgery
  - organ-preserving open surgery
  - total removal of urological organ affected by cancer
  - surgical management of metastatic disease.
- Designated cancer centres working with the NCCP, the ICGP, primary care services, patients and voluntary organisations will develop and implement survivorship programmes (e.g., urinary tract reconstruction):
  - urinary incontinence
  - sexual dysfunction
  - haematuria.

The National Quality Assurance Improvement System (App, 2018) database records HIPE data concerning urological practice in Ireland. NQAIS provides metrics to the NCCP and HSE to determine issues such as the optimal quantity and quality of urological cancer procedures expected in individual cancer centres, and the optimal location of such cancer centres.

Table 24 illustrates data from the NQAIS clinical database. Figure 20 illustrates the number of laparoscopic nephrectomies performed in a defined period in the HSE, performed by individual surgeons. Similar data can be analysed per individual hospital or hospital group. The outcome is assessed by metrics including average length of hospital stay (AvLoS) and deviations from the AvLoS and bed day units (BDU) used, among others.

# 11 SUB-SPECIALTY UROLOGY MODELS OF CARE:




AvLos = Average Length of Stay

Cases # = number of cases

Readm % 30d = percentage of readmissions at 30 days

Figure 20 Laproscopic nephrectomy – variation in volumes and AvLOS by consultant in 2017.

| National Summary Metrics | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2017 procedures | Cases # | AvLOS (days)* | Bed days used # | "Readmit 30 Days %" | Beds/Day on Target | Beds/ Day near Target | Beds/ Day off Target |
| Complete nephrectomy, unilateral | 14 | 5.2 | 87.0 | 7.1 | 0.2 | 0.0 | 0.0 |
| Lap complete nephrectomy, unilateral | 59 | 4.8 | 318.0 | 3.4 | 0.7 | 0.2 | 0.0 |
| Lap nephrectomy trnsplnt, living donor | 18 | 5.0 | 100.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Laparoscopic nephroureterectomy | 35 | 8.0 | 301.0 | 8.6 | 0.5 | 0.2 | 0.1 |
| Laparoscopic partial nephrectomy | 86 | 5.3 | 586.0 | 5.8 | 1.2 | 0.4 | 0.0 |
| Laparoscopic radical nephrectomy | 132 | 6.0 | 835.0 | 3.8 | 2.0 | 0.3 | 0.0 |
| Laparoscopic radical prostatectomy | 34 | 2.9 | 130.0 | 2.9 | 0.3 | 0.0 | 0.0 |
| Nephroureterectomy | 10 | 12.7 | 127.0 | 20.0 | 0.2 | 0.1 | 0.1 |
| Partial amputation of penis | 18 | 5.3 | 124.5 | 5.6 | 0.2 | 0.1 | 0.0 |
| Partial nephrectomy | 86 | 6.9 | 659.0 | 3.5 | 1.3 | 0.4 | 0.0 |
| Radical nephrectomy | 91 | 8.4 | 855.0 | 7.7 | 2.0 | 0.3 | 0.0 |
| Radical prostatectomy | 78 | 5.9 | 538.0 | 5.1 | 1.1 | 0.1 | 0.3 |
| Total excision of bladder | 59 | 14.7 | 1,230.0 | 22.0 | 2.3 | 0.8 | 0.2 |

NQAIS Clinical uses HIPE data is supplied by the HPO

* AvLOS is Trimed to exclude long stayers. BDU is sum of lengths of staay including long stayers. Day Case LOS = 0.5 days

Table 24 NQAIS Clinical database: profile of urological cancer surgery 2017

# 11 SUB-SPECIALTY UROLOGY MODELS OF CARE:

In order to maintain surgical expertise in specific cancer surgery e.g. robotic surgery, the ISU recommends adopting international governance protocols (Professionals, 2019) that state:

- Surgical case volume (determined by NQAIS) must be sufficient to ensure optimal outcome and competence.
- Urologists should have established expertise and training in specific procedures.
- Urologists must adhere to local hospital governance structures.
- A clinical lead/director of open/robotic surgery must be established per cancer centre
- Surgical outcomes are subject to audit/KPIs.

Adherence to such guidelines can only be achieved in a reduced number of dedicated elective cancer centres.

These guidelines also apply to other specialised complex urological surgeries, and indeed all forms of urological surgery, to ensure necessary surgical expertise.

The new cancer strategy 2017-2026 has implications for resourcing urological manpower

- Majority Urologists have specialist training in cancer or minimally invasive surgery
- Will specialist urological cancer surgery continue on 8 sites (?4 + 1 National Centre)
- Many superbly trained cancer surgeons work exclusively in non-cancer centres
- What about specialist non-cancer urological surgery?
  - » Will it continue in cancer centres?
- What about survivorship?
  - » Where will it be done?
- Will current specialist surgeons have time to provide "generic" urology services outside cancer centres?
  - » Such patients waiting too long for treatment
- Will there be sufficient urological manpower to manage patients with both cancer patients and those with benign urological diseases who already wait excessively for treatment?

**RECOMMENDATION 9**
Increase the delivery of new services utilising health and social care professionals, advanced nurse practitioners and physician associates.

## UROLOGY CANCER NURSING

Suggested nursing roles for the delivery of urology cancer services are listed in Table 25.

Table 25 Urology cancer nursing roles

| | |
|---|---|
| Bladder cancer | Bladder cancer CNS: survivorship clinics from time of diagnosis, symptom management and assist intervesical administration and assessments |
| | Bladder cancer ANP:<br>• cystoscopy for surveillance<br>the extended role of nurses carrying out endoscopy, needs to be examined for the Irish context. Intravesical clinics nurse led with ANP oversight for patient assessment, treatment prescribing and side effect monitoring and treatment. Specially trained RGNs administer the treatments, but the literature advocating this role as a CNS role would also incorporate the survivorship element. |
| Prostate cancer | Prostate cancer ANP can manage virtual clinics in PSA surveillance following prostate biopsies as envisaged by the NCCP/ICS |
| | Prostate cancer survivorship CNS providings service from time of diagnosis to treatments and beyond. Facilitating joint physio/CNS clinics weekly, trial of voiding clinic post surgery and virtual clinics. |
| Urology cancer<br>Testicular cancers<br>Penile cancers<br>Renal cancer | Survivorship CNS managing patients from time of diagnosis, etc. They will overlap with oncology nurses, however, these patients can have had surgery before they meet the oncology CNS |

## ANDROLOGY & PENILE CANCER

Ireland needs a centre of excellence for the management of andrology as a distinct discipline within urology. This should be modelled on international units such as St Peters Andrology Unit in University College London Hospital (UCLH). The expertise and skillset required for the management of penile cancer are very much a part of comprehensive exposure and training in andrology.

# 11 SUB-SPECIALTY UROLOGY MODELS OF CARE:

A national tertiary referral centre for the management of complex andrology for Ireland would also assume the role as a national centre for the management of penile cancer.

Such a centre should be led by one to two consultant urological surgeons with subspecialty training in andrology combined with proven experience to develop and lead a new service for Irish urology.

Complex andrological surgery incorporates specialist skills in:

- robotic surgery
- organ preserving open surgery
- total removal of urological organ affected by cancer
- surgical management of metastatic disease
- genital reconstruction
- insertion of prosthetics
- microvascular techniques.

## Penile cancer

- There are approximately 50 new cases per annum of invasive disease. This translates to approximately 150 operations per annum (inclusive of nodal management strategies). (Note that the few cases of anterior urethral cancer [< 10 per annum] would also be undertaken by this unit, as surgical and adjuvant management mirrors that of penile cancer.) A national strategy on centralisation is required, with a rapid access referral system where suspected penile cancer cases are seen within 14 days.

## Penile cancer MDT

The penile cancer MDT should include the following:

| Penile cancer MDT membership | |
|---|---|
| Urological surgeon with andrology subspecialty training | • Fellowship trained at a minimum<br>• phallus preservation surgery/oncoplastic reconstruction trained<br>• nodal management strategies (modified and radical inguinal, pelvic/video laparoscopic/sentinel mapping). |
| MDT co-ordinator | • facilitating fortnightly MDT meeting<br>• close links with supra-regional penile cancer MDT in the UK for challenging cases and further governance issues. |
| Urology CNS/ANP | • key worker and point of contact for each penile cancer patient. |
| Pathology involvement | • gross specimen reporting/HPV assessment/frozen section intra-operatively.<br>• access to the necessary radiological cross-sectional studies for the staging of penile carcinoma |
| Consultant uroradiologist | • radiation oncology liaison (adjuvant role)<br>• MRI with Caverject staging/nodal staging/ultrasound groins and fine needle aspiration (FNA) biopsy/nuclear medicine for sentinel node mapping/ positron emission tomography. (PET) scan/single photon emission computed tomography (SPECT) scan |
| Medical oncology liaison | • neoadjuvant and adjuvant role |
| Plastic surgery liaison | • cases involving extensive reconstruction and flap closure of major groin resections |
| Dermatology liaison | • cases involving topical treatments of non-invasive disease |
| Psych-oncology/psychological services | • part of comprehensive holistic management of patients |

# 11 SUB-SPECIALTY UROLOGY MODELS OF CARE:

### Cancer Survivorship

- sexual dysfunction key element of pelvic cancer survivorship concerns
- erectile dysfunction surgery essential component of cancer survivorship
- undrology unit should be closely aligned to nurse specialists/psychosexual/relationship counsellors/psycho-oncology services

### Governance, Training and Audit

- This unit would provide complete exposure and training for nursing and medical staff in comprehensive andrology.
- The unit would attract national and international fellowship positions for postgraduate training in andrology.
- Research opportunities would be significant by amalgamating high-volume practice to a single site in Ireland.
- Linkage with the Irish Prostate Cancer Outcomes Research (IPCOR) project, The Conway Institute, should be established for both qualitative and laboratory-based translational research.
- Establishing a tissue bio-banking project would be a priority.

### Peyronie's Disease/Congenital Chordee

There are approximately 75 new cases per annum requiring operative intervention.

### Male Factor Infertility

- Figures for male factor infertility in Ireland are difficult to ascertain as majority of treatment is currently taking place on an ad hoc basis in the private sector. The HSE does not currently provide a comprehensive package of care for male factor infertility (vasectomy reversal/ surgical sperm retrieval /microTESE). A national sperm banking facility should be made available to patients undergoing cancer therapy.

### Erectile Dysfunction

There are approximately 50–100 cases per annum requiring operative intervention nationally.

### Phallic Reconstruction (Buried Penis/Severe Lichen Sclerosis, etc.)

Approximately 20 patients per annum require treatment.

# 11 SUB-SPECIALTY UROLOGY MODELS OF CARE:

## URINARY INCONTINENCE/RECONSTRUCTION/NEURO-UROLOGY

A pathway for the management of urinary incontinence that integrates primary and secondary care is outlined in Chapter 9. This chapter outlines the model of care for urologists who subspecialise in female urology, urinary tract reconstruction and neuro-urology (Table 26). Each hospital group should have a urologist with a specialist interest in female urology and reconstructive urology.

Table 26 Female urology, urinary tract reconstruction and neuro-urology pathway

| Female urology, urinary tract reconstruction and neuro-urology pathway. Actions for implementation |
|---|
| Issue guidelines to GPs in primary care on management of urinary incontinence as outlined above and also shown in Appendix C |
| Patients can be referred to the appropriate subspecialist in the relevant hospital group after failure of conservative and medical treatment. |
| Dedicated urinary incontinence clinic in each of the hospital groups will involve: |
| • urologists with subspecialist training in female urology and reconstructive urology |
| • urodynamics department with specialist nurses in female urology and reconstructive urology |
| • ANP in female urology and reconstructive urology |
| • Clinical specialist physiotherapist in women's health. |
| Each centre will also require access to colorectal, gynaecology, medicine for the elderly and pain specialists with a view to setting a dedicated pelvic floor clinic on a likely monthly basis for selected patients. This clinic will also allow for MDT discussion of selected patients. Access to appropriate cross-sectional imaging is also required for selected patients. |
| Urodynamics should be reserved for the following patients: |
| • female patients |
| • mixed symptoms and under consideration for stress incontinence surgery |
| • failed medical management for overactive bladder (OAB) and under consideration for third-line treatment |
| • history of recurrent stress urinary incontinence (SUI) (may require video urodynamics/videocystometrography [VCMG]) |
| • urinary symptoms related to previous pelvic surgery, radiotherapy or neurological disorders (may require video urodynamics/VCMG) |
| • female urethral stricture (may require video urodynamics/VCMG) |

Urologists who perform surgery for stress urinary incontinence

- Performed in unit led by urologists who are sub-specialised in female urology and reconstructive urology and accredited to perform surgery for SUI. If a centre does not have a surgeon accredited on female incontinence surgery, the patient will need to be referred to another centre.

Surgery for uncommon conditions such as fistulas (vasovaginal fistula; VVF/uterovaginal fistula; UVF) or urethral diverticula:

- should be centralised to units with particular expertise.
- Sacral neuromodulation for OAB
- currently only two urologists with fellowship training in the procedure
- should be offered to suitable patients as third-line treatment for OAB
- potential for patients for non-obstructive urinary retention or high tone non-relaxing sphincter
- sufficient evidence to show that in the long term sacral neuromodulation is more cost-effective than repeat Botox
- It is estimated that approximately 50 procedures a year would be required nationally and if centrally funded these could be divided between Beaumont and Tallaght to provide a national service
- follow-up programming would ideally be performed by the ANP in urology.

# 11 SUB-SPECIALTY UROLOGY MODELS OF CARE:

Video-urodynamics (VCMG)

- currently this is not offered to patients in Ireland despite being standard practice internationally for selected patients
- funding is required to provide video urodynamics in three centres in Ireland:
  - » Other urological centres would refer patients to these centres if video urodynamics required.

Mesh removal centres

- There is ongoing discussion with the HSE mesh advisory group on this issue:
- Patients experiencing complications need to contact their hospital group for more information. A nominee from the hospital group will respond to the query and advise on the most appropriate pathway for the patient.
- The ISU advises that urologists undertaking mesh removal from the urinary tract must undergo subspecialist training and be accredited in female urology and reconstructive urology.
- Sub-specialist Radiology assessment pre-operatively and post-operatively with Cross-sectional imaging, including trans-labial ultrasound performed by Radiologists with sub-specialty interest in Urogenital Radiology.
- Centres performing these procedures must provide on-site access to advanced ultrasound techniques such as trans-labial and trans-perineal ultrasound. Such centres must have at least one WTE radiologist with a special interest in uroradiology or women's imaging, and have expertise in these specialised ultrasound examinations.
- Centres that are designated to treat complications of mesh surgery for urinary incontinence must have an appropiate number of radiologists in line with National clinical programme in Radiologys staffing recommendation (table 16). Consultant radiologists already working in such centres would be expected to upskill by spending a period of time training at recognised international centres of excellence. Such training secondments should be supported and funded by hospital management.
- These subspecialist radiologists would be expected to co-ordinate and lead MDT meetings involving all relevant specialties.
- we intend to develop a novel pathway for the management of urinary incontinence in females for the Irish population, similar to those developed in the NHS (appendix C).

### Rehabilitative Medicine

A dedicated cohort of urologists with subspecialist interest in reconstructive urology must be attached to national rehabilitation centres.

# 11 SUB-SPECIALTY UROLOGY MODELS OF CARE:

## COMPLEX URETHRAL SURGERY

- The best outcomes in this subspeciality occur when surgery is performed by urologists with specialist training in urethral reconstruction (Baus.org.uk, 2019)
- Numbers requiring specialist surgery are relatively small
- There were 36 single-stage urethroplasties performed in Ireland in 2018 (NQAIS, 2018) and a further four urethroplasties were performed after staged delay
- Complex urethral reconstruction (urethroplasty) in Ireland is best served in a single national referral centre with appropriate multidisciplinary support.

## PAEDIATRIC UROLOGY

In order to maintain compatibility with the recommendations of the publication 'A National Model of Care for Paediatric Healthcare Services in Ireland' (Hse.ie, 2015), it is recommended that:

- Children presenting with complex diseases of the urinary tract will be managed by surgeons accredited in paediatric urology based at the National Paediatric  Hospital.
- There should be two designated lead clinicians for paediatric and adolescent congenital and acquired urological diseases transitioning into adulthood, attached to both the National Paediatric Hospital and an adult urology unit.
- There should be satellite centres for managing 'generic' paediatric urology conditions in Model 4 centres (Cork, Galway, Limerick and Waterford) outside Dublin as recommended in the Paediatric MOC.
- All new or replacement urology post for next 15-20 years should have a component of Paediatric urology in the job description
- Suggest proleptic appointment and then 6 months in Paediatric Urology with dedicated Paediatric Urologist or 6 months in dedicated Paediatric urology centre at ST6-8 during urology training.

Table 28 Paediatric urology nursing

| | |
|---|---|
| Peadiatric Urology Nursing | • Psychological support to manage functional and physical burdens of urinary tract disorders in children should be delivered by a CNS in each satellite centre for paediatric uorolgoy. |
| | • 'Hub' Clinical nurse specialists outreach clinics in smaller 'spoke' sites |
| | • Clinical nurse specialist or ANP led functional Paediatric incontinence clinics |

## RENAL TRANSPLANTATION

### Introduction and summary of activity

The National Kidney Transplant Service (NKTS) is located at RCSI Beaumont Hospital, Dublin. The Service provides for the renal transplantation requirements for the Republic of Ireland and retrieves deceased donor kidneys (both deceased after cardiac death [DCD] and deceased following brain death [DBD]) for transplantation from over 32 donor hospitals throughout the country. Since the programme commenced in 1964, over 5,000 kidney transplants have been performed, including over 500 living donor kidney transplants. In recent years, there has been an expansion of living kidney donor rates in line with international trends (Table 29), with a view to expanding to 70–100 living donor transplants per annum (Figure 21). From 2010, all potential living donors have been offered laparoscopic techniques for donor nephrectomy.

# 11 SUB-SPECIALTY UROLOGY MODELS OF CARE:

Table 29 Summary of kidney transplant activity 2012–2017

| Category | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | Average for 6 yrs. (rounded) |
|---|---|---|---|---|---|---|---|
| Total number of transplanted kidneys | 163 | 185 | 152 | 153 | 172 | 192 | 170 |
| Number of deceased donor kidney only transplants | 130 | 135 | 107 | 120 | 122 | 136 | 125 |
| Number of living donor kidney transplants | 32 | 38 | 40 | 33 | 50 | 51 | 41 |
| Number of simultaneous pancreas/ kidney transplants | 1 | 12 | 5 | 0 | 0 | 5 | 4 |
| Number of paired kidney exchange | 3 | 1 | 5 | 8 | 7 | 3 | 5 |

Since 2017, the NKTS has also supported the combined kidney/pancreas transplant programme located in St Vincent's University Hospital, and since 2003, paediatric kidney transplants have been performed by the Beaumont Hospital urology transplant surgeons in Temple Street University Hospital.

Approximately 2,300 patients currently enjoy the benefits of a functioning kidney transplant and a large proportion of those patients receive their aftercare follow-up in Beaumont Hospital.

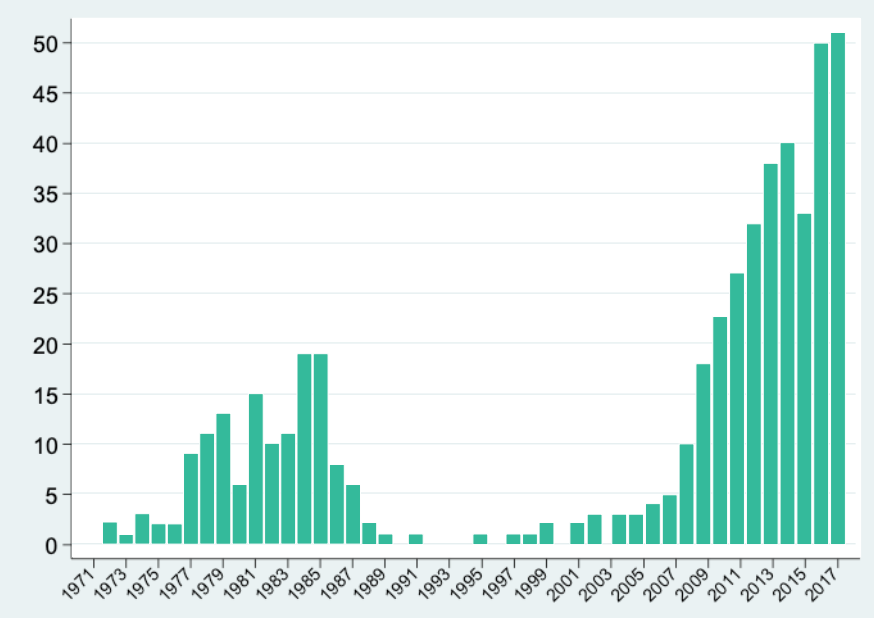



Figure 21 Number of living donor kidney transplants per annum, 1972 – 2017. Source NKTS, 2018

## Referrals

The transplant urologists in Beaumont Hospital also receive tertiary referrals of patients with complex urological conditions, which may require surgery prior to transplantation, e.g., native nephrectomy, reconstruction of the lower urinary tract, and all patients presenting for transplantation are reviewed by the renal transplant surgeons. Approximately 200–250 new patients are reviewed annually and approximately 170–200 patients are added to the transplant waiting list each year. Currently there are approximately 438 patients awaiting transplantation. The transplant surgeons also receive tertiary referrals of patients requiring complex urological management post transplantation.

The number and percent of transplant recipients by referring centre are presented in Table 29. As the largest referring centre in the country Beaumont Hospital had the greatest number referred in 2017 at 34, followed closely by Tallaght University Hospital at 32 recipients.

# 11 SUB-SPECIALTY UROLOGY MODELS OF CARE:

Table 30 Referring centre of transplant recipients, 2012 – 2017. Source NKTS, 2018

| Centre | Number 2012 (%) | Number 2013 (%) | Number 2014 (%) | Number 2015 (%) | Number 2016 (%) | Number 2017 (%) |
|---|---|---|---|---|---|---|
| BEAUMONT | 33 (20.3) | 43 (23.2) | 29 (19.1) | 34 (22.2) | 41 (23.8) | 34 (17.7) |
| CAVAN | 4 (2.5) | 4 (2.2) | 2 (1.3) | 5 (3.3) | 4 (2.3) | 2 (1.0) |
| CASTLEBAR | 2 (1.2) | 9 (4.9) | 3 (2.0) | 3 (2.0) | 2 (1.2) | 2 (1.0) |
| CORK | 13 (8.0) | 21 (11.3) | 13 (8.6) | 18 (11.8) | 18 (10.5) | 22 (11.5) |
| GALWAY | 9 (5.5) | 12 (6.5) | 12 (7.9) | 13 (8.5) | 16 (9.3) | 20 (10.4) |
| LETTERKENNY | 3 (1.8) | 7 (3.8) | 4 (2.6) | 4 (2.6) | 7 (4.1) | 8 (4.2) |
| LIMERICK | 12 (7.4) | 12 (6.5) | 5 (3.3) | 5 (3.3) | 9 (5.2) | 8 (4.2) |
| MATER | 12 (7.4) | 14 (7.6) | 8 (5.3) | 11 (7.2) | 10 (5.8) | 13 (6.8) |
| OLH CRUMLIN | 7 (4.3) | 1 (0.5) | 5 (3.3) | 1 (0.7) | 4 (2.3) | 4 (2.1) |
| ST. JAMES'S | 4 (2.5) | 1 (0.5) | 6 (4.0) | 3 (2.0) | 3 (1.7) | 3 (1.6) |
| SLIGO | 2 (1.2) | 2 (1.1) | 1 (0.7) | 1 (0.7) | 1 (0.6) | 2 (1.0) |
| ST. VINCENT'S | 15 (9.2) | 13 (7.0) | 9 (5.9) | 7 (4.6) | 12 (7.0) | 13 (6.8) |
| TALLAGHT | 14 (8.6) | 19 (10.3) | 16 (10.5) | 21 (13.7) | 19 (11.1) | 32 (16.7) |
| TRALEE | 2 (1.2) | 2 (1.1) | 5 (3.3) | 4 (2.6) | 8 (4.7) | 5 (2.6) |
| TEMPLE STREET | 9 (5.5) | 8 (4.3) | 14 (9.2) | 4 (2.6) | 6 (3.5) | 6 (3.1) |
| TULLAMORE | 5 (3.1) | 4 (2.2) | 6 (4.0) | 6 (3.9) | 5 (2.9) | 7 (3.6) |
| WATERFORD | 17 (10.4) | 13 (7.0) | 14 (9.2) | 13 (8.5) | 7 (4.1) | 11 (5.7) |

## Staffing

At present, all kidney transplants, living donor nephrectomy, deceased donor nephrectomy and urological procedures on transplant patients referred to the NKTS are performed by consultant urologists. Immediate post-operative management of patients, including immunosuppression, is also under the care of the transplant urologists.

There are five consultant urologists engaged in renal transplantation. However, two of these provide on-call commitment for urology and therefore have reduced their on-call commitment for transplantation to one day in seven. The remaining three consultant urologists provide the on-call cover for transplantation, including supporting the paediatric transplant service and the pancreas transplant service. Living donor nephrectomy is provided by three transplant urologists and only two surgeons currently perform both living donor nephrectomy and living donor kidney transplantation.

Four of the consultant urologists have a subspecialist interest in uro-oncology, including complex renal tumours, retroperitoneal node dissection for testicular cancer, and bladder and prostate cancer, and one each provide subspecialty interest in female urology and reno-vascular disease.

There is one Specialty Advisory Committee (SAC)-approved RCS Fellowship in Transplantation, which is currently occupied by a trainee who has done core training in general surgery. There are three transplant registrar posts, which are not currently on recognised training schemes. Urological trainees support the NKTS in the management of the transplant recipients, but transplantation is predominantly a consultant-delivered service, which by its nature requires significant unsocial working hours.

There are four recipient transplant co-ordinators, which are CNM1 posts, and a lead transplant co-ordinator, which is a CNM2 position. The role of the transplant co-ordinator includes management and education of patients awaiting transplantation, facilitating potential living kidney donor evaluation and supporting MDT meetings.

# 11 SUB-SPECIALTY UROLOGY MODELS OF CARE:

## Audit

The NKTS is subject to European Union (Irishstatutebook.ie, 2012) and is regulated by Organ Donation and Transplantation Ireland (ODTI) and the Health Products Regulatory Authority (HPRA). In 2015, following inspection by the regulators, Beaumont Hospital was licensed as the national site for kidney transplantation. Annual inspection of the NKTS by the regulator occurs and a stringent quality management system is in place. Monthly audit meetings, and fortnightly MDMs are held. An annual report including all outcome data is generated and published.

The NKTS also collaborates with the Collaborative Transplant Study (CTS), which allows benchmarking of outcome data against international standards.

## Is there a future Urology in Transplantation?

Ireland is unique in that renal transplantation is performed by urological surgeons. Ireland is not unique in the difficulties experienced in recruiting and retaining kidney transplant surgeons. Previous manpower studies (British Transplant Society, 1998) (RCSE, 1999) suggest that there should be two consultant renal transplant surgeons per million population. Currently, there are fewer than three full-time consultant renal transplant surgeons in total, for a population of 4.8 million in the Irish Republic.

**RECOMMENDATION 8**
Implement urological multidisciplinary workforce planning based on demographics, the needs of the Hospital Groups, and subspecialty requirements

Urology and renal transplantation require the same skill mix and training, and both specialties mutually complement each other – complex renal surgery, autotransplantation, retroperitoneal surgery, reno-vascular reconstruction and living donor nephrectomy overlap in the skills required for a renal transplant surgeon.

However, to continue to attract and train potential candidates interested in urology and renal transplantation, changes must be made in training schedules and planning of the services.

Siting the NKTS and a centre for complex renal surgery on the same location makes sense. This would allow for tertiary referral of complex uro-oncology cases requiring the skills of surgeons experienced in open surgery, accessing the retroperitoneum, and capable of vascular reconstruction of renal vessels. However, the facility of cardiopulmonary or veno-veno bypass is not currently available in Beaumont Hospital.

It is important that transplant surgical trainees be exposed to organ retrieval, implantation and peri-operative management. Exposure to transplantation is an advantage for the Basic Surgical Trainee stage as part of an accredited training programme and rotation through the NKTS at an early stage in training should be part of the core surgical training schemes.

In 2015, the NKTS sought accreditation from the Royal College of Surgeons London for a renal transplant fellow post. This has proven to be very attractive to trainees seeking experience in renal transplantation. Setting up a second training fellowship post CSST, for trainees interested in renal transplantation and complex upper tract surgery, would be attractive and provide career development. Graduates from such a fellowship programme would ensure the progression of highly trained urological surgeons and badly needed renal transplant surgeons.

# 11 SUB-SPECIALTY UROLOGY MODELS OF CARE:

## ENDOUROLOGY – STONES

### Incidence and prevalence

Between 25 million and 49 million people in Europe are living with a symptomatic stone disease and the incidence is increasing. There was a 63% increase in hospital incidence of upper tract stones in the 10 years from 2000–2010 in the UK (Turney et al., 2012). One possible explanation may relate to an increasingly obese population, metabolic syndrome being a major risk factor in stone formation.

| | Males | Females |
|---|---|---|
| 1994 | 6.3% | 4.1% |
| 2012 | 10.6% | 7.1% |

Table 31 Incidence of urinary calculi

### Diagnosis and treatment – recommendations

- The mainstay of imaging for diagnosis is computed tomography – kidney, ureters and bladders (CT-KUB) (low dose, preferably). Follow-up imaging should be with ultrasound + KUB and CT-KUB for radiolucent stones or when further intervention is contemplated. Dedicated stone centres with high patient volumes should have dual-source CT scanners to facilitate the characterisation of urinary tract calculi.
- Manpower planning in interventional radiology (IR) to support urology services in line with National clinical programme in Radiology recommendations (table 16)
- IR capacity should be capable of absorbing urinary stent exchange procedures in IR suites.
- TRUS biopsy of prostate: IR capacity should be capable of meeting the increasing demand for these.

### Stone biochemical analysis

- In Ireland there has been a seven-fold increase in stones sent for biochemical analysis to the Mater Hospital lab.
- Stone analysis is an imperative part of any stone work-up (EAU, AUA guidelines).

### Treatments

#### 'Stone pathway' for acute presentations

For patients presenting with uncomplicated ureteric colic (i.e., no infection or significant renal impairment and pain adequately controlled with oral agents) with a ureteric stone requiring surgical intervention, could be allocated a scheduled day-case admission within two weeks.

- » day-case beds available
- » reduces ED admissions, AvLOS, inpatient activity
- » lends itself to the spokes of a hub and spoke model

### Access to emergency percutaneous nephrostomy (PCN)

- The presence of obstruction alone in the septic patient raises mortality threefold (Reyner K, 2016)
- Prompt access to drainage of an obstructed infected kidney is crucial.
- Timely and adequate access to CT-KUB and USS is imperative. Prompt access to drainage of an obstructed infected kidney by interventional radiology is crucial (Blackwell et al., 2016). Recently published data showing the first 48 hours to be a critical time to intervene; outside this, mortality increases threefold.
- A theatre radiographer needs to be available, circulated on departmental rosters/schedules, and resourced appropriately.

# 11 SUB-SPECIALTY UROLOGY MODELS OF CARE:

## Elective treatment

The urgency of renal stones is often not appreciated and often sidelined over cancer. In studies, where there is obstruction, if outflow was restored < 2 weeks, no evidence of long-term renal damage was observed. However, when delayed > 2 weeks, renal outcome became progressively worse (Lucarelli et al., 2013). For patients with stents in situ, there is an increased risk of sepsis when stents are in situ > 30 days (Nevo et al., 2017)

Options:

- Extra corporeal shockwave lithotripsy (ESWL)
- Ureteroscopy (URS)/flexible ureteroscopy (FURS) and laser stone endoscopically visualised and directly disintegrated by contact with laser
- Percutaneous nephrolithotomy (PCNL) (including miniaturised PCNL) direct puncture of kidney under radiological guidance and direct disintegration of stone by contact eg laser
- Open or laproscopic removal of stone
- Nephrectomy

## ESWL

- There are two public static machines (Tallaght University Hospital and University Hospital Galway [UHG])
- Public 'mobile' machine – rotates to various hospitals
- Private ESWL – Mater Private
- In Tallaght UH - nurse led service- requires on going investment in personnel for continued service development.
  - five days/week; four to five treatments/day
  - Average of 20 treatments per week
  - Approximately 850–900 treatments/year
  - Tallaght University Hospital main national referral ESWL service
  - Acute-presentation ESWL under-utilised: probably a combination of high demand for scheduled outpatient activity and other unknown factors
- UHG: two days a week
- Two centres adequate for current needs

## URS/FURS and laser

- Every urology centre needs access to semi-rigid ureteroscopy and laser
- Flexible ureterorenoscopy should be more focused in high-volume centres – this relates both to expertise as well as cost and durability of these fragile instruments. In low-volume centres, instruments are more likely to be damaged (by inexperienced operators and/or by cleaning/sterilisation)
- Activity in Tallaght University Hospital is is shown in Table 32 (2010 – prior to endourological subspecialisation; 2015 – after endourological subspecialisation)

Table 32 Stone management in Tallaght University Hospital. Source Tallaght University Hospital

| | URS (scheduled) | URS (unscheduled) | FURS | PCNL |
|---|---|---|---|---|
| 2010 | 318 | 45 | 8 | 26 |
| 2015 | 473 | 84 | 126 | 29 |
| 2016 | 473 | 106 | 136 | 24 |
| 2017 | 454 | 102 | 162 | 37 |

# 11 SUB-SPECIALTY UROLOGY MODELS OF CARE:

### Percutaneous nephrolithotomy (PCNL)

- It is estimated that annually, about 150 PCNLs are performed nationally.
- A number of centres perform fewer than 10 per year.
- Increasingly, some PCNLs will be miniaturised. However, this is expected to only marginally reduce the FURS numbers and will probably increase the overall PCNL numbers, probably by 10–20%.
- Endourologists practising PCNL must treat an optimal number of patients.
- Endourologists practising PCNL must have appropriate interventional radiological support.

### Pyelolithotomy

This is performed on each site, either by an endourologist or by laparoscopic kidney surgeons. It is estimated that about three to five are performed on each site per year.

### Nephrectomy

For non-functioning or poorly functioning kidneys. It is estimated that about five to eight are performed per year per site. These are performed by laparoscopic kidney surgeons.

### Follow-up

### Outpatient follow-up

- For acute presentations that are managed expectantly, there is a need for:
  - outpatient capacity (and manpower) to see these patients within four to six weeks
  - better access/capacity for Ultrasound and/or CTKUB (if required) for follow-up.

- With respect to scheduled follow-up, e.g., for recurrent stone-formers or patients with metabolic stones:
  - scheduled imaging, then phone clinics/nurse-led clinics for asymptomatic routine follow-up
  - stone analysis.

### KPIs/audit

KPI for stent times:

- Re-admissions for interval FURS/stone treatments is a consistent problem.
  - adds to GP/A+E visits due to stent symptoms
  - risks of encrustation and sepsis (Nevo et al., 2017).
- Time to readmission as a KPI – should be < 30 days if stent in situ.

### Audit

- PCNL outcomes.

# 12 CONCLUSIONS

Irish urologists face personal and professional hurdles in the management of their patients and progression of their careers. Similar to other countries, the data cited in this model of care shows a large current unmet need for urological care in Ireland, which will increase further in the future. Many of the causes of the workload, such as demographic changes in Ireland, are beyond the control of urologists themselves. There is clear evidence that additional manpower and resources are required to meet the urological needs of the Irish population.

However, urologists must also adapt their practices if they are to continue to provide the Irish population with care that meets the highest international standards and meet key performance indicators. In conjunction with the major stakeholders in managing Irish healthcare and with the ISU, this model of care gives the profession an opportunity to develop a blueprint for urological care in Ireland for the next decade. It allows urologists an opportunity to define and govern how a multidisciplinary surgical workforce can best deliver the care required by Irish patients, taking into consideration the new ways of working that are now the standard of care. This multidisciplinary model of care builds on previously published models of care, defining the generic standards that should apply for acute (unscheduled) and elective (scheduled) surgical care in Irish hospitals (NCPS), 2013.

A model of care must recognise the challenges facing urologists in their efforts to improve the quality of patient care and patient access to appropriate services while maintaining cost-effectiveness. The philosophy used in this model of care includes optimising the use of day surgery where possible; improving access to diagnostic tests, especially for primary care; managing national variation in the admission process; preventing unnecessary follow-up in outpatients and post-operatively; improving patient access and flow using templates; redefining multidisciplinary roles along specific urological pathways; and, establishing the national manpower and infrastructural needs for urological subspecialisation and structuring urological training accordingly.

The themes used in the model of care are evidence based both in Ireland and other countries. They draw on novel approaches to care delivery developed in the NCPS, such as standardised referral protocols through a single source; one-stop clinics with combined tests and pre-booked diagnostic tests, particularly ultrasound; shared care initiatives; see and treat models; use of hub and spoke; delivery of services by allied health professionals, advanced nurse practitioners and physician associates where appropriate; telemedicine; disease-specific referral centres; and, migration of some procedures towards ambulatory treatment, instead of inpatient care as envisaged in Sláintecare. New technology has the potential to change not only the diagnostic and therapeutic procedures that can be performed but also the way that surgeons communicate with patients, interdisciplinary team members, colleagues in the community and their fellow surgeons.

One of the critical professional challenges for urologists in practice and in training is to address the huge wait times for core generic urological diseases and procedures, and still maintain a subspecialty interest. These service needs for 'general' may lead many to decide to complete urological training as a 'generic' urologist. Training bodies must also consider this service requirement as they maintain the highest standards of research and training nationally. There needs to be increased awareness among trainees that future jobs will require generic urological accreditation rather than specific subspecialist skills. Professional regulators should acknowledge this fact. Urologists who have subspecialised and are approaching the end of their professional careers may consider adapting to core generic urological care and allowing new subspecialists to enter Ireland's urological workforce.

It is also apparent that urologists must adopt a multidisciplinary approach to patient management and work with other healthcare professionals (GPs, nurses, physiotherapists, dieticians, general surgeons, radiologists, pathologists, anaesthetists, gynaecologists, geriatricians and consultants in infectious diseases) to optimise urological care. Urologists are

# 12 CONCLUSIONS

best placed to govern a shared multidisciplinary model of care. They should facilitate, actively participate in, and indeed govern a multidisciplinary approach as partners in patient care, and not consider themselves or their units as silos of technical competence.

Urologists must engage with and promote patient feedback about services by regular communication via texts, websites or newsletters. Similarly, urologists must also engage with and promote feedback among themselves through the ISU to improve and update the model of care for urology periodically. Medical information and technology change rapidly and all models of care are fluid documents that will have to be updated of necessity. They should designate members to act as ambassadors for both generic urology and subspecialist interest, and form working groups to monitor urological care. In a similar manner, the HSE through the NCPS should provide a forum to take account of urologists' views and update models of care in accordance with best medical evidence. This guarantees future proofing of this model of care.

## NEXT STEPS & IMPLEMENTING THE MODEL OF CARE

This model of care is just the starting point for enhancing the delivery of high-quality surgical care in urology. To achieve its full potential, the model of care will require an integrated approach to implementation that is aligned with the fundamental principles laid out in Sláintecare (Figure 32). A structured implementation phase will allow us to tackle the most pressing challenges in our health systems, and improve outcomes and experiences for the greatest number of patients in the most effective manner. In addition to defining targeted areas for resourcing, the implementation phase must include engagement with patients and staff, define appropriate leadership and governance, and be supported by the use of improvement methodology underpinned by robust measurement (HSE, 2018)

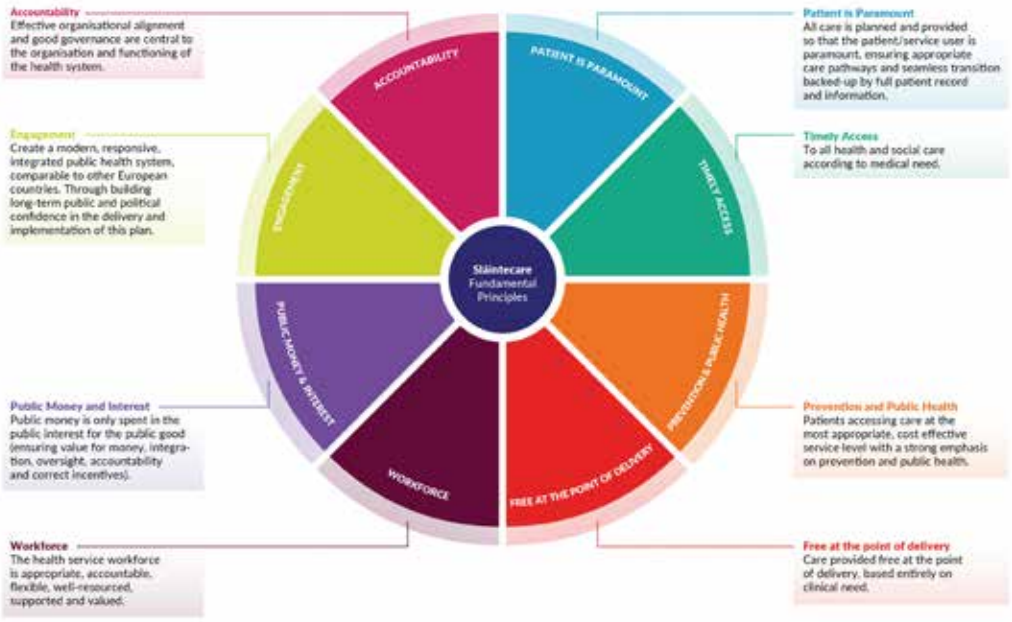



Figure 22 Sláintecare fundamental principles

# 12 CONCLUSIONS

Once published, the implementation phase of the model of care should commence. The implementation phase will encompass the development of a robust and comprehensive implementation plan. This plan will focus on the implementation and evaluation of the model, and the change management needed to make that happen. The implementation plan will prioritise a series of costed, strategic actions, taking into account the fundamental principles defined in the Sláintecare implementation strategy, and will define metrics by which implementation outcomes will be measured. It is anticipated that the Implementation Strategy for Urology Model of Care will be published at the annual Freyer Meeting in September 2019.

Development of a robust implementation strategy for the model of care for Urology will require robust governance structures and input from a wide range of relevant stakeholders. The implementation phase will be overseen by the Urology Model of Care Implementation Steering Group. Nominees for a proposed steering group will be recommended to the HSE National Clinical Advisors and Group Lead, Dr Vida Hamilton, for review and approval. The Steering Group should be chaired by the Clinical Advisor for Urology and will include representation including, but not limited to, urology surgical specialty organisations, related specialties, nursing, health and social care pofessionals , primary care and, where possible, patients. The Urology Model of Care Implementation Steering Group will report to the National Clinical Programme in Surgery Co-Leads through the Clinical Advisor for Urology and upwards through the HSE in compliance with existing NCPS reporting relationships. The steering group should then regularly report publically on the implementation of the model of care, and evaluate its impact quantitatively and qualitatively.

A number of the specific pathways of urological care have been adapted by the Saolta Healthcare Group. Realistic short-, medium- and long-term goals embracing key performance indicators and appropriate costing have been identified. It is anticipated that identifiable short-term improvements in urological care, e.g., rapid access haematuria referral, will be communicated nationally.

One hopes that the rewards of this model of care will be obvious improvements in patient care and access to care, but also reduced working hours for urologists, with less stress, better work–life balance and reduced medical error.

## DEVELOPMENT, METHODOLOGY AND APPROVAL PROCESS

The methodology used for development of this model of care adheres to the Model of Care Development Guidance Framework guidelines as set out by the National Clinical Strategy and Programmes (HSE, 2018) which now sit under the office of the CCO Chief Clinical Officer in the HSE. (https://www.hse.ie/eng/about/who/qid/quality-and-patient-safety-documents/clinicalprogrammechecklistupdated141014.pdf).
The NCPS has a direct reporting relationship with RCSI through the Committee for Surgical Affairs. This committee meets monthly and its membership includes Co-Leads of the NCPS and is the principal forum in RCSI for representation of Surgical Specialties, as follows:

- Cardiothoracic
- General Surgery
- Neurosurgery
- Oral Maxilliofacial Surgery Ophthalmic Surgery
- Otolaryngology
- Paediatric Surgery
- Plastic Surgery
- Trauma & Orthopaedic
- Urology
- Vascular
- Emergency Medicine (invited)

# 12 CONCLUSIONS

The NCPS has a second reporting relationship through the office of the National Clinical Advisor to the Acute Hospital Group Lead (NCAGL) and Clinical Strategy and Programmes in the HSE who in turn reports through the office of the CCO Chief Clinical Officer in the HSE.
The Surgery Programme reporting structure is represented as follows: -

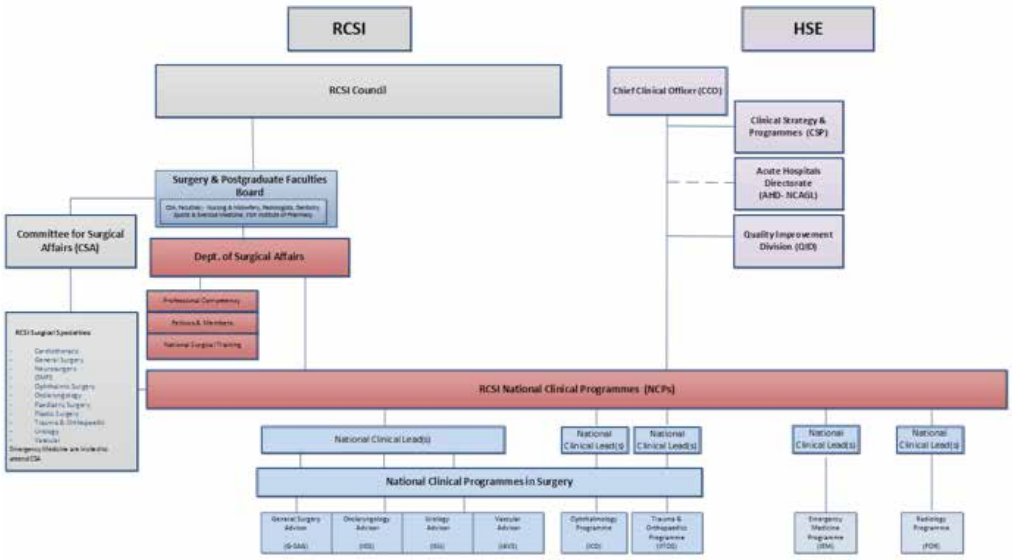



Table 33 governance structure of NCPS

Development of models of care commence with agreement through HSE and RCSI reporting relationships. A NCPS model of care template framework is defined by the Clinical Leads in collaboration with all relevant stakeholders. The Specialty Clinical Advisor develops and authors the model of care with the assistance of the NCPS team and leads collaboration with their speciality. The members of the Irish Society of Urology reviewed multiple versions of this model of care and ratified the final version. Upon completion of the penultimate draft of a MOC the document is widely distributed nationally across HSE, the department of health, clinical programmes and other representative bodies (stakeholders) as advised by the specialty MOC Clinical Advisor. After the stakeholder feedback has been considered by the NCPS team, NCPS leads and the relevant clinical advisor, a near-final version of the MOC is presented to the CSA for clinical endorsement and is circulated to all surgical specialty representatives through the Committee for Surgical Affairs. Each MOC is presented at CSA for endorsement by the Chair and CSA Specialties and subsequently through the RCSI Council at which point it is an endorsed RCSI MOC. HSE approval is gained via the HSE Clinical forum chaired by Dr Colm Henry, Chief Clinical officer. Each model of care incorporates a proposed implementation plan.


Rx

# 13 GLOSSARY

| | |
|---|---|
| **ACS** | Australian Coding standards |
| **AHP** | Allied health professional |
| **ANP** | Advanced nurse practitioner |
| **AUA** | American Urological Association |
| **AvLOS** | Average length of stay |
| **BPH** | Benign prostate hyperplasia |
| **BDU** | Bed days used |
| **BAUS** | British Association of Urological Surgeons |
| **Child HG** | Children's Hospital Group |
| **CNS** | Clinical nurse specialist |
| **CSO** | Central Statistics Office |
| **CT** | Computerised tomography |
| **CTS** | Collaborative Transplant Study |
| **DNA** | Did not attend |
| **DML HG** | Dublin Midlands Hospital |
| **EAU** | European Association of Urology |
| **ED** | Emergency department |
| **ESWL** | Extra corporeal shockwave lithotripsy |
| **FURS** | Flexible ureteroscopy |
| **FRCS** | Fellow of Royal College of Surgeons |
| **GFR** | Glomerular filtration rate |
| **GP** | General practitioner |
| **HIQA** | Health Information Quality Authority |
| **HPRA** | Health Products Regulatory Authority |
| **HPO** | Health Pricing office |
| **HSE** | Health Service Executive |
| **IE HG** | Ireland East Hospital Group |
| **ICGP** | Irish College of General Practitioners |
| **ICS** | Irish Coding standards |
| **IPPS** | International Prostate Symptom Score |
| **ISU** | Irish Society of Urology |
| **LUTs** | Lower urinary tract symptoms |
| **MRI** | Magnetic resonance imaging |
| **NCPS** | National Clinical Programme in Surgery |
| **NCCP** | National Cancer Control Programme |
| **NCCN** | National Cancer Control Network |
| **NHS** | National Health Service |
| **NKTS** | National Kidney Transplant Service |
| **NQAIS** | National Quality Assurance Information System |
| **NTPF** | National Treatment Purchase Fund |
| **OPD** | Outpatient department |
| **ODTI** | Organ Donation and Transplantation Ireland |
| **OSPIP** | Outpatient Services Performance Improvement Programme |
| **PCNL** | Percutaneous nephrolithotomy |
| **PET** | Positron Emission Tomography |
| **PSA** | Prostate-specific antigen |
| **RAHP** | Rapid Access Heamaturia pathway |
| **RCSI** | Royal College of Surgeons in Ireland |
| **RCSI HG** | Royal College of Surgeons Ireland Hospital Group |
| **Saolta HG** | Saolta Hospital Group |
| **SSW HG** | South Southwest Hospital Group |
| **TILDA** | The Irish Longitudinal Study on Ageing |
| **TRUS** | Transrectal ultrasound guided biopsy |
| **TURP** | Transurethral resection of the prostate |
| **UCLH** | University College London Hospital |
| **UL HG** | University of Limerick Hospital Group |
| **UHG** | University Hospital Galway |
| **URS** | Ureteroscopy |
| **UTIs** | Urinary tract infections |
| **WTE** | Whole time equivalent |

# 14 ACKNOWLEDGMENTS

This model of care used all of Hospital In-Patient Enquiry (HIPE) discharge records for 2017 to provide annualised anonymised objective metrics which help inform and justify the clinical and business proposals contained in each document. HIPE is an administrative data set coded by individuals trained HIPE coders in each hospital from the paper/electronic records after the patient has been discharged using the Australia coding standards (ACS) augmented by the Irish coding standards (ICS) as issued by the healthcare pricing office (HPO). This data was processed and summarised using the NQAIS Clinical application which was jointly designed by the HSE acute hospitals teams, acute hospital national clinical programme leads and the health intelligence unit in the HSE.

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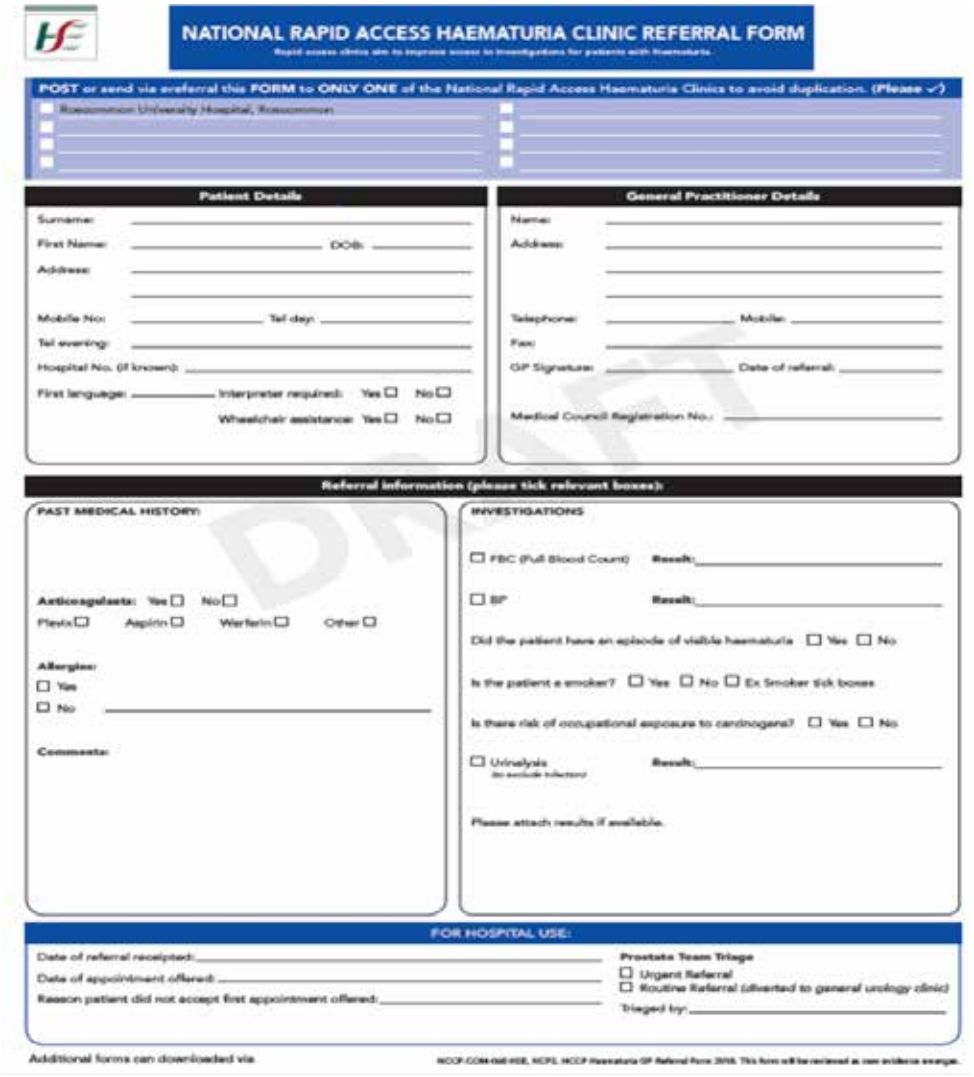
# 15 APPENDICES

Appendix A: Rapid access haematuria referral form.



NATIONAL RAPID ACCESS HAEMATURIA CLINIC REFERRAL FORM

Rapid access clinics aim to improve access to investigations for patients with haematuria.

**POST or send via e-referral this FORM to ONLY ONE of the National Rapid Access Haematuria Clinics to avoid duplication. (Please ✓)**

- ☐ Roscommon University Hospital, Roscommon
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐

**Patient Details**

Surname: _____

First Name: _____ DOB: _____

Address: _____

_____

Mobile No: _____ Tel day: _____

Tel evening: _____

Hospital No. (if known): _____

First language: _____ Interpreter required: Yes ☐ No ☐

Wheelchair assistance: Yes ☐ No ☐

**General Practitioner Details**

Name: _____

Address: _____

_____

_____

Telephone: _____ Mobile: _____

Fax: _____

GP Signature: _____ Date of referral: _____

Medical Council Registration No.: _____

**Referral information (please tick relevant boxes):**

**PAST MEDICAL HISTORY:**

**Anticoagulants:** Yes ☐ No ☐

Plavix ☐ Aspirin ☐ Warfarin ☐ Other ☐

**Allergies:**

☐ Yes

☐ No _____

**Comments:**

**INVESTIGATIONS**

☐ FBC (Full Blood Count) **Result:** _____

☐ BP **Result:** _____

Did the patient have an episode of visible haematuria ☐ Yes ☐ No

Is the patient a smoker? ☐ Yes ☐ No ☐ Ex Smoker tick boxes

Is there risk of occupational exposure to carcinogens? ☐ Yes ☐ No

☐ Urinalysis (to exclude infection) **Result:** _____

Please attach results if available.

**FOR HOSPITAL USE:**

Date of referral receipted: _____

Date of appointment offered: _____

Reason patient did not accept first appointment offered: _____

**Prostate Team Triage**

☐ Urgent Referral

☐ Routine Referral (diverted to general urology clinic)

Triaged by: _____

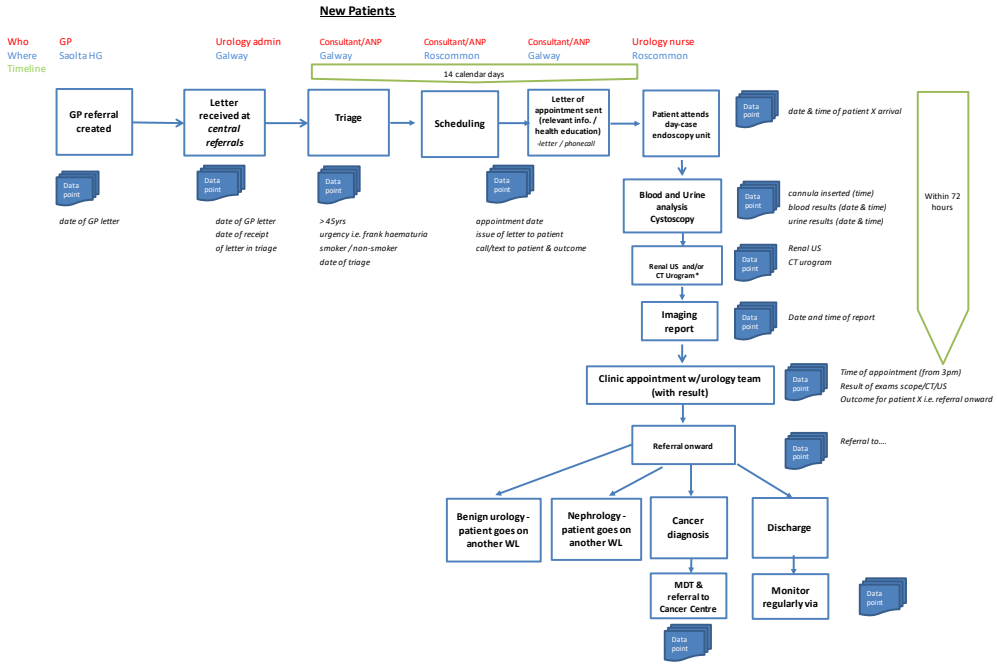
Additional forms can downloaded via

NCCP-COM-068-HSE, NCPS, NCCP Haematuria GP Referral Form 2019. This form will be reviewed as new evidence emerges.

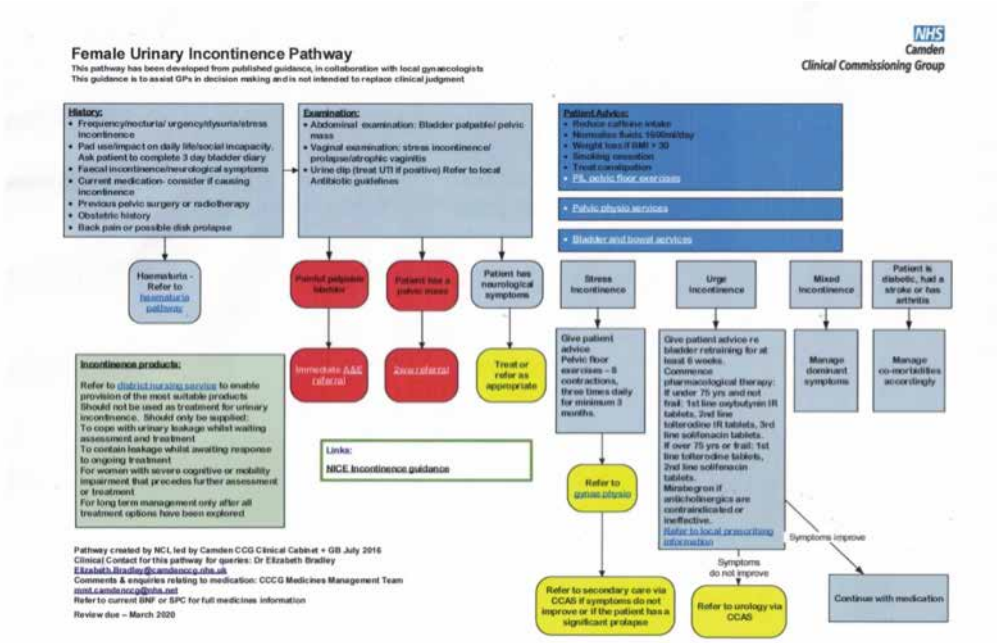
DRAFT

# 15 APPENDICES

## Appendix B: Care pathway for Rapid Access Haematuria service




## Appendix C: Female urinary incontinence pathway (NHS, UK)



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