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Case Study

A Case Study of Digitally Enabled Urodynamics Care for Incontinence Patients

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Abstract

Urodynamic Studies is an umbrella term for techniques used to study urinary incontinence or Lower urinary-tract Symptoms, often carried out when surgical intervention is being considered as treatment. Despite being commonly applied in clinical practice, guidance regarding UDS still needs stronger evidence to support clinical decision-making and improve the share of patients who have their outcomes changed by these tests. With the aim of increasing the number of patients who are appropriately referred to UDS and streamlining the communication between clinicians, a digital referral pathway that makes use of nudge theory for UDS was implemented in George Eliot Hospital, Nuneaton. This case study highlights the rationale behind such a pathway and the preliminary results of the ongoing second cycle of the Plan Do Study Act (PDSA) project that was implemented.

Keywords: Urodynamics; George Eliot Hospital; Urodynamic Studies (UDS

Introduction

Incontinence remains a most bothersome symptom to many men and women, having a direct negative impact on their quality of life [1,2]. Worldwide, it is estimated that 8% of the population must live with this condition [3]. In cases in which a conservative approach to treatment has failed to produce optimal results and an invasive alternative is being considered as an intervention to control symptoms of incontinence, Urodynamic Studies (UDS) are employed in order to find the root cause of incontinence and whether a surgical approach would be beneficial [4]. The use of design choices as a means of purposefully influencing human behaviour, albeit in a non-restrictive way, is known by term "nudge" [5].

Case Study

In George Eliot Hospital, a small district hospital in the heart of the United Kingdom, paper referrals were the norm when referring patients with incontinence to UDS. This process would often lead to last-minute cancellations due to inappropriate referrals that were not in line with international guidelines. In addition to being a referral system prone to decision noise, this was a non-optimized pathway from the perspective of auditing and service improvement, as no automated processes were in place and feedback systems to the referring physician were absent (Figure 1).

Figure 1: Paper-based referral pathway.

Amidst this context, we devised a digital pathway in 2019 that would allow physicians to make more appropriate referrals by using elements of nudge theory at the point of the request (Figure 2). This consisted of replacing the paper-based format for an electronic referring module, linked to the patient's electronic records and therefore easily accessible from any Trust computer. Such a form was designed with clinical questions that would prompt the physician to go through with the request only if the appropriate conservative treatment measures had already taken place. These referrals would then be audited and analysed before being relayed to the requesting physicians.

Figure 2: New Digitally enabled referral pathway

After the first of a three-cycle Plan Do Study Act (PDSA) project showed that 37.5% of UDS appointments were cancelled on the day because of indications not meeting the criteria established in the international guidelines, the electronic referral form was implemented. Preliminary results of the second PDSA cycle show a total of ten referrals done through the new digital pathway, with no cancellations recorded in this cohort. Despite the small sample size of this ongoing cycle, this already points toward better compliance to guidelines regarding the referral of patients to UDS. At the end of this cycle, the results will be relayed back to the referring clinicians, allowing them to polish their future referrals. This will then be assessed on the third and final PDSA cycle.

Discussion and Conclusion

In times when digital solutions are permeating ever more processes in the setting of healthcare, these preliminary results indicate that the implementation of a streamlined electronic referral system can influence clinical decision-making and shape the effectiveness and efficiency of clinical pathways within a hospital. In this sense, identifying an issue, employing appropriate planning and designing effective nudging elements to tackle it can aid in decreasing decision noise and moulding more congruent behaviour from the medical workforce in face of the clinical choices addressed by such design.

Conflict of interest

The authors declare no conflict of interest.

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