OBJECTIVES
To assess the specific operator experience and training needs with a semi-automated robotic colonoscopy (RC) platform as a method of improving access to colonoscopy.

INTRODUCTION
Video-colonoscopy, considered a gold-standard for diagnosis of colorectal cancer, is an invasive and uncomfortable procedure often resulting in low patient compliance. A change in the technological paradigm with a semi-automated robotic platform could potentially overcome these challenges.

METHODS
Participants
This study involved participants with various degrees of skill and background knowledge in the field of colonoscopy.

Study design
All participants performed colonoscopies on a ‘colonoscopy suitcase’ model developed at the WIMAT centre with the RC. The participants were instructed in the controls and given an abbreviated practice training session. They were then asked to intubate with the novel device platform with a target to get to the caecum and try to identify the inserted lesions both during scope insertion and withdrawal.

RESULTS
On average, experts required the shortest time to reach the caecum, followed by video gamers, trainees and novices (Fig. 1).

RESULTS CONT.
The majority of the participants detected more lesions on the scope withdrawal than during scope insertion (Fig. 2).

Fig. 2 Polyp detection rates for participants during different manoeuvre (I – insertion, W – withdrawal)

All of the endoscopists who participated in the follow-up session were able to rapidly improve their performance (Fig. 3).

DISCUSSION
After the procedure the participants filled out a questionnaire evaluating the RC with regard to its strengths, limitations and potential application in clinical practice. The majority of the participants see the potential role of RC in an out of hospital environment (Fig. 4).

CONCLUSION
Considering that this was a pilot feasibility study, the results are promising. All of the endoscopists successfully completed the session and showed that there is a potential for rapid improvement of performance. This project is the first step in the assessment of specific training needs and developing a training programme in robotic endoscopy.

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