

# IUFlow: A feasibility study for a novel digital home bladder diary and uroflowmetry device

## Organisation(s) Involved

## Project Lead and Members

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## Project Period

8 July 2022 to 30 June 2024

## Background

A voiding diary is an important diagnostic tool to assess urinary tract symptoms. Traditional paper based voiding diaries have a notoriously poor compliance rate. IUFlow is a new portable device allowing to measure uroflowmetry in a patients own home and electronic recording of a bladder diary.

## Aims

In this study, we aim to demonstrate the feasibility of using IUFlow in our local population. Our hypothesis is that an automated bladder diary will improve compliance and is a preferred method of choice for our patients. Having multiple uroflow readings will also help in the diagnosis and management of our patients with lower urinary tract symptoms.

## Methodology

Patients in our specialist outpatient clinics were assessed and those who warranted a bladder diary as part of the work up were recruited into our study. Patients were offered an option of joining this study versus the traditional paper bladder diary. At follow up, a likert-scale questionnaire was administered looking at 3 main components: Confidence in usage, ease of usage and preference in choice.

### Survey questionnaire

1) How confident were you in using IU flow when given the device for the first time after explanation by the clinic staff?

Fully confident  Fairly confident  Not confident

2) After using IU flow, how easy/difficult did you find its usage?

Easy  Fair  Difficult

3) Do you prefer using IUflow or the physical bladder diary (if applicable)?

IUFlow preferred  Equivocal  Physical diary preferred

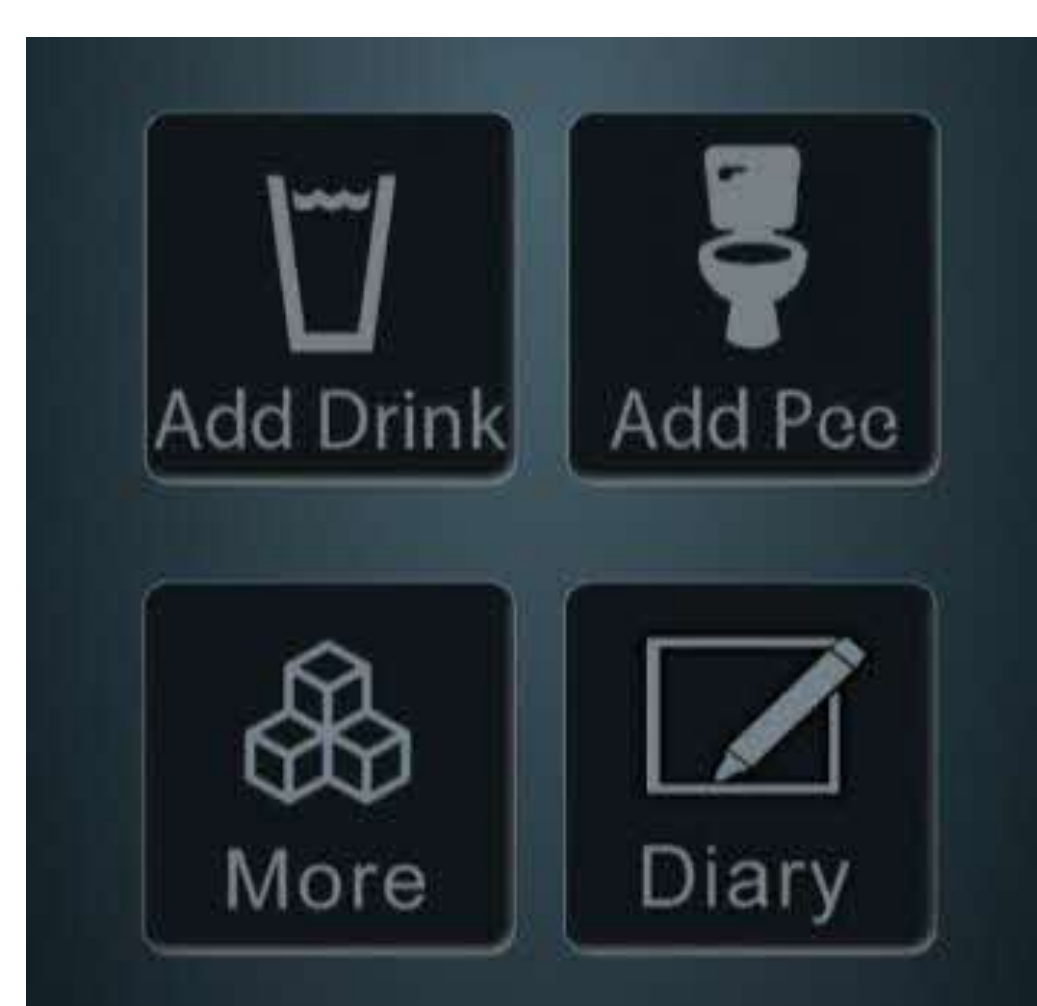


Fig 1: IUFlow device and app interface

## Results

A total of 13 patients were recruited during the study period. 11/13 (85%) of patients reported that the device was easy to use. 9/13 (69%) of patients preferred the IU device and 1/13 (7%) of patients preferred the paper diary. Completion rate was 100%.

	Fully confident	Fairly confident	Not confident
Confidence in using the device	8 (61%)	5 (39%)	0
	Easy	Fair	Difficult
Ease of use	11 (85%)	2 (15%)	0
	IUFlow preferred	Equivocal	Paper preferred
Preferred choice	8 (61%)	4 (31%)	1 (8%)

Table 1: Results of survey

## Lessons Learnt / Discussion

- Budget for import fees if bringing in product from overseas
- Start HSA approval process early
- Local population are adept at apps despite age
- Involve stakeholders early (nursing, research coordinator, medical officers etc.)

## Conclusion / Plans Ahead

The IU device is an easy to use and convenient alternative to the paper bladder diary. It allows for easy charting of a bladder diary which can increase patient compliance, as well as having the advantage of measuring uroflowmetry in the patients own home which can open the doors for teleconsultations and remote monitoring for these patients.

## Healthcare Family Group(s)

Medical, Nursing

## Specialty or Discipline(s)

Urology