Received: 7 September 2022 | Accepted: 31 October 2022

DOI: 10.1111/ijun.12337

REVIEW PAPER

BAUN BRITISH ASSOCIATION OF UROLOGICAL NURSES WILEY

Nurses leading male lower urinary tract symptom (LUTS) clinics: A scoping review

Claire Middleton RN, MSc, BSc(Hons)[1] | **Stephanie Dunleavy RN, MBA, BSc(Hons), PgCert Ed SFHEA**[2]

[1]Urology Department, North Bristol NHS Trust, Weston General Hospital, Uphill, Weston-Super-Mare, UK

[2]Ulster University, School of Nursing and Paramedic Science, Londonderry, Northern Ireland

Correspondence
Claire Middleton, Urology Department, North Bristol NHS Trust, Weston General Hospital, Grange Road, Uphill Weston-Super-Mare BS23 4TQ, UK.
Email: claire.middleton@nbt.nhs.uk

Abstract

Nurse-led clinics are known to positively impact and benefit patients; however, there is little understanding of the role of the nurse in a nurse-led male Lower Urinary Tract Symptoms (LUTS) clinic. LUTS affect up to 30% of males over 65 in the United Kingdom and can significantly impact the quality of life of the person experiencing them. LUTS can be managed with conservative changes, as well as with medication and surgical intervention. The aim of this scoping review is to map what is known about the role of the nurse in a nurse-led male LUTS clinic and what research tells us regarding, the barriers and enablers in nurses leading a male LUTS clinic. This scoping review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-SCR) checklist and the methodological guidelines set out by the Joanna Briggs institute. A literature search was carried out over three databases (CINAHL, Medline Ovid, ProQuest health and medical collection) and systematically searched from 2000 to 2021. Grey literature was also searched, and citation chaining was undertaken. Following a systematic review of the literature, four papers met the inclusion criteria for this scoping review. The emergent themes across the four papers consisted of structure, assessment and resources, and effectiveness of the nurse-led male LUTS clinic. There was clear agreement across the literature regarding the investigations and assessment the nurse should carry out. Ongoing practical, theoretical, and observational training and education is required to ensure the nurse is competent in running a male LUTS clinic. The papers reviewed showed the nurse provided a supportive role to the consultant. However, there is evidence indicating there is a move towards autonomous practice. There is a dearth of the current research relating to the role of the nurse in nurse-led male LUTS clinics and the enablers and barriers in nurses leading male LUTS clinics. Further research should be considered to gain a better understanding of where nurse-led male LUTS clinics currently take place, what the role of the nurse is in leading a LUTS clinic and what enablers and barriers exist.

KEYWORDS

clinic, lower urinary tract symptoms, LUTS, men, nurse-led, scoping review

What is Known about this subject?

- Lower Urinary Tract Symptoms (LUTS) affect up to 30% of the male population.
- It impacts the quality of life.
- Male LUTS can be assessed and managed in the primary and secondary care.
- Nurse-led LUTS clinics are utilized to assess male LUTS.

What this Paper Adds?

- Further research is needed in understanding where nurse-led male LUTS clinics are currently being held either in the primary or secondary care or both; And if the role of the nurse is a supportive role or are practicing autonomously.
- This scoping review highlights the lack of current research nationally and internationally in understanding the role of the nurse in the primary care.
- The enablers and barriers of running nurse-led male LUTS clinics need to be considered.
- There is clear agreement in what diagnostic tests and assessments should be undertaken when assessing male LUTS.

1 | BACKGROUND

Lower urinary tract symptoms (LUTS) is defined by the International Continence Society (ICS) as "A symptom related to the lower urinary tract; it may originate from the bladder, prostate, urethra, and/or adjacent pelvic floor or pelvic organs."[1,p. 435] It is reported between 35% and 40% of males aged 55 in the United Kingdom and over are affected by LUTS.[2] Their symptoms can include poor urinary flow, urgency, frequency, hesitancy, and overnight voiding; which can have a significant impact on the person's quality of life as well as a financial burden on health care.[3]

LUTS can be managed and treated by General Practitioners (GPs) in the primary care or within a consultant or nurse-led clinic in the secondary care.[4] Depending on local service, the nurse-led clinics may be led by a clinical nurse specialist (CNS) working autonomously or in a supportive role alongside the consultant urologist. It is well documented that nurse-led services within other specialities are beneficial to the patient, are patient-centred and improve outcomes.[5,6] A recently published guide addressed the benefit of 'one-stop' clinics within urology services and the benefit of a CNS carrying out investigations, giving time to the patient to discuss results and ensuring the patient understands the information provided.[7] This scoping review aims to understand the role of the nurse within a male LUTS clinic and identify any barriers and enablers to the nurses' role in leading a male LUTS clinic.

2 | RESEARCH QUESTION

Scoping review methodologies, outlined by the Joanna Briggs Institute (JBI), are well established and were used when carrying out this scoping review.[8–10] Scoping reviews are beneficial for several reasons, including mapping and presenting findings of research, policy, and guidance, as well as identifying and analysing knowledge gaps.[11,12] Currently there are no known reviews assessing research regarding the role of the nurse in nurse-led male LUTS clinics. This scoping review aims to identify any gaps in the literature within this field of research and map out what is already known. A protocol has been written to ensure methodological rigour is not compromised[8,13] and has been peer reviewed by an independent researcher; this protocol has not been published. To support the rigour of the methodology and to aid in standardization and replication of the scoping review the Preferred Reporting Items for Systematic Reviews and Meta-Analyses-Scoping Review (PRISMA-ScR) will be adhered to.[11,12]

When developing a research question for a scoping review it is recommended the 'PCC' mnemonic is used: Population, concept context as opposed to PICO, patient, intervention comparators, and outcome which is often used when undertaking a systematic review.[8] It is suggested that using PCC ensures the question is clear and focused, it is also used to aid in the development of the inclusion criteria.[8,12,13] Discussions with international colleagues have also guided this scoping review to provide a greater depth of understanding and facilitate in refining the research questions below[13]:

1. What is known about the role of the nurse in a nurse-led male LUTS clinic?
2. What does research tell us regarding, the barriers and enablers in nurses leading a LUTS clinic?

The objective is to review the current literature and guidance to understand what is known about the nurses' role in leading a male LUTS clinic, as well as ascertaining any barriers and enablers there may be in leading a nurse-led male LUTS clinic.

3 | METHODS

When establishing a protocol and developing the search terms and strategy, the JBI guidance suggest the involvement of stakeholders to enhance and improve the relevance of the reveiw.[8,9,13] International

TABLE 1 CINAHL search strategy

1.	'LUTs' or 'Lower Urinary tract symptom*' or 'lower urinary tract dysfunction' or 'LUTD' or 'prostate assessment' or 'Prostate assessment clinic' or 'PAC' or 'LUTS clinic' or 'BPH' or 'benign prostate hyperplasia' or 'BPE' or 'Benign prostate enlargement' or 'non neurogenic' or 'non-neurogenic' or 'BPO' or 'benign prostate obstruction' or 'Bladder outlet obstruction' or 'boo'
2.	'Nurs*' or 'Nurs* led' or 'Nurs*-led' or 'Urology nurs*' or 'continence nurs*' or 'CNS' or 'ANP' or 'clinical nurse consultant' or 'clinical nurse specialist' or 'advanced nurse practitioner' or 'outpatient nurse'
3.	man or men or male or males
4.	1 AND 2 AND 3
5.	Limit 4 to English
6.	Limit 5 to year 2000 – current

nursing experts in the field of urological and continence, (Northern Ireland, Canada, New Zealand, and Australia) and a subject librarian were consulted to ensure the search strategy captured any differing terminology and spelling used in different countries. Boolean operator OR/ AND was used to combine the searches. Truncation used on certain words such as nurse to ensure different variation or spelling was captured.[14] The search was limited to English language to ensure the research could be understood by the researcher.

Following a preliminary search, and discussion with expert stakeholders, it was identified the most appropriate search window would span 21 years. This would fall in line with when the researchers' local NHS trust commenced urology nurse-led clinics. Following advice from a subject librarian a literature search was carried out over three databases, CINAHL, Medline Ovid, ProQuest health and medical collection and systematically searched from January 2000 to December 2021, an example of the search strategy in CINAHL is outlined in Table 1. Database search results were imported into RefWorks to ensure rigour, where de-duplication and further organization was carried out. The remaining results were screened by two members of the research team who adopted a two-stage process applying the inclusion and exclusion criteria. The scoping review focuses on male lower urinary tract symptoms; therefore, female participants, and those under the age of 18 were excluded as was any research pertaining to urinary symptoms that can be secondary to a cancer diagnosis or neurogenic causes. Stage one of the screening processes involved reading the title and abstract. Stage two involved reading the full text of the remaining search results. This gave the final number of records for review. The Preferred Reporting Items for Systematic Reviews, PRISMA 2020, flow chart was used to chart the number of results found, removed and the final number reviewed in the scoping review as shown in Figure 1.[15]

An adapted data extraction table was used to extract the data relevant to the research questions as shown in Table 2.[13] An inductive approach was used to enable the researcher to gather information and identify knowledge and any gaps.[16]

4 | RESULTS

Following the database search, 876 papers were identified. The removal of duplicates reduced the total to 699 papers which were screened by title and abstract resulting in 13 papers to fully review. From the remaining 13 papers, 9 papers were excluded as they were not deemed relevant to the objective of the scoping review, this is demonstrated in Figure 1. For the final review, four papers were included, one observational cohort study,[17] one retrospective audit,[18] and two reviewed clinical guidance.[19,20] However, one of these focuses on the role of practice nurses in primary care.[20] Of the four papers, two were from England,[19,20] one from Northern Ireland[18] and one from the Republic of Ireland.[17]

No additional articles were added from citation chaining. A search of grey literature did not identify any additional literature.

The thematic review of all papers highlighted three themes: structure of the nurse-led LUTS clinic, assessment and resources, and evaluation.

4.1 | Structure of nurse-led LUTS clinic

The structure of the clinic was referred to in all papers. One paper referred to the British Association of Urological Nursing (BAUN) guidelines for developing a male LUTS nurse-led clinic as their guide when setting up the clinic.[18] Two further papers discussed the BAUN guideline to support clinicians in setting up a nurse-led male LUTS clinic.[19,20] The most recent paper did not refer to any guidance.[17]

At the time of publication of the papers reviewed, it was reported the BAUN LUTS guidelines were in line with British Association of Urology Surgeons (BAUS) and were evidenced based.[19,20] The development of BAUN LUTS guidance was to ensure uniformity within the nurse-led male LUTS clinics irrespective of where they where they were being held, such as the primary or secondary care.[20] It was acknowledged that the guidelines did need to be adapted at local level.[20] Guidelines included the structure of the clinic including, examinations, suggested documentation, additional training needs.

Two papers discussed the referral process to the nurse-led male LUTS clinic; both received referrals from General Practitioners (GP) which were screened by a Urologist.[17,18] Patients were offered a chose and book appointment,[18] while other patients were advised they would be seen by a clinical nurse specialist (CNS).[17]

In both papers, the clinics were run by a single CNS[17,18]; with one paper detailing the clinic set-up comprised of two 8-h sessions, which encompassed 8 new and 8 follow up appointments.[18] Additionally,

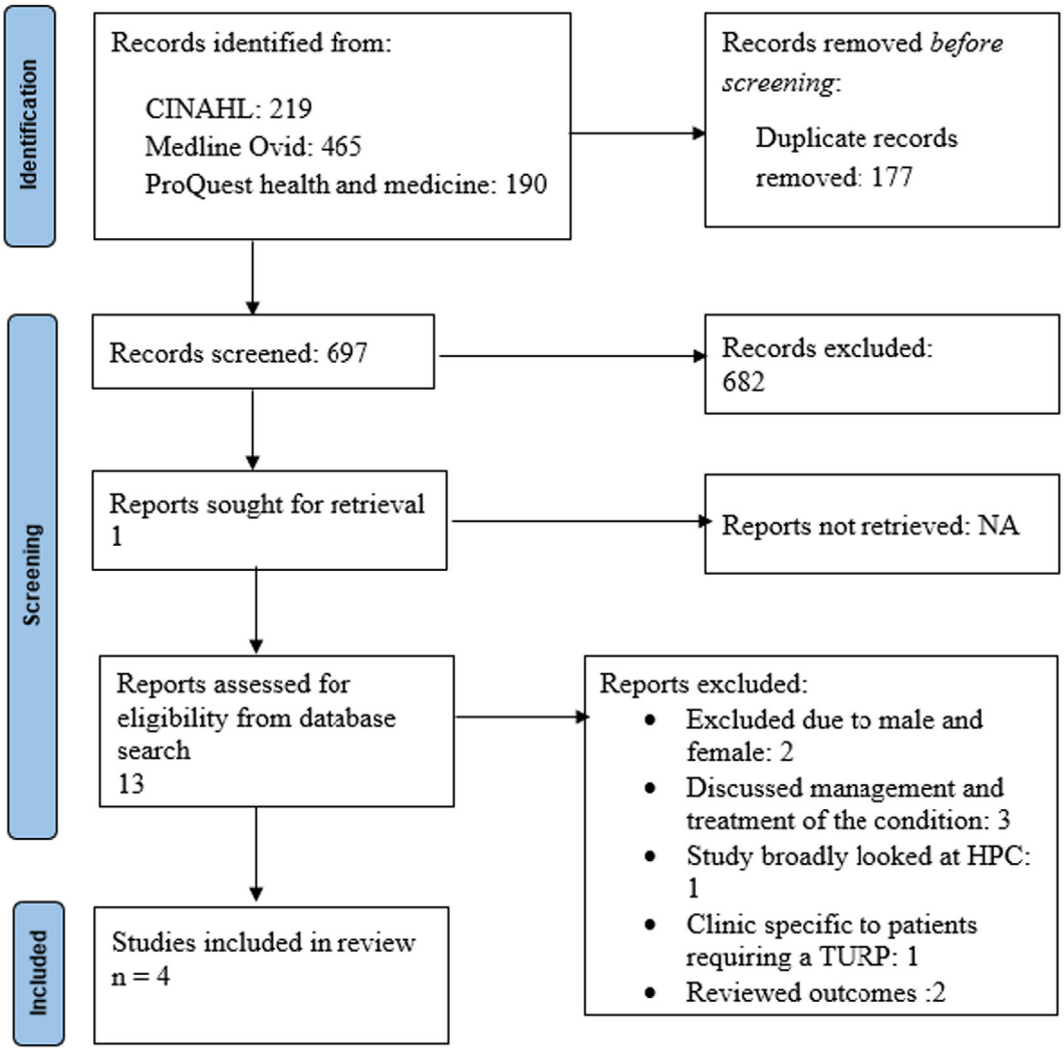

FIGURE 1 PRISMA Flow Diagram[15] For more information, visit: http://www.prisma-statement.org/

one study required access for patients to have an ultrasound scan (USS) on their urinary tract on the same day as part of a LUTS one stop clinic.[18] The setup of the clinic included, a table, toilet with urinary flow machine, bladder scanner, urinalysis and blood tests.[17]

The input of a consultant was present in two studies.[17,18] It was recognized there was a need for a consultant to be available when a nurse-led male LUTS clinic was running to enable a timely digital rectal examination (DRE)/ prostate examination, genitalia and abdominal examination.[17,18] European Association of Urology (EAU) guidelines state a DRE to assess the prostate should be carried when assessing for LUTS.[3] Availability of a consultant was also required to enable the nurse to discuss results and management plan for the patient as well as prescribing any medication if required.[17,18]

Patient outcomes varied following their initial appointment. Patients were either discharged to their GP, referred for more investigations and a review by a urologist or the patient was followed up in the nurse-led male LUTS clinic.[17,18] Follow up in one clinic was dependent on the therapeutic treatment prescribed; if the patient commenced on an alpha-blocker they were reviewed in 4 months, if they commenced a 5-alpha reductase inhibitor, they were reviewed in 6 months.[18] A repeat uroflowmetry and bladder scan was reported to be conducted on the day of their appointent.[18] The patient in this clinic was discharged to the GP once symptoms were stable for 1 year.[18]

4.2 | Assessment and Resource

A key point across all papers included the need for taking a patient's clinical history, including medication, urinary symptoms and sexual dysfunction[17–20] with onward referral to an andrology clinic if required.[18] A nurse-led clinic is believed to allow a patient more time to discuss their symptoms and how LUTS affected their quality of life.[19,20] This is supported by an additional paper in which it reports patients prefer an appointment with the CNS as they provide a more holistic approach and a longer appointment time.[17] To support the assessment of LUTS, the BAUN guideline for nurse-led male LUTS clinics also suggested three specific questions that should be asked to

TABLE 2 Data extraction table

Author and date of publication	Aims and objectives	Sample	Design/setting	Findings
Greenwood, 2003	Nil documented	NA	Discussion	Discussion reviewed the benefits of a nurse aiding in the management of Benign Prostatic Hyperplasia (BPH)and how management plans were dependent on the symptoms reported by the patient the impact on their quality-of-life, urinary flow rate, post void residuals and health. Nurses take a holistic approach and draw on skills embedded in nursing such as communication skills, assessing physical, psychological, social aspect as well as considering spiritual wellbeing. These skills are carried out alongside medical knowledge and competence in technical or diagnostic skills. It is stated nurses in a Lower Urinary Tract Symptoms (LUTS) clinic should take a patient's history and discuss the patient's International Prostate Symptoms Score (IPSS) along with 'Simple' investigations. Nurses can provide more time for a patient to freely discuss their symptoms compared to a consultant clinic. It is believed that nurses can provide continuity of direct patient care and education, thus ensuring a quality service. British Association of Urological Nursing (BAUN) guidelines used to support discussion. Raises the question regarding, how the clinic should be evaluated. Nurse is required to audit and evaluate to help inform future practice. Investment is required in training educational resources and time need to be given to ensure high quality
Kirkwood, 2004	To review size of the problem of benign prostate hyperplasia (BPH), summarize why guidelines are needed, the impact they with have on BPH pathway, outline components of nurse-led clinics and how they integrate with the management guidelines and summarize the treatment advances that facilitate the move of BPH management into primary care	NA	Primary care	Review of components of nurse-led clinics and how they integrate with BAUN guidance. Nurse-led clinics provide more assessment time and frees up consultants' appointments. Due to the lack of formal structure and training to the setup of nurse-led clinics, the quality of care is reduced, and it limits the audit process. BAUN 2003 guidelines complements the British Association of Urology Surgeons (BAUS) guidelines on LUTS management. BAUN aims to provide a uniform role, clinical grade, and level of expertise. The aim was to reduce national variation of clinical practice therefore provide uniformity in the primary and secondary care. Need to look at local needs and adapt. Guidance covers location, equipment, physical examination, documentation; IPSS, Prostate-Specific Antigen (PSA), Urinalysis, flow rate, and post void residual polynocturia reading. Address patient concerns and ask three specific questions: Do you wake at night? Is your urine flow reduced? Are you bothered by your bladder symptoms? Practice nurse needs training in PSA and digital rectal examination (DRE). Reported there is no formal training for DRE assessment therefore this needs to be completed in clinic is consultant lead and requires theoretical, observational, and practical knowledge.

(Continues)

TABLE 2 (Continued)

Author and date of publication	Aims and objectives	Sample	Design/setting	Findings
				Audit of service is important and should provide evidence of high quality of care being delivered, impact of waiting times and patient outcomes. Benefit to the patients, primary care and NHS trusts. Needs to have successful integration between assessment in the nurse-led clinic and therapeutic guidelines to ensure correct management is followed, alpha blocker, 5-alpha-reductate inhibitor or combination therapy.
Koo, 2008	To review outcome of assessments performed at a newly established nurse-led one-stop male lower urinary tract symptom (LUTS) clinic. Identify key areas for service improvement and enhancing the quality of care to patients.	107 patents between Dec 2006-August 2007Mean age 65.8 years Only included those who had their initial assessment carried out by a nurse specialist in the LUTS clinic.	Retrospective audit Hospital Ireland	One Clinical Nurse Specialist (CNS) in post for a one-stop LUTS clinic. Two full 8 hour sessions includes 8 new appointments and 8 review appointments seen each week. Used BAUN recommendations to set up service. Referrals screened by consultant. Patients required to bring a mid-stream urine sample (MSU) 94 patient samples (87.7%) showed no growth. CNS took medical history, urological symptoms, list of medication, sexual dysfunction history, bloods test also taken by CNS. IPSS completed by the patient with assistance of CNS. CNS gave patient results of all tests alongside management plan and follow up Ultrasound scan of urinary tract performed by ultra-sonographer pre and post micturition. Uroflowmetry investigation took place when patient voided between scans. Urologist carried out examination on genitalia, abdomen, and DRE. When unavailable a DRE was not carried out in 74 pts – (69.7%). Referral to first appointment, mean 15.7 weeks; previously 2 years to see a consultant urologist from point of referral. Results discussed retrospectively with urologist suggest good clinical governance. Thirty-three additional investigation that were carried out following first appointment A consultant clinic now runs alongside LUTS clinic to increase DRE assessment but recognizes there is scope for CNS to carry out DRE, abdominal and genitalia examinations Recognized there is a need for protected time for initial and on-going education and training, structured clinical support, and auditing. BAUN guideline stated minimum of 50 supervised DRE assessments supervised by a consultant. Development of a competency is individual Identified significant proportion with sexual dysfunction. Nurse-led LUTS clinic provided additional screening mechanism for Sexual dysfunction onward referred to Andrology made when required Reviewed in 4–6 months depending on whether the patient commenced alpha blocker or 5-alpha reductase inhibitors. Repeat uroflowmetry and bladder scan performed at the nurse-led follow up appointment. Patient discharge to their General Practitioner (GP) once symptoms were stable or had improved for 1 year

TABLE 2 (Continued)

Author and date of publication	Aims and objectives	Sample	Design/setting	Findings
Keane, 2021	To objectively demonstrate that urology nurse specialists can safely run a benign urology clinic in well prepared settings	58 male patients – new referrals Exclusion criteria: female, previously reviewed patients, those who had an elevated PSA, those who has previously had surgery for LUTS	Observational cohort study over a 6-month period September 2019–February 2020 cut short due to COVID 19 pandemic Model 4 hospital in Ireland	Single clinical nurse specialist running the clinic. Specific criteria to be seen with referral screened by consultant urologist. Skills carried out by the nurse: Clinical history, physical examination, DRE, uroflowmetry and bladder scan, bloods, and urinalysis if necessary. Patient to complete IPSS. Findings delivered by the nurse along with education on dietary and lifestyle changes. Management plan discussed with the nurse and patient. Information reviewed by consultant and plan formulated, medication prescribed if required Follow up in nurse-led clinic or referral back to GP (52% of patients in this study were discharge to their GP) or referral to consultant clinic with any further investigations carried out before appointment Advanced nurse practitioner-led LUTS clinic now in place following success of the pilot, they can prescribe and order investigations directly. GP's will be required to carry out a DRE and ask patients to complete IPSS prior to referral Limitation: small sample size due to the COVID-19 pandemic study concluded early

aid in diagnosis and management 'Do you wake at night? Is your urine flow reduced? Are you bothered by your symptoms?'.[20,p. 509]

The International Prostate Symptom Score (IPSS) is a validated tool for assessing the severity of patient LUTS. All papers reviewed suggested the IPSS is completed by the patient to form part of the patient assessment.[17–20] One paper reported 93.7% of patients ($n = 100$) completed the IPSS and demonstrated, of those 51% of patients ($n = 51$) scored their symptoms as being moderate, and 38% of patients ($n = 38$) having a marked [severe] score.[18] It is also reported in an additional study that 100% ($N = 58$) of patients completed IPSS of which 55.2% of patients ($n = 32$) showed their symptom score as moderate and 25.9% of patients ($n = 17$) as severe.[17] This demonstrated the majority of patients referred by the GP had significant LUTS. It is acknowledged within the papers reviewed the IPSS can be completed with support from the CNS[18] and can also be used to as an evaluation tool to assess how well the patient is responding to treatment.[17] In addition, it was also suggested that patients' overnight voiding should be reviewed to ascertain if they have polynocturia.[20]

One paper required patients to bring in a urine sample to rule out a urinary tract infection. All 107 patients provided a urine sample, and of those, 87.7% ($n = 94$) no micro-organism growth was shown.[18] A more recent study only required urinalysis if it was deemed necessary, although no further detail was given.[17]

Urinary flow test and a post void residual bladder scan formed part of the patient assessment.[17,18] As previously mentioned in the case of one study, a bladder scan was carried out pre and post micturition via an USS on the patient's urinary tract.[18] The authors of this paper acknowledged this was not part of guidance, however, they felt it added to the patient's 'one-stop' LUTS appointment and reduced the need for additional assessment at a later date. It is important to note that 11 (10.3%) of those patients who received an USS had a degree hydronephrosis which otherwise would have not been detected or treated.[18] One paper stated all patients were able to void >150mls allowing full interpretation of the flow and bladder scan results.[17] An additional paper stated 93.5% ($n = 100$) of patients were able to void >150mls. The remaining 6.5% ($n = 7$) of patients voided less than 150mls which resulted in an unreliable flow assessment.[18]

Physical examination and a DRE formed part of the patient assessment.[17,18,20] In one paper, the assessment was carried out by the CNS: 6.9% of patients ($n = 4$) declined a DRE, of those who consented 93.1% ($n = 54$), five were considered suspicious for prostate cancer.[17] However, in an additional paper the DRE and physical assessment was carried out by the urologist, and they reported a DRE was not carried out on 69.7% of patients ($n = 74$) due to the unavailability of the urologist.[18] A DRE is a recognized and important assessment[18,20]; the purpose of the DRE is to assess the size texture, regularity and if there are any other significant changes to the prostate. Experience is obtained though means of theoretical and practical training and is often undertaken in the clinic setting under consultant supervision.[18–20] It is suggested nurses should conduct 50 supervised DRE to assess the prostate to become proficient.[18] Time for these needs to be protected and competencies need to be individualized

which in turn requires financial investment.[18–20] It is recognized this additional nursing skill would benefit the service delivered.[18,20]

In both studies, the nurse discussed outcomes and treatment plans with the consultant following the assessment.[17,18] Consultants also provided a prescription at this point if required. Although discussion with a consultant took place the outcome of the investigations and assessment were delivered by CNS to the patient along with management plan and education on dietary and lifestyle changes if relevant.[17,18] It was also noted that the nurse needed to address any fear the patient may have regarding the treatment and possible indications of cancer.[20]

It is recognized the nurse leading the clinic requires on-going education and specific competencies to ensure they are trained to carry out the patient assessments and diagnose.[18–20] It is suggested training and education may occur in the clinical environment led by a consultant and the nurse would require protected time to receive this.[18,19] It is acknowledged there is a financial cost when providing education and training as well as releasing a nurse to attend.[19] One paper does not address the training and educational needs the nurse may require.[17]

4.3 | Effectiveness

It is suggested that auditing the existing service as well as considering how the nurse-led LUTS clinic will continue to be audited are key when implementing change.[19] Auditing and evaluation are crucial in further development of the nurses' practice and 'demonstrating the impact of nurse-led clinics'.[19] However, due to lack of guidance in setting up a nurse-led LUTS clinic it is believed this can affect quality of the clinic and the auditing process.[20] Furthermore, audits should include, quality of care delivered, waiting times, patient satisfaction of the clinic and the opinion of primary and secondary care providers.[20]

To ensure effectiveness there needs to be an agreed pathway and shared guidance and proformas to ensure assessment and therapeutic guidelines are followed.[18,20] It acknowledged nurses provide a holistic approach by assessing the physical, psychological, social, and spiritual needs of the patient and could spend more time with patients to enable patient to freely express how symptoms effect their quality-of-life,[19,20] as well as carrying out additional screening such as discussing sexual dysfunction.[18]

Both research papers evaluated the nurse-led male LUTS clinics and assessed their effectiveness.[17,18] One paper acknowledged good clinical governance by way of retrospective discussion between CNS and urologist, leading to subsequent investigations.[18] This paper also noted improved waiting times from referral to consultation with a mean wait of 15.7 weeks to be seen in the nurse-led male LUTS clinic, compared to a 2-year wait for a consultant appointment.[18] The authors of this paper have also further adapted the service due to the low number of patients having a DRE, and ensured a consultant clinic runs alongside the nurse-led clinic to improve availability to carry out DRE assessment.[18]

Another paper evaluated the patient outcomes and demonstrated 52% of patients ($n = 30$) were discharge back to their GP.[17] Of those who had an onward referral to the consultant clinic, further investigations were carried out prior to the appointment thus enabling the consultant to make an informed clinical decision which reduced delays in treatment.[17] This paper demonstrated further development of the service following evaluation and an advanced nurse practitioner (ANP) is now in post to run the LUTS clinic with the additional skills of independent prescriber and ability to request further investigations should the patient require them.[17]

5 | DISCUSSION

This scoping review aimed to understand what is known about the role of the nurse in the nurse-led male LUTS clinics and what, if any, were the enablers and barriers met by nurses leading these clinics. It is clear there is a dearth of research within this area as the four papers reviewed span 21 years.

Due to updates to the National Institute of Health and Care Excellence (NICE)[4] and the EAU[3] guidelines on management of non-neurogenic male urinary tract symptoms, it needs to be acknowledged the BAUN guideline for nurse-led male LUTS clinics, which is referred to in three of the four papers is now obsolete and can no longer be accessed.[18–20] However, there are many areas within the papers reviewed that are still relevant in the today's practice which is shown in the most recent paper[17] and can therefore, contribute to the scoping review.

The referral pathway into the nurse-led male LUTS clinic are similar across two of the research papers, both received referrals from the GP which were subsequently triaged by the consultant.[17,18] However, the way in which the patient booked their appointment differed, one paper offered a patient different dates and times via a partial booking system,[18] and the other informed the patient they would be seen by a CNS not a consultant.[17] It is unclear if the patients in this paper[17] was offered alternative dates and times for their appointment.

Both papers acknowledged a reduction in referral to the first appointment waiting time, but neither paper commented on whether any patients declined an appointment with a nurse and opted to wait to see a consultant.[17,18] Both papers made later changes to their nurse-led male LUTS clinic with one stating an ANP now leads the male LUTS clinic.[17] However, no reference has been made regarding triaging the referral from the GP and if this continues to be carried out by the consultant or now by the ANP. Enabling the ANP to triage the referral to their male LUTS clinic would increase their autonomy and release the consultant's time.

The value of auditing and evaluating a nurse-led male LUTS clinic is key in understanding its effectiveness and ensuring good clinical governance.[18–20] It is acknowledged there is a need for formal training and agreed protocol and guidance to ensure a high-quality audit and evaluation.[18–20] One paper referred to the evaluation of the decisions made in the nurse-led male LUTS clinic, with a urologist, supported good clinical governance.[18] In two papers the auditing process showed improved waiting times from referral to the first appointment which benefited the patient.[17,18] 52% ($n = 30$) of the patients

reviewed were discharged back to the GP following an initial appointment[17] and a further paper stated their patients were discharged back to their GP once they had improved or their symptoms had been stable for 1 year.[18] However, neither paper made reference on how this compared to the consultant led LUTS clinic; therefore it is difficult to conclude if a nurse-led male LUTs clinic was as effective in symptom management and discharging the patient. The evaluation and auditing of the nurse-led LUTS clinic demonstrated change was required to improve service delivered and patient outcomes, these changes were implemented.[17,18] There is also agreement when evaluating, that it is important to not only seek the opinion of staff who deliver the service but also from the service users including, the patient and those referring into the service.[18–20]

Whilst this scoping review did not seek opinion from patients regarding nurse-led male LUTS clinics, research has been conducted showing patients were highly satisfied with the nurse-led clinic, citing a quicker appointment and the time the nurse spent discussing their symptoms and management.[21] It is important to recognize the impact the time the nurses spent with patients has on them, one paper reviewed, acknowledged their patients were happy to have a longer appointment time and a holistic approach, with others supporting the idea that the time nurses spend with the patient enables the patient to discuss their symptoms freely.[17,19] One paper did not directly refer to the time spent with each patient, however, it did discuss the number of patients seen in a clinic, 8 in a day, this is much less than a consultant would see.[18]

Across all the papers reviewed, there is clear understanding and agreement in the initial assessment and diagnostics the nurse should conduct, particularly within specialist clinics in secondary care.[17] These include history taking, physical examination, including a DRE, as well as investigation such as uroflowmetry. There is also agreement across the literature reviewed in the use of the validated IPSS tool. Although the IPSS is an agreed tool used in all four papers it is completed and used differently.[17–20] Either the IPSS was completed by the patient with assistance from the nurse,[18] or the patient was required to independently complete it on the day of the clinic and at subsequent follow up appointments to be used as a tool to compare symptoms once conservative changes or treatment had commenced.[17]

Although there is agreement on the types of examination it does need to be acknowledged these skills such as DRE assessment require continuing professional development and education; this could be in the form of individual competencies, theoretical and supervised practical training.[18–20] However, there is no formulised education discussed within these papers or an acknowledgment that this could be a barrier in establishing and running a nurse-led male LUTS clinic. Financial impact also needs to be considered which has not been fully addressed. Educating and upskilling a nurse has a financial burden not just from the cost of a course but also the implications of study days and covering workload. Furthermore, the financial benefit of a nurse-led male LUTS clinic have not been considered within the papers reviewed. Although two papers acknowledged the improved waiting time from referral to the first appointment.[17,18] It is, however, important to acknowledge there is research specifically reviewing the financial implication of nurse-led male LUTS clinics, but these did not meet the inclusion criteria as they looked at the outcomes of nurse-led male LUTS clinics rather than the role or enablers and barriers.[22]

Additionally, this scoping review has not established how the role of the nurse may differ in the primary or secondary care. One paper specifically addressed the needs of nurses leading male LUTS clinics in the primary care[20]; however, this scoping review did not bring to light any evidence of this happening. This is an important area to consider in the development of nurse-led male LUTS clinics, not only is it recommended in NICE guidance[4] that the initial LUTS assessment should be undertaken in primary care prior to referral to a specialist clinic in the secondary care, there is potential this could improve waiting times and patient outcomes. Given the current heath care pressures globally and current waiting times and pressures in the National Health System (NHS) following the global pandemic SARS- CoV-2 (COVID-19),[23] there is a potential benefit of reducing the impact of waiting times for consultant-led LUTS clinics by transferring this care to primary and secondary nurse-led male LUTS clinics.

The role of the nurse across two of the papers does lean towards a supportive role to the consultant rather than an independent autonomous nurse-led male LUTS clinic. This is highlighted by the nurse requiring a consultant to carry out a DRE and abdominal assessment on the patient[18] and by the consultant reviewing the CNS assessment of the patient and then formulating a plan.[17] As previously stated an ANP is now in post running a LUTS clinic[17]; It is possible this is more in line with current practice as the role of the CNS continues to develop. A CNS is required to work autonomously and be highly skilled in decision making, which is underpinned by in-depth knowledge and experience[4] but, due to the dearth of current research within the area of nurse-led male LUTS clinics, this cannot be evaluated.

6 | STRENGHTHS AND LIMITATIONS

Following the PRISMA- SCR checklist,[12] it has ensured clear reporting. Charting of the database searches via PRISMA[15] also ensured rigour and enabled the replication of the scoping review. Searches were conducted across several different databases and wider searches were carried out in grey literature. This ensured strength in the scoping review carried out. The limitations of the review are demonstrated by limiting the searches to papers written in English. By widening this to additional languages, further understanding internationally may have been established through potentially sourcing more papers.

As this review looked specifically at the role of the nurse in the nurse-led clinic, this may have limited the number of resources. By expanding the search to include opinion of service users including healthcare professionals, more depth and understanding of how the role of the nurse impacts on the service delivered may have been established.

7 | CONCLUSION

This scoping review has highlighted a dearth of the current research and evidence looking at the role of the nurse in nurse-led LUTS clinics

and establishing if there are any enablers and barriers to this role, with only one paper having been published within the last 10 years.[17] Based on the lack of current research or specific guidance around nurse-led male LUTS clinics within primary or secondary care it is clear there is a need for future research to review what current practice is being delivered in terms of nurse-led male LUTS clinics across primary and secondary care. Investment in specific guidance and on-going formalized education and training for urology nurses in the secondary care and in primary care is required to ensure high-quality care.[18–20] As urological nursing evolves it is important to recognize the on-going developments in practice in both primary and secondary care and how this positively impacts patient care locally within the NHS and also at a global level. To enhance clinical care and ensure the best practice for patients these developments need to be shared through local and international networks and publications.

AUTHOR CONTRIBUTIONS

Study conception, design, data collection, analysis and interpretation, article drafting and critical appraisal of the article: Claire Middleton. *Screening and critical appraisal*: Stephanie Dunleavy.

CONFLICT OF INTEREST

The authors declare there is no conflict of interest.

REFERENCES

1. D'Ancona C, Haylen B, Oelke M, et al. The international continence society (ICS) report on the terminology for adult male lower urinary tract and pelvic floor symptoms and dysfunction. *Neurourol Urodyn*. 2019;38(2):433-477. doi:10.1002/nau.2389
2. The British Association of Urological Surgeons (BAUS). Limited Annual Report and Financial Statement 2020. Accessed April 23, 2022. 2022, https://www.baus.org.uk/_userfiles/pages/files/about/governance/2020%20Trustees%20Report%20and%20Financial%20Statements%20Signed.pdf
3. Gravis S, Cornu N, Gacci M, et al. EAU guidelines on management of non-neurogenic Male Lower Urinary Tract Symptoms (LUTS), incl. *Benign Prostatic Obstruction (BPO)*. Arnhem, the Netherlands. EAU Guidelines Office; 2022; 1-112. Accessed April 13. 2022. Uroweb. https://uroweb.org/guidelines/management-of-non-neurogenic-male-luts/chapter/introduction
4. National Institute for Health and Care Excellence (NICE). Lower urinary tract symptoms in men: management. Clinical guidance CG97. 2010. Updated 2015. Accessed October 25. 2021. https://www.nice.org.uk/guidance/cg97
5. Khair K, Chaplin S. What is a nurse-led service? A discussion paper. *J Haem Pract*. 2017;4(1):4-13.
6. Connolly C, Cotter P. Effectiveness of nurse-led clinics on healthcare delivery: an umbrella review. *J Clin Nurs*. 2021;00:1-8. doi:10.1111/jocn.16186
7. Urology Outpatient Transformation. A Practical guide to delivery. GIRFT: Getting it right first time. 2022. https://www.gettingitrightfirsttime.co.uk/wp-content/uploads/2021/12/Urology_2021-12-10_Guidance_Outpatient-transformation.pdf
8. Peters MDJ, Godfrey C, McInerney P, Munn Z, Tricco AC, Khalil, H. Scoping reviews In: Aromataris E, Munn Z, eds. *JBI Manual for evidence synthesis* JBI, 2020:406-451. Retrieved October 25, 2021, from https://synthesismanual.jbi.global
9. Levac D, Colquhoun H, O'Brien K. Scoping studies: advancing the methodology. *Implementation Science*. 2010;5(69):1-9. doi:10.1186/1748-5908-5-69
10. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology*. 2005;8(1):19-32. doi:10.1080/1364557032000119616
11. Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Annals of Internal Medicine*. 2018;169(7):467-473. doi:10.7326/M18-0850
12. Peters M, Marnie C, Tricco A, et al. Updated methodological guidance for the conduct of scoping reviews. *JBI Evidence Synthesis*. 2020;18(10):2119-2126. doi:10.11124/jbies-20-00167tricco
13. Pollock D, Davies EL, Peters MDJ, et al. Undertaking a scoping review: a practical guide for nursing and midwifery students, clinicians, researchers, and academics. *Journal of Advanced Nursing*. 2021;77:2102-2113. doi:10.1111/jan.14743
14. Beecroft C, Booth A, Ree A. Finding the evidence. In: Gerrish K, Lathlean J, eds. *The Research Process in Nursing*. 7th ed. Wiley Blackwell; 2015:89-104.
15. Page M, McKenzie J, Bossuyt P, et al. The PRISMA 2020 Statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021;372:n71. doi:10.11124/jbies-20-00167tricco
16. Merriam S, Tisdell E. *Qualitative Research: A Guide to Design and Implementation*. 4th ed. Jossy Bass; 2015.
17. Keane KG, Inder MS, McIntyre C, et al. Implementation of a nurse-led lower urinary tract symptoms (LUTS) clinic reduces general urology clinic workload in a model 4 hospital: a pilot study in Tallaght university hospital. *Irish Journal of Medical Science*. 2020;190(3):1123-1128.
18. Koo V, McMahon J, O'Brien A, Young M, Marley J. Outcome audit of nurse-led lower urinary tract symptoms clinic: lessons and challenges for practice. *International Journal of Urological Nursing*. 2008;2(2):72-77.
19. Greenwood J. Nurse-led clinics for assessing men with lower urinary tract symptoms. *Professional Nurse (London, England)*. 2003;19(4):228-232.
20. Kirkwood L. Guidelines for benign prostatic hyperplasia. *Practice Nursing*. 2004;15(10):507-510.
21. McCaughan E, Parahoo K, Thompson K, Reid S. Patients' satisfaction with a community-based, nurse-led benign prostatic hyperplasia assessment clinic. *International Journal of Urological Nursing*. 2008;2(1):14-21. doi:10.1111/j.1749-771x.2007.00038.x
22. Dasgupta P, Drudge-Coates L, Smith K, Booth C. The cost effectiveness of a nurse-led shared-care prostate assessment clinic. *Annals of the Royal College of Surgeons*. 2002;84(5):328-330. doi:10.1308/003588402760452448
23. NHS Backlog Data Analysis. 2022. The British Medical Association is the trade union and professional body for doctors in the UK. Retrieved April 29, 2022. https://www.bma.org.uk/advice-and-support/nhs-delivery-and-workforce/pressures/nhs-backlog-data-analysis

How to cite this article: Middleton C, Dunleavy S. Nurses leading male lower urinary tract symptom (LUTS) clinics: A scoping review. *Int J Urol Nurs*. 2022;1-10. doi:10.1111/ijun.12337