Self-efficacy in people with prostate cancer in the UK: a large digital survey

Joe M O'Sullivan,[1] Stephen Allen,[2] Nina Yeh,[3] Manjusha Chatterjee,[3] Sophia Le Mare,[4] Aline Bettin,[4] Reiner Lehmann[5]

[1]Queen's University Belfast, Belfast, Northern Ireland, UK; [2]Tackle Prostate Cancer, London, UK; [3]AstraZeneca, Cambridge, UK; [4]AstraZeneca, London, UK; [5]Don'tBePatient Intelligence GmbH, Hamburg, Germany
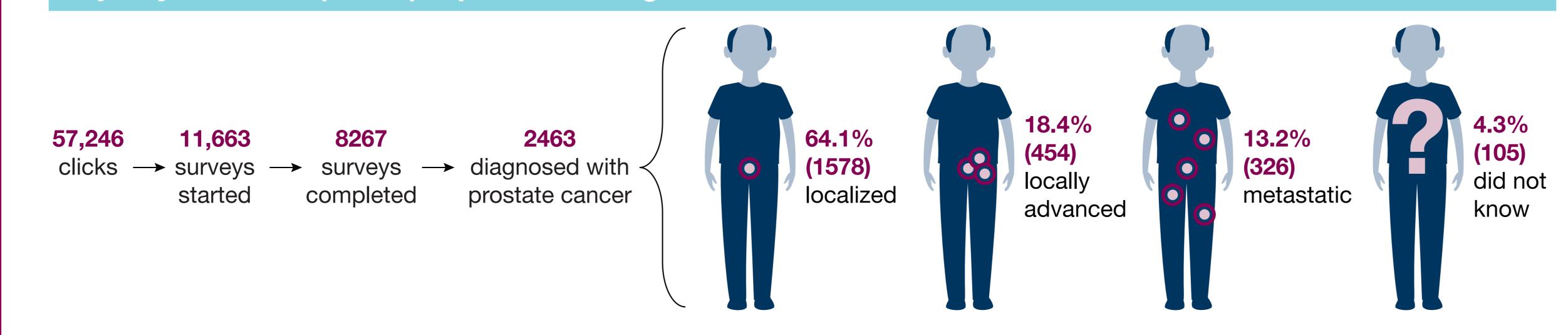
Introduction

- Self-efficacy is a term used in psychology to describe a person's belief in their own ability to complete a given task or manage a specific situation.[1]
- In a clinical environment, patients diagnosed with prostate cancer can have long and varied treatment pathways involving complex treatment options, limited healthcare resources, increasing use of digital technology and higher expectations of self-responsibility.
- The advantages of strong self-efficacy behaviour in a patient could, for example, enable them to stay on treatment longer, seek support or involvement with self-help groups when needed and engage more effectively with healthcare professionals (HCPs).
- We report here from an anonymous, online digital survey that assessed self-efficacy in patients diagnosed with prostate cancer.

Methods

- A voluntary, anonymous, online digital survey aimed at patients ≥45 years old diagnosed with prostate cancer living in the UK was conducted in four non-consecutive weeks between 31 July and 11 September 2023.
- Awareness was generated through advertisements on social media (Facebook, Instagram) and an email newsletter distributed by a patient organization.
- Patients were asked, for example, about their disease stage, current and past therapies, experience with HCPs, use of digital tools (such as telemedicine, remote monitoring, patient-reported outcomes), involvement in shared decision-making and self-efficacy. To increase responsiveness, predefined answers were selected and no free text fields were available.
- Self-efficacy was measured using the Cancer Survivor Self-Efficacy Scale (CS-SES) and Cancer Behaviour Inventory-Brief Version (CBI-B) (optional), in which a patient responds to a series of questions by rating how confident they feel managing a particular situation related to their treatment (**Supplementary Tables 1a and b**).
- Self-efficacy measurements were then correlated against questionnaire responses by Spearman's rank correlation coefficient (Python).

Objective

- Patients diagnosed with cancer are increasingly required to help manage for themselves aspects of their disease and its treatment.
- In psychology, self-efficacy is the belief in one's own ability to manage a specific situation. The term can also be applied to the clinical environment to describe a patient's ability to manage specific situations related to their diagnosis outside of their scheduled clinic visits.
- We assessed, through use of an anonymous, online digital survey, how confident patients diagnosed with prostate cancer are in their self-efficacy abilities and whether digital support tools improve self-efficacy.

Conclusions

- In our survey in patients diagnosed with prostate cancer, a higher health-related quality of life (HRQoL, assessed by Functional Assessment of Cancer Therapy–Prostate [FACT-P] total score) was strongly related to higher self efficacy levels.
- Shared decision-making and digital support tools also contributed to self-efficacy.
- These factors are within the remit of the patient's clinician/organization; their further use and the impact on self-efficacy should be evaluated systematically.

Plain language summary

Why did we perform this research?
- Patients diagnosed with cancer are increasingly involved in the management of their disease and its treatment.
- 'Self-efficacy' is a person's belief or confidence that they can manage a particular situation.
- We wanted to understand patients' sense of self-efficacy when managing their prostate cancer as patients with strong self-efficacy are more likely to:
  – Stay on their treatments
  – Seek support when needed
  – Engage with their healthcare team outside of their scheduled visits
- We therefore investigated the needs and behaviours of patients with prostate cancer that are likely to influence their confidence in self-efficacy.

How did we perform this research?
- We developed an anonymous online survey for patients with prostate cancer to complete.
- Awareness of the survey was made mainly through social media advertising (Facebook, Instagram).
- Patients completed the survey by responding to a series of questions about their prostate cancer and how confident they feel managing situations related to their disease or treatment.
- Self-efficacy itself was measured using the Cancer Survivor Self-Efficacy Scale (CS-SES) and Cancer Behaviour Inventory-Brief Version (CBI-B) questionnaires, which ask the patient a series of questions about how confident they feel managing a particular situation related to their treatment.

What were the findings of this research?
- We found higher health-related quality of life (HRQoL) scores, which describe a patient's physical, mental, and social wellbeing, were most strongly related to higher self-efficacy levels. HRQoL scores were measured by FACT-P, which is a questionnaire that allows a patient to evaluate their own health status. As such, patients with higher FACT-P scores (ie who considered themselves to be less ill than those patients who had lower FACT-P scores) showed the strongest self-efficacy behaviour.
- Involvement in decision-making about their treatment and using digital support tools also aligned with self-efficacy, but level of education, type of hospital (NHS, private, university), or age did not.

What are the implications of this research?
- The factors that most strongly correlated with self-efficacy, such as HRQoL, shared decision-making and use of digital support tools can be controlled by a patient's healthcare team.
- Healthcare providers should routinely review patient self-efficacy and how this can be supported.

Where can I access more information?
- For further information about this study, please contact Professor Joe O'Sullivan, joe.osullivan@qub.ac.uk.

Poster
Supplementary material

Additional supplemental information can be found using the quick response (QR) code. Copies of this poster obtained through QR (Quick Response) and/or text key codes are for personal use only and may not be reproduced without written permission of the authors.

Results and interpretation

Figure 1. Completed surveys were received from 2463 patients self-reported with prostate cancer, the majority of whom (64.1%) reported having localized disease

57,246 clicks → 11,663 surveys started → 8267 surveys completed → 2463 diagnosed with prostate cancer

64.1% (1578) localized
18.4% (454) locally advanced
13.2% (326) metastatic
4.3% (105) did not know

Patient demographics and baseline disease characteristics

- Median age of all patients was 69 years (69, localized disease; 70, locally advanced; 70, metastatic).
- Median time since diagnosis was 36 months for all patients (32, localized disease; 42, locally advanced; 49, metastatic).

Figure 2. Patients' education level was high

	All	Localized	Locally advanced	Metastatic
Prefer not to say	2.8 (70)	3.0 (48)	2.4 (11)	2.5 (8)
Primary school or no formal education	1.2 (29)	1.2 (19)	0.2 (1)	2.1 (7)
Secondary school up to 16 years of age	27.6 (680)	27.8 (438)	24.2 (110)	28.5 (93)
Higher education (eg A-levels)	18.4 (453)	18.6 (293)	17.8 (81)	18.7 (61)
College or university graduate	50.0 (1231)	49.4 (780)	55.3 (251)	48.2 (157)
Patient, n	2463	1578	454	326

Figure 3. The majority of patients knew their Gleason score

	All	Localized	Locally advanced	Metastatic
Prefer not to say	2.5 (62)	2.8 (44)	1.5 (7)	2.5 (8)
No	27.9 (688)	27.9 (440)	22.9 (104)	31.3 (102)
Yes, but I only know the total score	24.4 (602)	24.0 (378)	24.7 (112)	27.0 (88)
Yes, I know the two separate scores	45.1 (1111)	45.4 (716)	50.9 (231)	39.3 (128)
Patient, n	2463	1578	454	326

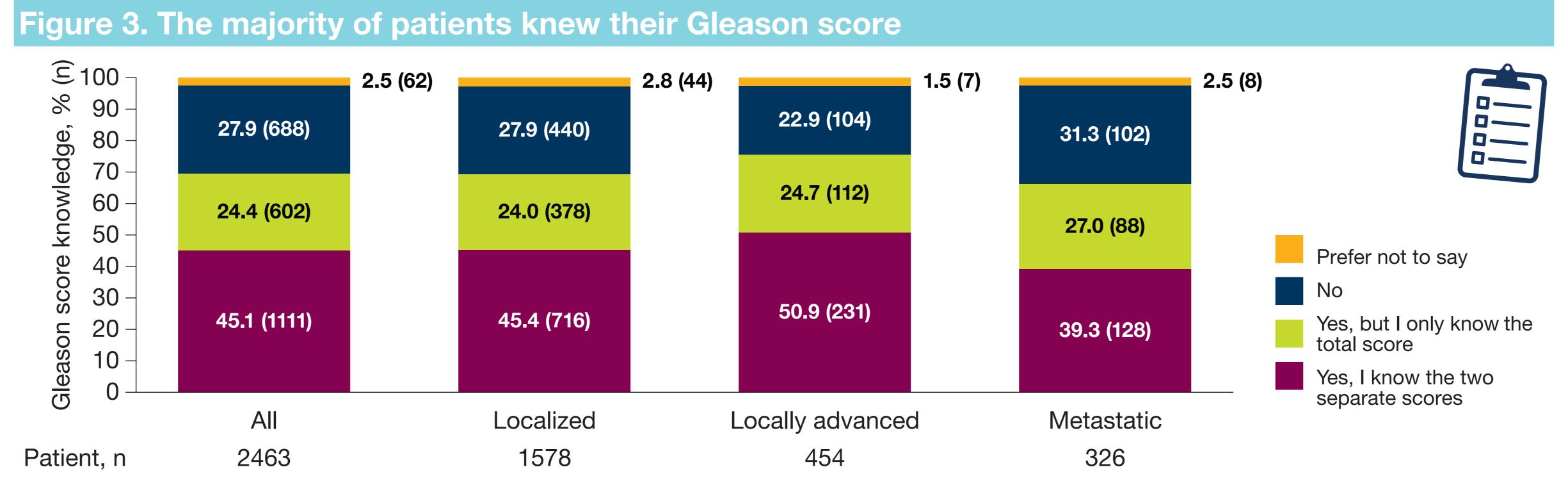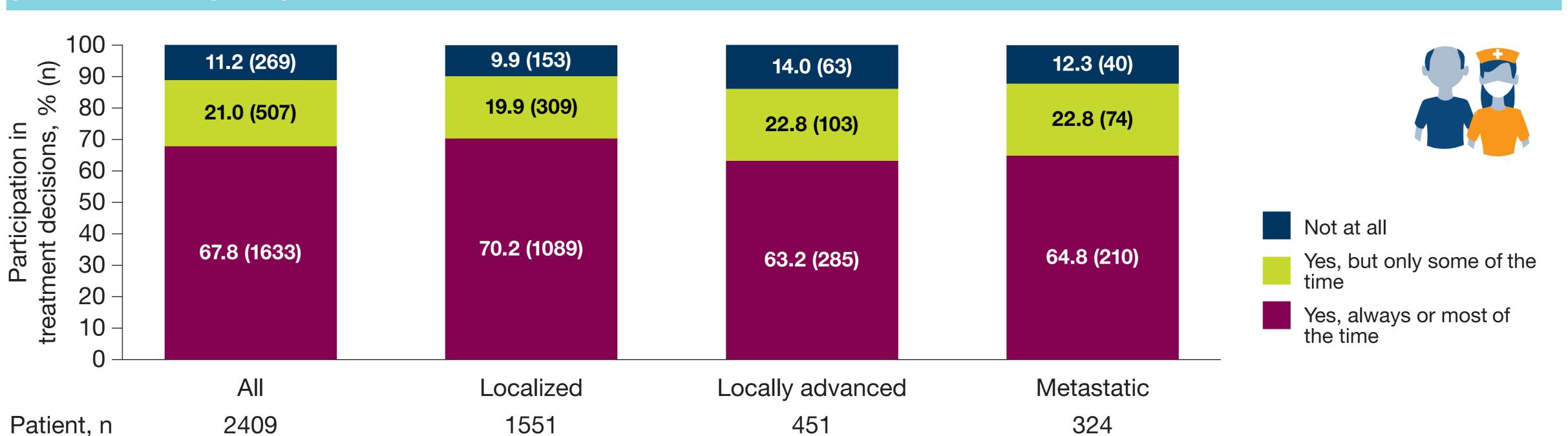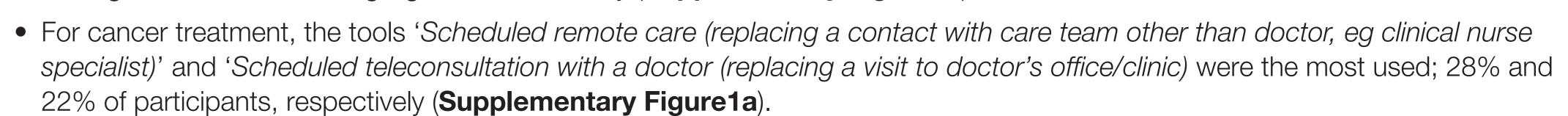### Figure 4. The majority of patients were involved in shared decision-making with their healthcare professional (HCP)

	All	Localized	Locally advanced	Metastatic
Not at all	11.2 (269)	9.9 (153)	14.0 (63)	12.3 (40)
Yes, but only some of the time	21.0 (507)	19.9 (309)	22.8 (103)	22.8 (74)
Yes, always or most of the time	67.8 (1633)	70.2 (1089)	63.2 (285)	64.8 (210)
Patient, n	2409	1551	451	324

Patients' use of digital tools was low

- The use of digital tools or telehealth communication options among all patients was limited; 59–86% of patients had never used the digital tools that were highlighted in the survey (**Supplementary Figure 1a**).
- For cancer treatment, the tools 'Scheduled remote care (replacing a contact with care team other than doctor, eg clinical nurse specialist)' and 'Scheduled teleconsultation with a doctor (replacing a visit to doctor's office/clinic)' were the most used; 28% and 22% of participants, respectively (**Supplementary Figure 1a**).
- Although the proportion of patients who had used digital tools was small, between 21% and 44% of patients who had used such tools reported their use 'helped a lot', most commonly for 'Medication and other reminders' followed by 'Reading or sharing my electronic health records' (**Supplementary Figure 1b**).

Table 1. CS-SES, CBI-B and FACT-P total score were assessed as part of the survey

	All (n=2463)	Localized (n=1578)	Locally advanced (n=454)	Metastatic (n=326)	Context
FACT-P total score, median	111	115	106	104	FACT-P score range: 0–156; higher scores indicate better health-related quality of life
CS-SES, median	7.3	7.6	7.1	6.5	In a study of various cancer types the median value a year after primary treatment was 6.9 (range: 1–10; higher score = greater self-efficacy)[2]
CBI-B, median	86 n=1589	88 n=1001	86 n=296	83 n=222	CBI-B score range: 0–120; higher scores indicate higher self-efficacy

CBI-B, Cancer Behaviour Inventory-Brief Version; CS-SES, Cancer Survivor Self-Efficacy Scale; FACT-P, Functional Assessment of Cancer Therapy–Prostate

CS-SES and CBI-B scales were strongly connected to level of participation in decision-making

- A trend across all three subgroups showed that patients who actively participated in shared decision-making always had higher CS-SES and CBI-B scores than those who did not participate at all (**Supplementary Figure 2**).
- The highest scores for patients who participated in shared decision-making were recorded in patients with local disease (median score: CS-SES 8.1; CBI-B 92). For those who did not participate, the lowest scores were recorded for patients with metastases (median score: CS-SES 5.7; CBI-B 72).

Table 2. HRQoL assessed by FACT-P total score provided the strongest correlation to self-efficacy

Correlation with self-efficacy	Disease stage	Sample size, n	Correlation coefficient
Positive correlation			
HRQoL assessed by FACT-P total score	All	2463	0.791
	Local	1578	0.781
	Advanced	454	0.787
	Metastatic	326	0.770
Actively involved in shared decision-making	All	2409	0.338
	Local	1551	0.356
	Advanced	451	0.282
	Metastatic	324	0.271
Digital tool: Ad-hoc reporting of medical issues to my care team	All	609	0.393
	Local	336	0.392
	Advanced	142	0.436
	Metastatic	105	0.405
Digital tool: Scheduled teleconsultation	All	931	0.362
	Local	530	0.392
	Advanced	199	0.384
	Metastatic	169	0.317
Digital tool: Scheduled remote care	All	1002	0.347
	Local	606	0.356
	Advanced	206	0.293
	Metastatic	154	0.412

Values closer to 1 indicate the strongest correlation to self-efficacy. FACT P, Functional Assessment of Cancer Therapy–Prostate Cancer questionnaire

- Self-efficacy was also positively correlated with shared decision-making, and satisfaction with digital tool use to engage with HCPs and aid self-management.
- No correlation was observed for age, level of education or type of hospital (NHS, private, university) (**Supplementary Table 2**).

References

1. Bandura A. Self-efficacy: The exercise of control. New York, NY: WH Freeman, 1997.
2. Foster C et al. J Cancer Surviv 2015;9:11–19.