



The International Consultation on Incontinence Questionnaires (ICIQ): An update on status and direction

Alan D. Uren¹ | Nikki Cotterill² | Megan Pardoe¹ | Paul Abrams¹

¹Department of Urology, Southmead Hospital, Bristol Urological Institute, Bristol, UK

²Department of Urology, Southmead Hospital, University of the West of England and the Bristol Urological Institute, Bristol, UK

Correspondence

Alan D. Uren, Bristol Urological Institute, Bristol BS10 5NB, UK.

Email: Alan.uren@bui.ac.uk

Abstract

Aims: In its 22nd year, the International Consultation on Incontinence Questionnaire (ICIQ) project continues to promote its primary objective; the development and dissemination of patient completed questionnaires for the standardized, high-quality assessment of urinary, bowel, and vaginal symptoms. The paper gives an update on the ICIQ in the context of current scientific developments of PROM design and regulatory requirements, and plans are outlined for its future direction.

Methods: An online library of all questionnaires, including over 300 translations has been launched to facilitate access through a semi-automated registration system. The ICIQ project continues to update its protocol to meet current scientific standards and incorporate methodological advances within PROM development.

Results: Nineteen psychometrically validated patient-reported outcome measures (PROMs) are published for use in clinical practice and research, including amongst others, a bladder diary, male and female lower urinary tract symptoms, long term catheter, pad use, and bowel symptom questionnaires. The original ICIQ-UI Short Form for the assessment of urinary incontinence continues to be the most internationally used questionnaire and has been translated into over 60 languages. New questionnaires which are under development include the ICIQ-Underactive Bladder and ICIQ-Satisfaction. We anticipate the new website and online library will further facilitate the ease of dissemination and availability of the questionnaires for clinical practice and research.

Conclusion: The ICIQ continues to successfully achieve its primary objective. Going forward, a greater focus on promoting routine clinical use and the potential for electronic integration into databases and medical records is envisaged.

KEYWORDS

ICIQ, LUTS, patient reported outcome measures, PROM, quality of life, questionnaire

1 | INTRODUCTION

At the Scientific Committee Meeting of the first International Consultation on Incontinence (ICI), in 1998, a

multidisciplinary committee was formed with the aim of the development and validation of a patient-reported outcome measure (PROM) for use by patients with urinary incontinence. The ICI Questionnaire project was

formally launched in 1999, to meet the requirement for universally applicable questionnaires for use in clinical practice and research.^{1,2} The result was the development of the ICIQ-Urinary Incontinence Short form (ICIQ-UI-SF) for the assessment of urinary incontinence and its impact on quality of life.³ The main aims of the ICIQ project were, and are, as follows:

1. To develop psychometrically validated questionnaires to evaluate symptoms and impact of dysfunction of the lower urinary tract, lower bowel, and pelvic organ prolapse.
2. The adoption of existing questionnaires, that are psychometrically valid and complement the existing ICIQ questionnaires.
3. To increase the use of patient-reported questionnaires to standardize the assessment of lower urinary tract, lower bowel, and pelvic organ prolapse and their impact on patients' lives.
4. To use the questionnaires to facilitate communication in different patient settings and different patient groups both in clinical practice and wider clinical research.⁴

The first questionnaire to be developed, the ICIQ-UI SF, remains the most widely used and requested questionnaire and has now been translated into over sixty languages. Since the modular structure was finalized, the ICIQ has expanded to offer nineteen psychometrically validated patient-reported outcome measures (PROMs) for lower pelvic dysfunction including incontinence,¹ which includes amongst others, a bladder diary, male and female lower urinary tract symptoms (LUTS), long term catheter use, pad use, and bowel symptom questionnaires. The purpose of the following paper is to provide an update on the ICIQ since its conception, in the context of current scientific developments of PROM design and regulatory requirements, and to outline plans for its future. The ICIQ project is based in the Bristol Urological Institute, at Southmead Hospital, Bristol, in the United Kingdom.

1.1 | ICI consultation 2017 and recommendations

Since the first ICI in 1998 held in Monaco, there have been five consultations, resulting in six editions of a publication that comprehensively covers matters relating to the investigation and management of functional pelvic floor disorders. For each consultation, the executive committee appoints chairs who are responsible for

defining the subject matter of their respective chapter, and forming an expert committee who collaborate to perform a systematic review of the relevant literature. During each consultation, the chairs of the individual committee make recommendations for the assessment and treatment of patients based on the committee findings. The committee 5B of the most recent 6th ICI was comprised of a number of experts on symptom and quality of life (QoL) assessment. As a result, the publication is a comprehensive review of the available PROMs related to the assessment of LUTS, bowel and vaginal symptoms and other important aspects of assessment and management, such as sexual function and quality of life.⁴ Each PROM received a grade, from A+ to C, based on the published evidence of the reliability, validity, and responsiveness of the questionnaire. The grading of A was given if there is "published evidence of validity, reliability, and responsiveness to change" and is therefore "highly recommended." If there was additional evidence of content validity (ie, evidence of patient involvement in the item development process) then the highest grade of grade A+ was awarded. If was less evidence of validity or reliability, a grading of B meant that it was 'recommended', and a grade C that the questionnaire had 'potential' but required further validation, before it could be recommended. All the ICIQ questionnaires except one are recommended with the grades of A or A+, by sixth ICI.⁴ It should be noted that the grading of A reflects that historically, although patient were interviewed for the development of all ICIQ questionnaires, the evidence may not have been published or documented to current standards.² Table 1 outlines the current PROMS that are included as part of the ICIQ modular questionnaire and information on their respective grades.

1.2 | ICIQ development process and protocol

The development of a PROM has become a rigorous and standardized, scientific process with the aim of providing evidence that the instrument is measuring what is intended, in a reliable and reproducible way, and is appropriate to the target population for which it is designed. The process begins by establishing the clear rationale and reason for the initial development, before a series of sub-studies which are designed to demonstrate validity (accuracy), reliability (stability), and responsiveness to change (ability to measure change where it occurs) in the target patient population. The publication in 2009 of the United States FDA "Guidance for Industry: Patient-Reported Outcome Measures: Use in Medical Product

TABLE 1 The ICIQ modular structure

Core questionnaires					
Condition	Recommended questionnaires	Optional questionnaires	HRQoL questionnaires	Sexual matters	Post treatment
Urinary symptoms	Males: ICIQ-MLUTS(13) Females: ICIQ-FLUTS(30)	Males: ICIQ-MLUTS Long Form Females: ICIQ-FLUTS Long Form	ICIQ-LUTSsqol(31)	Males: ICIQ-MLUTSsex Female: ICIQ-FLUTSsex	ICIQ-Satisfaction ³¹ ^a
Vaginal symptoms	ICIQ-VS(32)				
Bowel symptoms	ICIQ-B(33,34)				
Urinary incontinence	ICIQ-UI short form(3)		ICIQ-LUTSsqol ICIQ-UI SF	Males: ICIQ-MLUTSsex Females: ICIQ-FLUTSsex	
Prospective bladder events	ICIQ-bladder diary(29)				
Specific patient groups					
Condition	Recommended questionnaires		HRQoL questionnaires	Sexual matters	Post treatment
Nocturia	ICIQ-N		ICIQ-Nqol(35)	Males: ICIQ-MLUTSsex Females: ICIQ-FLUTSsex	ICIQ-Satisfaction ³¹ ^a
Overactive bladder	ICIQ-OAB		ICIQ-OABqol(36)	Males: ICIQ-MLUTSsex Females: ICIQ-FLUTSsex	
Underactive bladder	ICIQ-UAB ^{11,12}				
Neurogenic	ICIQ-Neuro Bowel ^a				
Long term catheter			ICIQ-LTCqol(37)		
Children	ICIQ-CLUTS(9)				
Absorbent pads			ICIQ-PadPROM(38)		
Inflammatory bowel disease	ICIQ-IBD				
Cognitively impaired adults	ICIQ-Cog ¹⁰				

Note: The ICIQ-LUTSsqol, ICIQ-B, ICIQ-Nqol, and ICIQ-bladder diary all have an ICI Grade of A+. All others have an grade of B (4). The following modules were adopted as ICIQ modules with author's permission: ICIQ-Nqol, ICIQ-OABqol, ICIQ-LUTSsqol.

^aThese questionnaires are currently in development.

Development to Support Labeling Claims”⁵ and subsequent document “Qualification Process for Drug Development Tools”⁶ sets the scientific standard that is acceptable for the development of an outcome measure that can be considered by regulatory authorities for use in drug or device development. This is in-line with the methodological rigor that has been incorporated into ICIQ protocols. In particular, there is an emphasis on the inclusion of the patient perspective in the item development process (through concept elicitation interviews), and the documentation of the patient understanding of the instrument (through cognitive interviews) to ensure validity.^{7,8} This documentation is a key component of achieving regulatory approval of a PROM and is particularly essential if an instrument is intended to be used as an outcome measure in clinical trials (or to support labeling claims).

To ensure its continued success, the ICIQ continues to update its protocol to meet current scientific standards of PROM development. Newly developed questionnaires, that are included in the ICIQ portfolio, must have met current regulatory guidance and standards of documentation. As part of this, the process of establishing validity must include using patient involvement at each stage and subsequent psychometric testing, with details published in scientific journals, to allow the quality of development to be assessed. An overview of the current protocol used for the development of ICIQ questionnaires is given in Figure 1.

1.3 | ICIQ modular structure

As shown in Table 1 the core questionnaires comprise the questionnaires for the assessment of urinary incontinence, LUTS, vaginal symptoms, and bowel symptoms including faecal incontinence. The additional health-related quality of life (HRQoL) questionnaires are used to assess additional specific issues that can arise as a result of symptoms, such as emotional or physical limitations. The questionnaires for sexual matters are specifically to evaluate the impact of LUTS, bowel, and vaginal symptoms on this aspect, for both men and women separately. Specific patient group questionnaires are questionnaires that were developed for a particular patient population, so may only be used in the population for which they were designed, such as the ICIQ-CLUTS for assessing urinary symptoms in children.⁹ The available long-form questionnaires, ICIQ-MLUTS LF and ICIQ-FLUTS LF have additional items that may be of use for research studies, but have not been shortened or scored for the benefit of efficiency in clinical practice.

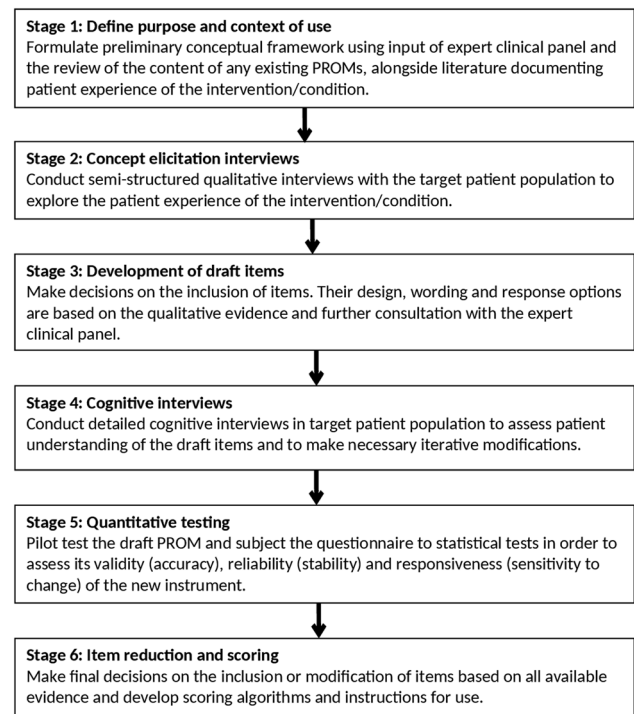


FIGURE 1 Summary of the ICIQ protocol for the development of questionnaires

1.4 | Questionnaires under development

Questionnaires that are still in development include the ICIQ-Neuro Bowel and the ICIQ-Cog for the assessment of impact and care of incontinence in cognitively impaired adults.¹⁰ The ICIQ-UAB continues its development, and has published evidence of content validity and initial subsequent psychometric testing.^{11,12} It is currently undergoing further testing as the primary outcome measure within a proof of concept phase II clinical trial. The ICIQ-Satisfaction is a questionnaire that covers aspects of patient satisfaction with experience, expectations, and outcomes and has recently been tested in a postsurgical population of men after prostatectomy.¹³ After further testing, the intention is for the ICIQ-S to be widely applicable for use in clinical practice and research after urological and gynecological surgical procedures. A further questionnaire to assess patient satisfaction after urological investigations (eg, urodynamics) is also under development.

1.5 | The ICIQ website and online library

Since 2004, the website www.iciq.net has successfully achieved the widespread international dissemination of the ICIQ portfolio of PROMs. In 2019, a new website was

launched where questionnaires and translations can be requested through a semi-automated system, increasing the accessibility of the questionnaires for use in academic research and clinical practice. A potential user is asked to complete a brief electronic request form and user agreement and then access to the ICIQ online library is given. Permission for the use of the questionnaires remains free of charge for small grant-funded research, student projects, and clinical use. Commercial and research organizations with nationally supported funding (eg, NIH in the USA, and NIHR in the UK, or equivalent) are asked to pay royalties for permission to use the questionnaires and any monies raised are used to fund the not-for-profit research and the continuing development of the ICIQ questionnaires. The ICIQ twitter account (@ICIQ_PROMS) has also been in operation since 2019, to boost the social media presence and further publicise the ICIQ. Updates can be shared on this platform whenever a new questionnaire or new translation is developed, including new publications that are of interest to followers and the urology, gynecology, and coloproctology fields.

1.6 | The use of the ICIQ in research

A search on EMBASE revealed that as of October 2019 there have been over 3700 publications that mention the “ICIQ” or the questionnaires. The average number of publications has increased from 5 per year in the period from 1999 until 2003, to 370 per year in the period from 2015 to 2019. We anticipate the improved presence of ICIQ online through the updated website, the ICIQ library, and social media will increase the dissemination of the questionnaires further, and continue the uptake of the ICIQ both in clinical practice and research.

1.7 | Translations

The ICIQ has a large library of over 300 translations for its questionnaires. All of the available translations for each of its questionnaires are listed on the ICIQ website. If a translation is not available then the ICIQ team are happy to collaborate with the development of the new translation and will help with the process. There is a standard protocol for the translation of ICIQ questionnaires. In summary, a native speaker of the target language first produces the new language version, followed by a back-translation by a native English speaker. This is reviewed by one of the ICIQ team and any differences between the original English and the back translation are reconciled. The new language version is then tested with a small number of the target language

population to check its validity. The ICIQ group retains copyright for any translations that are produced, and the distribution is managed centrally through the ICIQ website.

1.8 | ICIQ scoring

The scoring of the ICIQ questionnaires is statistically derived by employing factor analysis methods to ascertain groups of items that are related to each other: each group is termed a domain. For example, the ICIQ-MLUTS has a ‘voiding’ domain which relates items that record the presence and frequency of hesitancy, straining, strength of urinary stream, intermittency, sensation of incomplete emptying. A ‘voiding’ score can then be calculated by simply totaling up the score for each of these items.¹⁴ These may be used to compare scores over time, or between groups of patients. There is a part ‘b’ to each of the symptom items which asks “how much does this bother you?”. This part of the item is not scored, but the user may use this to review which of the symptoms are of most concern to the patient and to target their management to the most bothersome symptoms. Detailed scoring instructions for all the questionnaires may be found on the ICIQ website or by request to the ICIQ development team.

1.9 | Score interpretation

A common question about the questionnaires is ‘what does a particular score actually mean?’. For some questionnaires, studies have been carried out to establish bands of severity, for example, the ICIQ-UI SF (range, 0-21) is given four scoring categories: slight (1-5), moderate (6-12), severe (13-18) and very severe (19-21).¹⁵ A recent study has also ascertained scoring bands for the ICIQ-MLUTS (range, 0-44; mild (0-16), moderate (17-25), and severe (26-44)).¹⁶ A minimally important difference (MID) is available for some instruments which provides further clarity. This represents the smallest change in scores between administrations detected by the questionnaire that the patient perceives as important, and might potentially lead to the patient or clinician to consider a change in management.¹⁷ For example, a change of score of 5 to 12 points on the ICIQ-LUTSqol (formerly the King’s Health Questionnaire) is deemed to be clinically significant.¹⁸ However, as there are multiple methods for determining MIDs and scoring bands, and it can vary for each target population, it should be noted that these should be interpreted carefully. During questionnaire development, the ICIQ does not routinely

assess MIDAs or scoring categories for its questionnaires, but encourages further research to be carried out to empirically derive MIDAs for its questionnaires.

1.10 | Current PROM development methodology

The ICIQ questionnaires have historically been developed using traditional classical psychometric methods. In addition to factor analysis, the use of item response theory (IRT) or Rasch methods can be complementary and maximize the content validity of a PROM,¹⁹ as modeling the item characteristics can provide additional information to make decisions on item removal, or to assess how well response options are working. IRT or Rasch methods allow items to be calibrated onto a common scale, or underlying construct.^{19,20} Item banks for SUI and OAB have recently been developed for using this methodology, by the PROMIS method.²¹ As for the ICIQ, the use of Rasch analysis alongside classical psychometric methods was used for the initial development of the ICIQ-Cog¹⁰ and it is to be encouraged as another tool in the protocol for the development of existing and future ICIQ questionnaires.

1.11 | The use of the ICIQ in clinical practice

Despite their wide use in research, both as primary and secondary measures in clinical trials,^{22,23} PROMs are still relatively underused during routine clinical practice, in urology, gynecology, and coloproctology. However, when asked about their use, health professionals are positive about their potential to inform their clinical decisions.^{24,25} Barriers identified to the successful integration of PROMs into clinical practice include fitting into clinical work patterns, patient data security concerns, how to integrate data efficiently into IT or paperless systems, and how to process or use the data for patient benefit.^{24,26} There are no easy solutions to these issues (which are not specific to PROMs). However, the use of apps, web-based platforms or tablet computers may help the efficiency of data capture.²⁷ We recognize the potential for the ICIQ questionnaires to be supplied and completed electronically and there is an ongoing drive in the UK NHS to 'go digital'. The integration of electronic PROMs into clinical practice is still rare in urology, however when achieved, it has been shown to increase clinician-patient discussions of incontinence in presenting patients.²⁸ Although not yet available in electronic format, the scores of the ICIQ questionnaires have been shown to be equivalent when a questionnaire is administered electronically, by paper or over the telephone.²⁹ Future work for

the ICIQ project is to find ways of successfully integrating the ICIQ into clinical practice using digital means. A common vision of the purpose and rationale for collecting PROM data has to be shared, by patients, clinicians, and other stakeholders if this goal is to succeed.²⁴

Patients attending the Bristol Urological Institute presenting with LUTS complete the ICIQ-FLUTS³⁰ or ICIQ-MLUTS¹³ on paper, either before or during their first visit to the urological out-patient clinic, or the urodynamic unit. The responses are used during history taking and entered onto an online secure database for analysis. The ICIQ bladder diary is also used in the Uroflow clinic, as well as to assess the patient's suitability for sacral nerve device implantation. The patient records voided volumes, incontinence episodes, bladder sensations, fluid intake, and pad use over 3 days.³¹ Other questionnaires can be used at initial assessment by patients presenting with LUTS at clinics. Condition-specific ICIQ questionnaires such as the ICIQ-N or ICIQ-OAB may be used when a specific assessment of a condition in a particular population is required. Scores are calculated to allow the monitoring of patients over time, or to evaluate the effectiveness of interventions. The original ICIQ-UI SF is recommended in national guidelines (NICE clinical guideline 171) for the assessment of severity, impact, and type of urinary incontinence at initial presentation.

2 | CONCLUSION

Now in its 22nd year, the ICIQ project continues to successfully achieve the main objectives of developing and disseminating robust patient completed questionnaires for research and clinical practice through a new website, an online library and by increasing social media presence. The ICIQ questionnaires are internationally used for research but going forward, a greater focus on promoting clinical use and the potential for their electronic integration into routine clinical practice is envisaged.

ORCID

Alan D. Uren  <http://orcid.org/0000-0001-7486-2322>

Nikki Cotterill  <http://orcid.org/0000-0001-6921-2712>

Paul Abrams  <http://orcid.org/0000-0003-2776-2200>

REFERENCES

1. Abrams P, Avery K, Gardener N, Donovan J. The International Consultation on Incontinence Modular Questionnaire. *J Urol*. 2006;175(3):1063-1066. [https://doi.org/10.1016/S0022-5347\(05\)00348-4](https://doi.org/10.1016/S0022-5347(05)00348-4) <http://www.iciq.net>
2. Coyne K, Kelleher C. Patient reported outcomes: the ICIQ and the state of the art. *NeuroUrol Urodyn*. 2010;29(4):645-651. <https://doi.org/10.1002/nau.20911>

3. Avery K, Donovan J, Peters TJ, Shaw C, Gotoh M, Abrams P. ICIQ: a brief and robust measure for evaluating the symptoms and impact of urinary incontinence. *Neurourol Urodyn*. 2004; 23(4):322-330. <https://doi.org/10.1002/nau.20041>
4. Castro Diaz D, Robinson D, Bosch R, et al. Patient-Reported Outcome Assessment. In: Abrams P, Cardozo L, Wagg A, Wein A, eds. *Incontinence: International Consultation on Incontinence*. 6th ed., Tokyo, September 2016. International Continence Society; 2017:541-599.
5. FDA. Guidance for Industry: Patient-reported Outcome Measures: Use in Medical Product Development to Support Labeling Claims. December 2009.
6. FDA. Guidance for Industry and FDA Staff: Qualification for Drug Development Tools. January 2014.
7. Patrick DL, Burke LB, Gwaltney CJ, et al. Content validity—establishing and reporting the evidence in newly developed patient-reported outcomes (PRO) instruments for medical product evaluation: ISPOR PRO good research practices task force report: Part 1—eliciting concepts for a new PRO instrument. *Value Health*. 2011;14(8):967-977. <https://doi.org/10.1016/j.jval.2011.06.014>
8. Patrick DL, Burke LB, Gwaltney CJ, et al. Content validity—establishing and reporting the evidence in newly developed patient-reported outcomes (PRO) instruments for medical product evaluation: ISPOR PRO good research practices task force report: Part 2—assessing respondent understanding. *Value Health*. 2011;14(8):978-988. <https://doi.org/10.1016/j.jval.2011.06.013>
9. De Gennaro M, Niero M, Capitanucci ML, et al. Validity of the international consultation on incontinence questionnaire-pediatric lower urinary tract symptoms: a screening questionnaire for children. *J Urol*. 2010;184(4 suppl):1662-1667. <https://doi.org/10.1016/j.juro.2010.03.075>
10. Volz-Sidiropoulou E, Rings T, Wagg AS, Leistner N, Gauggel S, Kirschner-Hermanns R. Development and initial psychometric properties of the 'ICIQ-Cog': a new assessment tool to measure the disease-related impact and care effort associated with incontinence in cognitively impaired adults. *BJU Int*. 2018;122(2): 309-316. <https://doi.org/10.1111/bju.14186>
11. Uren AD, Cotterill N, Harding C, et al. Qualitative exploration of the patient experience of underactive bladder. *Eur Urol*. 2017; 72(3):402-407. <https://doi.org/10.1016/j.eururo.2017.03.045>
12. Uren AD, Cotterill N, Harding C, et al. The development of the ICIQ-UAB: a patient reported outcome measure for underactive bladder. *Neurourol Urodyn*. 2019;38:996-1004. <https://doi.org/10.1002/nau.23947>
13. Uren AD., Cotterill N, Hashim H, Worthington J, Kapoor D, Abrams P. International Consultation on Incontinence Questionnaire-Satisfaction: psychometric testing of a new patient-reported outcome measure for the evaluation of satisfaction after urological surgery. *BJU Int*. 2020. <https://doi.org/10.1111/bju.15091>
14. Donovan JL, Peters TJ, Abrams P, Brookes ST, De La Rosette J, Schäfer W. Scoring the short form ICSmaleSF questionnaire. *J Urol*. 2000;164(6):1948-1955.
15. Klovning A, Avery K, Sandvik H, Hunskaar S. Comparison of two questionnaires for assessing the severity of urinary incontinence: the ICIQ-UI SF versus the incontinence severity index. *Neurourol Urodyn*. 2009;28(5):411-415. <https://doi.org/10.1002/nau.20674>
16. Ito H, Young G, Lewis A, et al. Categories for severity of the main symptom scores (ICIQ-MLUTS and IPSS) in male LUTS. *Eur Urol Suppl*. 2019;18(1):e884. [https://doi.org/10.1016/S1569-9056\(19\)30646-3](https://doi.org/10.1016/S1569-9056(19)30646-3)
17. Schünemann HJ, Guyatt GH. Commentary—Goodbye M(C)ID! Hello MID, Where Do You Come From? *Health Serv Res*. 2005; 40(2):593-597. <https://doi.org/10.1111/j.1475-6773.2005.0k375.x>
18. Kelleher CJ, Pleil AM, Reese PR, Burgess SM, Brodish PH. How much is enough and who says so? *BJOG Int J Obstet Gynaecol*. 2004;111(6):605-612. <https://doi.org/10.1111/j.1471-0528.2004.00129.x>
19. Cappelleri JC, Jason Lundy J, Hays RD. Overview of classical test theory and item response theory for the quantitative assessment of items in developing patient-reported outcomes measures. *Clin Ther*. 2014;36(5):648-662. <https://doi.org/10.1016/j.clinthera.2014.04.006>
20. Boone WJ. Rasch analysis for instrument development: why, when, and how? *CBE Life Sci Educ*. 2016;15(4). <https://doi.org/10.1187/cbe.16-04-0148>
21. Sung VW, Griffith JW, Rogers RG, Raker CA, Clark MA. Item bank development, calibration and validation for patient-reported outcomes in female urinary incontinence. *Qual Life Res Int J Qual Life Asp Treat Care Rehabil*. 2016;25(7): 1645-1654. <https://doi.org/10.1007/s11136-015-1222-1>
22. Bailey K, Abrams P, Blair PS, et al. Urodynamics for Prostate Surgery Trial; Randomised Evaluation of Assessment Methods (UPSTREAM) for diagnosis and management of bladder outlet obstruction in men: study protocol for a randomised controlled trial. *Trials*. 2015;16:16. <https://doi.org/10.1186/s13063-015-1087-1>
23. Worthington J, Taylor H, Abrams P, et al. A randomised controlled trial to determine the clinical and cost effectiveness of thulium laser transurethral vaporessection of the prostate (ThuVAP) versus transurethral resection of the prostate (TURP) in the National Health Service (NHS) - the UNBLOCS trial: a study protocol for a randomised controlled trial. *Trials*. 2017;18(1):179. <https://doi.org/10.1186/s13063-017-1916-5>
24. Boyce MB, Browne JP, Greenhalgh J. The experiences of professionals with using information from patient-reported outcome measures to improve the quality of healthcare: a systematic review of qualitative research. *BMJ Qual Saf*. 2014; 23(6):508-518. <https://doi.org/10.1136/bmjqs-2013-002524>
25. Kotronoulas G, Kearney N, Maguire R, et al. What is the value of the routine use of patient-reported outcome measures toward improvement of patient outcomes, processes of care, and health service outcomes in cancer care? A systematic review of controlled trials. *J Clin Oncol Off J Am Soc Clin Oncol*. 2014; 32(14):1480-1501. <https://doi.org/10.1200/JCO.2013.53.5948>
26. Van Der Wees PJ, Nijhuis-Van Der Sanden MW, Ayanian JZ, Black N, Westert GP, Schneider EC. Integrating the use of patient-reported outcomes for both clinical practice and performance measurement: views of experts from 3 countries. *Milbank Q*. 2014;92(4):754-775. <https://doi.org/10.1111/1468-0009.12091>
27. Fautrel B, Alten R, Kirkham B, et al. Call for action: how to improve use of patient-reported outcomes to guide clinical decision making in rheumatoid arthritis. *Rheumatol Int*. 2018; 38(6):935-947. <https://doi.org/10.1007/s00296-018-4005-5>
28. Schüssler-Fiorenza Rose SM, Gangnon RE, Chewning B, Wald A. Increasing discussion rates of incontinence in primary

- care: a randomized controlled trial. *J Womens Health*. 2015; 24(11):940-949. <https://doi.org/10.1089/jwh.2015.5230>
29. Uren AD, Cotterill N, Parke SE, Abrams P. Psychometric equivalence of electronic and telephone completion of the ICIQ modules. *NeuroUrol Urodyn*. 2017;36(5):1342-1349. <https://doi.org/10.1002/nau.23103>
30. Brookes ST, Donovan JL, Wright M, Jackson S, Abrams P. A scored form of the Bristol Female Lower Urinary Tract Symptoms questionnaire: data from a randomized controlled trial of surgery for women with stress incontinence. *Am J Obstet Gynecol*. 2004; 191(1):73-82. <https://doi.org/10.1016/j.ajog.2003.12.027>
31. Bright E, Cotterill N, Drake M, Abrams P. Developing and validating the International Consultation on Incontinence

Questionnaire bladder diary. *Eur Urol*. 2014;66(2):294-300. <https://doi.org/10.1016/j.eururo.2014.02.057>

How to cite this article: Uren AD, Cotterill N, Pardoe M, Abrams P. The International Consultation on Incontinence Questionnaires (ICIQ): An update on status and direction. *Neurourology and Urodynamics*. 2020;1-8. <https://doi.org/10.1002/nau.24437>