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Doing diagnosis: Whether and how clinicians use a diagnostic tool of uncertain clinical utility

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ABSTRACT

Diagnosis is fundamental to the practice of medicine and mastery of it is central to the process of both becoming and practicing as a doctor. We focus on diagnosis as a process, in particular from the perspective of clinicians performing it. We explore how UK clinicians exercise discretion about whether and how to use a diagnostic tool (invasive urodynamic tests – IUT) for which there is, currently, no clear, high-quality evidence. Interviews were conducted with a purposive sample of 18 clinicians who had previously completed a survey on their use of IUT. Analysis was based on the constant comparative method. Participants tended to be polarised in their view of IUT. While many regarded it as a valuable diagnostic tool that they used frequently and thought was important, others reported using it only infrequently, and some were sceptical of its value in the diagnostic process even if they commonly used it. In addition to the anticipated clinical functions (e.g. adding to understanding of the condition, helping determine best treatment) there were additional, more social, functions that IUT could serve, including fitting in with local practice and helping to defend against possible future litigation. We discern two distinct approaches to the practice of diagnosis: one approach means 'leaving no stone unturned' and seeking all available evidence, proven or otherwise; while a second means using clinical judgement to say 'enough is enough' and thereby avoid exposing patients to possibly unnecessary tests and potentially wasting scarce healthcare resources.

1. Introduction

The activity of diagnosis is central to the practice of medicine, but has, to date, not received the focused sociological attention which many have argued it warrants (Blaxter, 1978; Brown, 1995). This is beginning to be remedied with an emergent sociology of diagnosis, which seeks to explore the activity and its outcomes as a prism through which many issues are played out (Jutel and Nettleton, 2011). It is argued that diagnosis serves many functions for patients, clinicians and wider society (Jutel, 2009; Jutel and Nettleton, 2011), and can be understood both as a category and a process (Blaxter, 1978).

The focus of this paper is upon diagnosis as a process, in particular from the perspective of the clinicians performing it. Diagnosis serves a number of functions, including determining the most appropriate treatment and likely prognosis (Jutel, 2009; Jutel and Nettleton, 2011), and mastery of it is central to the process of both becoming and practicing as a doctor (Atkinson, 1995; Brown, 1995). The role of the diagnostician has long had, and continues to have, a central position (Freidson, 1970; Jutel and Nettleton, 2011).

The diagnostic process is not something that happens in a vacuum; there is a variety of factors which may impinge upon it (Brown et al., 2011; Jutel and Nettleton, 2011). The use of increasingly sophisticated diagnostic tools and technologies is one such factor, and is a key focus of this paper. The use of diagnostic tools may function as a way of helping to resolve uncertainty about a set of symptoms or possible illness – by helping to 'make sure' and seek to organize the symptoms into something understandable and manageable (Brown, 1995). However, although diagnostic instruments serve in some senses to objectify aspects of diagnosis, they do not exist independently of those that use them and are not necessarily neutral arbiters of signs and symptoms (Schubert, 2011). Rather, the ways in which these tools are approached and used, and how the results produced are interpreted and made sense

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of in light of other available information, can be a complex process, such that diagnosing has been argued to represent a form of 'situated action' (Suchman, 2007) influenced as much by social context as by technical necessity (Howell, 1995; Schubert, 2011). Saunders' (2008) ethnographic work on the computed tomographic (CT) scanner, for example, explores how CT images are made into diagnostic evidence and the functions they serve for clinicians going about their work. Importantly, Saunders argues that the images generated through CT scanning do not represent knowledge or evidence in and of themselves, but rather the complex of practices known as 'reading' is required in order to form and shape them into diagnostic evidence. It is likely, therefore, that different clinicians will do the work of diagnosis in different ways.

Evidence-based medicine (Sackett et al., 1985) has been proposed as a solution to the problem of practice variation. The idea underpinning evidence-based medicine is that providing clinicians with the best available evidence on specific clinical questions will ensure they are best-placed to deliver optimal care. Indeed organisations such as the National Institute for Health and Care Excellence (NICE) in the UK now spell out in step-by-step fashion how to diagnose and treat patients with a range of conditions. However, while in principle evidence-based medicine may represent an effective way to tackle clinically unwarranted variations in practice, in reality there are many practical barriers to achieving this. One significant obstacle is that in a great many cases there is insufficient, high-quality evidence upon which to make strong recommendations about practice (Timmermans and Oh, 2010; Lambert, 2006). Therefore, while many have voiced fears about the potential for evidence-based medicine to undermine clinical autonomy, discretion and professional judgement – resulting in the rise of so-called 'cookbook medicine' (Harrison, 2002) – there are, in reality, still numerous examples in which it has not yet been possible to discern any 'right' course of action. In these cases, clinicians are still very much operating in what Freidson has characterised as the "zone of discretion" (Freidson, 1994, p.42).

Sociological analysis of the professions in general and of the medical profession in particular, has long paid attention to the exercise of autonomy (Freidson, 1970) or discretion (Evetts, 2002) as a key element characterising the work of professionals. In this paper we focus on how individual clinicians working in the UK exercise their discretion about whether and how they will use a particular diagnostic tool (invasive urodynamic tests – IUT) for which there is, currently, no clear, high-quality evidence to either support or discourage its use in at least some clinical situations. We use this example as a means through which to explore how individual clinicians go about the process of diagnosis and, in particular, to draw out what it means for them to perform the diagnostic process well.

2. Invasive urodynamic tests as a diagnostic tool of uncertain utility

This paper is concerned with the use of IUT in the diagnosis of urinary incontinence (UI). UI, whilst rarely life-threatening, may seriously influence the physical, psychological, and social wellbeing of affected individuals. Prevalence figures for UI range from 5% to 69% in women 15 years and older, with most studies reporting prevalence in the range 25–45% (Milsom et al., 2013). More severe UI is reported in 4–7% of women under the age of 65, and around 5 million women over 20 years of age may be affected in England and Wales (McGrother et al., 2004).

Several methods are used in the assessment of UI in order to evaluate function of the lower urinary tract and guide decisions about the most appropriate way to manage the condition. These include non-invasive tests (such as free urine flow rate and post-void residual volume), but some kinds of testing do require catheterisation (such as conventional cystometry or videourodynamics) and are therefore regarded as invasive.

Despite its relatively widespread use, the appropriate position of IUT in the diagnostic pathway is not currently clear. The UK National Institute for Health and Care Excellence (National Collaborating Centre for Women's & Children's Health, 2006; National Collaborating Centre for Women's & Children's Health, 2013), the UK National Institute for Health Research Health Technology Assessment programme (NIHR-HTA) (Martin et al., 2006), the Cochrane Collaboration (Clement et al., 2013), and the International Consultations on Incontinence (Griffiths et al., 2005; Rosier et al., 2013) have all undertaken systematic reviews on the subject and all emphasize the lack of high quality primary research confirming clinical utility.

In terms of the advice given to those working in this area in the UK, the current guidance from NICE on UI in women suggests that IUT is not required prior to conservative treatments, and that, whilst it may be needed in more complex clinical scenarios, there is no evidence to support its use prior to surgery where the diagnosis of stress UI (SUI) is likely based on clinical assessment alone (National Collaborating Centre for Women's & Children's Health, 2013).

Even if there were proven clinical utility to the investigations, the decision to use them in any particular situation would need to weigh the benefit in outcome against the associated risks. While serious morbidity associated with IUT is rare, anxiety and embarrassment on the part of those experiencing it is common (Shaw et al., 2000) and over a quarter experience pain during investigation (Gorton and Stanton, 1999). In addition, up to 20% of women with sterile urine prior to investigation may develop bacteriological evidence of urinary tract infection subsequently (Powell et al., 1981; Sabanathan et al., 1985; Bombieri et al., 1999; Okorocha et al., 2002). There is also a financial burden to both patient and health services from the investigations; the annual savings from more conservative use of IUT prior to surgery for SUI have been estimated at £3.4 million (Murdoch et al., 2011).

Considerable variation in the use of IUT across the UK has been reported and there has been uncertainty over its reproducibility, accuracy, and standardisation (Rosier et al., 2013). Since the publication of the NICE report on UI in women (National Collaborating Centre for Women's & Children's Health, 2006; National Collaborating Centre for Women's & Children's Health, 2013), a survey has shown a high level of disagreement with the NICE guidance (Basu et al., 2009), and others have questioned the safety of the recommendations (Agur et al., 2009).

The aim of this paper is to explore whether and how clinicians working in this area use IUT in their diagnostic practice around UI, and what place they accord it within that process. In doing so, we draw insights about what doing diagnosis means to clinicians, and in particular what it means to them to perform the diagnostic process well.

3. Methods

The INVESTIGATE-I study was a mixed methods feasibility study including a pragmatic multicentre 'rehearsal' pilot RCT of IUT before surgical treatment for UI in women funded under the UK NIHR-HTA (Murdoch et al., 2011). This study included a national survey of clinicians' views on, and use of, IUT, followed by interviews with a purposively sampled subset of clinicians responding to the survey (Hilton et al., 2012). The survey found that all respondents reported having access to IUT facilities for their patients, with 89% reporting arranging IUT in most patients with SUI or stress predominant mixed UI (this group representing 65–85% of urinary incontinence