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Comment

Good clinical practice can and must include comparative effectiveness research

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Key components of self-improving healthcare systems are their ability to collect baseline data, identify opportunities for improvement, design and implement strategies for change, and measure the effectiveness and other outcomes of the intervention, in a 'virtuous cycle' of continuous improvement. Nowhere is this more clearly outlined than in the process of clinical trials of new interventions. The concept of development and implementation of new evidence is straightforward, but can be very difficult to achieve in practice. Cultural and infrastructural issues present significant barriers to achieving the ideal of continuous and consistent derivation of evidence to support changes in practice.

The major cultural barrier is the misconception that research is somehow fundamentally different from usual clinical practice, and that participation in research presents significant risk to participants and therefore also to institutions. There may be elements of truth in this when testing new and unapproved drugs or devices, where a degree of uncertainty still surrounds the experimental intervention. In another sense, such research simply forms part of the continuum of care, with the overarching aim of improving outcomes for individuals and the wider community, and can be considered as part of the framework of high-quality clinical care. The misconception is certainly not true in the case of comparing existing practices against each other, in so-called comparative effectiveness research (CER). Conceptually, in a conventional intervention research study there is a 'standard-of-care' (SOC) arm for which there is good evidence of defined safety and effectiveness; however, in CER, by definition, there is no agreed SOC: any of the arms of the study being used could rationally be argued to be SOC. Some institutions and human research ethics committees find this concept to be profoundly challenging, and indeed there can be a cultural notion that randomization of care in this way makes the treatment and the research 'high risk' by definition. This notion is patently absurd. Chalmers and Silverman [1] articulated this confused ethical analysis as follows:

Illogically, and with no empirical evidence to support it, a mischievous view has been promoted that the interests of the vast number of patients involved in the poorly controlled experiments of informal medical 'tinkering' are less in need of protection than those of the relatively small number of patients who are involved in planned, properly controlled clinical experiments.

Wherever possible, when there is uncertainty about the effectiveness or safety of a procedure or model of care, the procedure or the model must be delivered within the context of a properly designed trial. Only in this way can useful data be collected and analysed, allowing movement toward achieving a framework of constant improvement in the healthcare system.

At the level of infrastructure, clinical trials are often regarded by health services as a burden, in terms of financial models, management and governance structures, and individual and institutional risk. Models for implementation of evidence derived from CER studies either do not exist, or are considered in the same way as adoption of expensive new drug or device therapies, even when high-quality CER evidence is collected. The cost of maintaining the same standards as a new drug trial for practices that are delivered every day is prohibitive and the burden has been recently documented in Australia [2,3]. Part of the governance review involves funding and resource management. There is a clear lack of understanding about whether SOC interventions should be funded by the trial or can be absorbed by the health service, as ordinarily would occur without question if the CER trial had not been performed. Our own personal experience of this resulted in determinations by the Federal Department of Health and by the Australian Health Ethics Committee that Medicare or State Hospital funding could be used in clinical trials. Clarity on this matter is of obvious importance for all funders of healthcare and those who deliver it.

In urology, as in all other clinical areas, an increasing awareness of patient-centred outcomes has emerged and

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become a cornerstone of any research. Indeed, urologists have been at the vanguard of Enhanced Recovery After Surgery (ERAS) activities aimed at improving the welfare of every patient undergoing surgery. Whilst there is a reasonable emphasis on innovative practice, the unsung activities aimed at subtle incremental advances in patient welfare are, over time, no less significant in their impact. Collectively, these activities improve the lives of countless patients and their families, reduce costs and, in instances such as effective infection control, can save as many lives as breakthrough drug development. The present cultural approach to managing these kinds of studies, however, dissuades all but the most ardent practitioners from engaging, and the relative lack of funding and prestige for them compared with those involved in discovery research provides further disincentive.

Recently, we reported on a survey of unmet needs in a large cohort of men who had undergone robot-assisted radical prostatectomy [4]. The purpose of the study was to identify new areas for research relevant to these men and to identify some scale to the issues to inform the design of future studies, such as how to power them effectively. The study clearly identified high levels of satisfaction and good outcome with this procedure but a clear need to manage postoperative complications, such as nausea and vomiting. Nevertheless, there is still no national or international coordinated data repository that facilitates identification of clinical variation that can be addressed through research. Some safeguards and work practices to implement this are in place, as outlined in a recent editorial in the *BJUI* [5], and these are achievable with the right will; however, if we are to undertake routine studies to address patient-centric needs we must also fix the cultural and structural barriers that regard CER clinical trials of SOC. Not only does such research underpin clinical care, it should be a key component of routine clinical care and quality improvement, with metrics set as requirements for health services and Chief Executive Officers [6]. Our patients report to us their astonishment about the barriers faced in doing research in their interests. We owe this much to them.

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Conflict of Interest

Ian D. Davis is unremunerated director and Chair of ANZUP Cancer Trials Group, a cooperative group performing clinical trials in genitourinary cancers.

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Abbreviations: CER, comparative effectiveness research; SOC, standard of care.