Expert Consensus Survey on Digital Health Tools 2015

Question 1. Characteristics of PATIENTS that affect ability to engage with and use a digital health tool. How much do you believe the following patient characteristics affect the chances that a patient can successfully engage with and use a digital health tool? In answering this and subsequent questions, please consider the type of digital health tool(s) with which you have the most experience. (Please rate each item on a scale from 1 to 9 with: 1 = likely to make it very difficult for person to engage with and use, 5 = not likely to influence ability to engage with or use, and 9 = extremely likely to promote engagement and ability to use.)

1a. Patient Characteristics

	95%	CON	IFIDEN	CE IN	TER	VALS				Tr of	1st	2nd	3rd
	Third Line	5	Secono	d Line	;	Firs	Line	N	Avg (SD)	Chc	Line	Line	Line
Interest in using state-of-the-art technology							*	39	8.0 (1.5)	54	90	8	3
Resources that facilitate access to treatment (availability of Wi-Fi or data plan, applicable hardware, insurance coverage)						I		40	7.8 (1.0)	25	93	8	0
Positive expectations on the part of the patient about using a digital health tool								40	7.8 (1.0)	28	90	10	0
Owns and uses a smart phone/computer/tablet								40	7.8 (0.9)	23	90	10	0
Positive social support (i.e., patient has an involved significant other or caregiver)								40	7.4 (0.9)	10	90	10	0
< 18 years old								40	7.3 (1.8)	33	78	18	5
18-44 years old								40	7.3 (1.2)	18	73	28	0
Bachelor's degree or more education								40	7.0 (1.0)	5	70	30	0
High school or more education								40	6.1 (1.1)	0	43	55	3
Female gender								40	5.6 (1.1)	3	23	78	0
45-64 years old								40	5.6 (1.2)	0	28	70	3
Currently married								40	5.5 (0.9)	0	15	85	0
Male gender								40	5.5 (1.2)	3	23	73	5
Minority status				1				40	4.8 (1.0)	0	5	85	10
Low socioeconomic status								40	4.0 (1.2)	0	5	60	35
Did not complete high school			_]					40	3.8 (1.0)	0	0	63	38
65+ years old								40	3.7 (1.5)	0	5	43	53
Low health literacy		П						40	3.4 (1.1)	0	0	43	58
Severe psychosocial stressors (e.g., poverty, general medical problems, abusive relationship, legal problems)								40	2.9 (1.2)	0	0	28	73
Low IQ								40	2.9 (0.8)	0	0	18	83
None or minimal knowledge/ability/comfort using technology (e.g., computers, tablets, mobile phones)								39	2.7 (0.9)	0	0	15	85
Low literacy (i.e., reading ability)/numeracy								40	2.4 (0.8)	0	0	5	95
Low motivation								40	2.2 (0.9)	0	0	5	95
Serious level of chaos and disorganization in the person's life/environment								40	2.1 (0.9)	0	0	8	93
1	. 2 3	4	1 5	5	6	7	8	9	1	%	%	%	%

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1b. Disorders, Signs, and Symptoms

		95% (CONFIE	DENCE I	NTER	VALS				Tr of	1st	2nd	3rd
	Third I	Line	Sec	ond Li	ne	First	Line	N	Avg (SD)	Chc	Line	Line	Line
Good occupational functioning								39	6.9 (1.1)	3	74	26	0
Diagnosis of bipolar disorder								40	5.2 (1.1)	3	10	85	5
Diagnosis of major depressive disorder								40	5.0 (1.3)	3	13	78	10
Non-suicidal self-injurious behaviors								40	5.0 (0.6)	0	3	98	0
Suicidal ideation								40	4.7 (1.2)	0	3	80	18
Multiple previous episodes								40	4.6 (1.0)	0	0	88	13
Diagnosis of schizophrenia								40	4.5 (1.2)	0	5	75	20
Longer duration of illness								40	4.5 (1.3)	0	5	73	23
Sensitivity to overstimulation]				40	4.2 (1.3)	0	5	65	30
Presence of Axis II comorbidity								40	4.1 (1.1)	0	0	75	25
Multiple comorbid Axis I disorders								40	3.9 (1.2)	0	0	60	40
Greater severity of delusions/paranoia								40	3.6 (1.3)	0	0	53	48
Aggression/agitation								40	3.5 (1.3)	0	0	55	45
Acute substance use								39	3.3 (1.3)	0	0	49	51
Low energy/fatigue								40	3.3 (0.9)	0	0	45	55
Low frustration tolerance								40	3.0 (0.9)	0	0	28	73
Greater severity of negative symptoms								39	2.9 (1.4)	0	0	31	69
Greater severity of disorganization symptoms								40	2.9 (1.3)	0	3	25	73
Greater severity of neurocognitive impairment								40	2.8 (1.2)	0	0	28	73
1	1 2	3	4	5	6	7	8	9		%	%	%	%

1c. Appraisals and Patient Experience

	Ģ	95% (CONFID	ENCE	INTER	RVALS				Tr of	1st	2nd	3rd
	Third L	ine	Seco	ond L	ine	First	Line	N	Avg (SD)	Chc	Line	Line	Line
Perception of digital treatment as beneficial								39	8.2 (0.7)	33	100	0	0
Agreement with tasks and goals of digital treatment								40	7.9 (0.8)	28	98	3	0
Self-efficacy beliefs about being able to use/operate the device								40	7.9 (0.9)	28	90	10	0
Positive bond with healthcare professional (good therapeutic alliance)								40	7.7 (0.9)	18	90	10	0
Willingness to complete tasks/homework between treatment sessions								39	7.7 (0.9)	18	90	10	0
History of good adherence to medication and other treatment							I	40	7.4 (0.9)	15	85	15	0
Readiness to change								40	7.3 (1.1)	13	78	23	0
Psychological mindedness								40	6.7 (1.0)	0	63	38	0
Engagement with mutual help organizations and/or peer support groups								40	6.6 (1.2)	5	50	50	0
Stigma/discomfort/social anxiety about seeking face-to-face care for mental or behavioral problems				I				40	5.9 (1.6)	5	35	55	10
Negative past experience with treatment								40	3.6 (1.4)	0	0	53	48
Limited insight into disorder								40	3.3 (1.3)	0	0	43	58
1	1 2	3	4	5	6	7	8	9		%	%	%	%

Question 2. Characteristics and Resources of HEALTH CARE PROFESSIONALS (HCPs). How helpful do you believe the following characteristics and resources are in enabling HCPs to successfully incorporate digital health tools in their practices? (Please rate each item on a scale from 1 to 9 with 1 = not at all helpful 5 = somewhat helpful 9 = extremely helpful)

		95%	Confi	DENCE	Inter	VALS				Tr of	1st	2nd	3rd
	Third	d Line	Sec	cond Li	ne	Firs	t Line	Ν	Avg (SD)	Chc	Line	Line	Line
HCP enthusiastic about/willing to work with patients using digital health tools							*	40	8.5 (0.6)	55	100	0	0
Availability of staff to support the ongoing use of the prescribed technology (e.g. make follow-up phone calls, monitor progress)							*	40	8.3 (1.0)	50	95	5	0
Availability of necessary equipment (e.g. computers, broadband internet if needed, mobile devices) for delivering patient treatment on a regular basis							*	40	8.2 (1.0)	50	95	5	0
Availability of staff with technology skills to teach patients how to use technology initially								40	8.1 (1.1)	40	95	5	0
Availability of necessary equipment (e.g. computers, broadband internet if needed, mobile devices) for patient use in the office for training								40	8.0 (1.0)	40	90	10	0
HCP is experienced in using computers in practice								40	7.6 (1.0)	25	85	15	0
HCP has familiarity with smart phone technology								39	7.6 (1.0)	26	85	15	0
Availability of free trial version of tools								40	7.5 (1.0)	13	88	13	0
Availability of a digital health tool that is consistent with the HCP's preferred theoretical orientation (e.g., a digital CBT tool for a therapist trained in CBT)								40	7.5 (1.2)	18	80	20	0
Availability of 24/7 call center to provide technical support for HCP and patients								40	7.4 (1.5)	23	80	18	3
HCP is ≤ 40 years old								40	6.4 (1.8)	10	58	35	8
1	1 2	3	4	5	6	7	8	9		%	%	%	%

Question 4. Potential benefits of using a digital health tool for PATIENTS. Assume the items below have been demonstrated to be benefits of using a digital health tool for patients with psychiatric disorders. For each, please rate how likely you believe it would be to motivate a patient to use the digital health tool. (Please rate each item on a scale from 1 to 9 with 1 = not at all likely to motivate patient 5 = somewhat likely to motivate patient 9 = extremely likely to motivate patient)

patient 5 Somewhat likely to motivate patient 5		•	•			•	,			T., - f	14	JI	21
			CONFIL						. (65)	•	1st	2nd	3rd
	Third L	ine	Sec	ond L	ine	Firs	t Line	N	Avg (SD)	Chc	Line	Line	Line
Improved functioning (e.g., social and work functioning)								40	7.9 (1.3)	38	93	5	3
Reduced symptomatology								40	7.8 (1.2)	30	83	18	0
Receiving feedback/support from clinicians via the digital health system between face-to-face sessions								39	7.6 (1.1)	21	85	15	0
Ability to engage with HCP periodically after discharge from face-to-face sessions								40	7.5 (1.1)	18	78	23	0
Increased interaction with treatment team via digital health device in geographic areas where face-to-face access to HCPs is limited								40	7.4 (1.5)	25	78	20	3
Increased confidence/self-efficacy and hope related to his or her health care								40	7.4 (1.3)	23	75	23	3
Reduction in number of hospitalizations								38	7.1 (1.9)	26	76	16	8
Elimination or reduction of problems with transportation to treatment							_	40	7.0 (1.3)	10	68	33	0
More personalized/tailored treatment approach can be offered by technology								40	7.0 (1.3)	3	70	30	0
Increased social engagement enabled by technology								40	7.0 (1.5)	18	70	28	3
Receiving prompt helpful automated feedback in response to input/questions								40	7.0 (1.4)	10	70	28	3
Increased willingness to engage in care for those who are reluctant to meet face-to-face with HCPs								40	6.7 (1.8)	13	63	33	5
Access to state-of the art treatment tools								40	6.6 (1.5)	10	50	48	3
Better self-understanding of thinking, feelings, and behaviors								40	6.6 (1.5)	5	60	38	3
Decreased stigma related to seeking mental health care								40	6.5 (1.7)	10	60	35	5
Improved communication/understanding between patients and family members because of family integration in digital system								39	6.5 (1.7)	8	54	38	8
Self-management and ability to record personal information (e.g., about adherence, symptoms)								40	6.4 (1.6)	8	45	48	8
Around the clock access to a digital health tool that is part of the patient's treatment plan								39	6.4 (1.3)	3	46	51	3
Digital links to wide range of resources and support								40	6.2 (1.6)	0	53	43	5
Increased understanding and investment in treatment plan								40	6.1 (1.7)	8	45	48	8
Ability of multiple HCPs involved in patient's care (e.g., case manager, psychologist) to access the data								40	6.0 (1.7)	8	43	50	8
	1 2	3	4	5	6	7	8	9	·	%	%	%	%

Question 4. Continued

		95% (Confii	DENCE	Inter	VALS				Tr of	1st	2nd	3rd
	Third	Line	Sec	ond L	ine	First	Line	N	Avg (SD)	Chc	Line	Line	Line
Improved patient adherence to medication and treatment plan								39	5.7 (1.7)	0	38	46	15
Potential to reduce utilization of health care services and therefore cost of treatment								40	5.6 (2.1)	5	40	40	20
Media representation more engaging than face-to-face interactions								40	5.3 (1.8)	0	28	53	20
1	1 2	3	4	5	6	7	8	9		%	%	%	%

Question 5. Potential barriers/unintended consequences when using digital health tool (e.g., mobile health application, computerized treatment tool, website). Considering average patient with serious mental illness (schizophrenia, bipolar, or major depressive disorder), how likely do you believe each of the items below is to be a potential barrier and/or to be or lead to an unintended consequence for PATIENTS using a digital health tool? (Please rate each item on a scale from 1 to 9 with 1 = significant potential to be a barrier and/or an unintended consequence 9 = minimal potential to be a barrier and/or an unintended consequence)

1		/							
	95% (CONFIDENCE INTER	RVALS			Tr of	1st	2nd	3rd
	Third Line	Second Line	First Line	Ν	Avg (SD)	Chc	Line	Line	Line
Increase in family conflict due to information provided by the digital tool				39	5.5 (2.4)	8	46	28	26
Depersonalization of patient care and potential damage to the therapeutic relationship				40	5.0 (2.5)	8	35	30	35
Patient's use of digital health tool in isolation leads to decreased face-to-face interaction with clinician and/or treatment team				40	4.8 (2.3)	0	30	38	33
Patient sets unrealistic goal and becomes discouraged				39	4.4 (2.5)	3	31	21	49
Patient disappointed by not receiving prompt response from HCP				40	4.3 (1.9)	0	20	35	45
Patient feels frustrated and discouraged with using the technology				40	3.5 (2.3)	3	15	23	63
Patient has concerns about privacy				40	3.4 (1.9)	0	8	33	60
Patient finds the digital health tool intrusive				40	3.2 (2.1)	0	15	13	73
Patient has concerns about being monitored or policed				40	3.1 (1.9)	3	8	25	68
Patient does not understand how to use the digital health tool				40	2.8 (1.9)	3	5	23	73
Patient finds it a burden to use the digital health tool				40	2.6 (1.9)	3	8	10	83
Patient does not believe that the intervention is well suited to his/her particular problem(s).				40	2.6 (1.8)	3	8	10	83
For following 2 items, consider only patients with psychosis:				0	0.0 (0.0)	0	0	0	0
Possible exacerbation of paranoid symptoms related to being monitored or "controlled"				40	4.8 (2.7)	3	38	28	35
Patient misinterprets interactions with the digital health tool because of paranoid delusions				40	4.7 (2.7)	3	35	25	40
1	1 2 3	4 5 6	7 8	9		%	%	%	%

Question 6. Potential benefits of using a digital health tool for HEALTH CARE PROFESSIONALS. Assume the items below have been demonstrated to be benefits of using a digital health tool for HCPs who treat patients with psychiatric disorders. For each, please rate how likely you believe it would be to motivate an HCP to use the digital health tool. (Please rate each item on a scale from 1 to 9 with 1 = not at all likely to motivate HCP 5 = somewhat likely to motivate HCP 9 = extremely likely to motivate HCP)

	95%	CONFIDEN	CE INTER	RVALS			Tr of	1st	2nd	3rd
	Third Line	Second	Line	First Line	N	Avg (SD)	Chc	Line	Line	Line
Reimbursement by payers for time spent providing training to patients and family members about the digital health tool				*	39	8.5 (0.9)	62	95	5	0
Reimbursement by payers for time spent using/reviewing data from the digital health tool				*	40	8.4 (1.3)	65	93	5	3
Improved patient adherence to medication and treatment plan					40	8.0 (1.2)	38	93	5	3
Improved patient functioning (e.g., social and work functioning)					39	7.9 (1.0)	36	90	10	0
Reduced patient symptomatology					39	7.9 (1.0)	33	92	8	0
Increased efficiency of care provision by freeing up HCP's time without compromising quality of care (i.e., technology as a treatment extender to reduce HCP burden)					39	7.8 (1.4)	38	87	10	3
Increased ability to deliver evidence-based treatments that would not otherwise be delivered because of limited staff resources, limited trained staff, or cost barriers					40	7.6 (1.2)	20	80	20	0
More accurate data about medication adherence					40	7.5 (1.3)	20	85	13	3
Digital health tool provides input to common electronic health record (EHR) systems already in use					39	7.5 (1.3)	26	85	15	0
Published evidence concerning efficacy of the digital health tool in improving patient outcomes					38	7.4 (1.3)	21	76	24	0
Replacing routine assessment and monitoring functions, thus increasing availability of HCP for more complex cases					40	7.4 (1.6)	28	85	10	5
Reduction in number of hospitalizations					40	7.2 (1.6)	25	70	28	3
Potential to achieve improved patient outcomes by being able to make more evidence-based treatment decisions					40	7.2 (1.2)	18	75	25	0
Improved accuracy of information for clinical decision-making based on objective momentary data about patient symptoms					39	7.2 (1.5)	21	69	31	0
Access to more patient information (e.g., about adherence, symptoms)					40	7.1 (1.1)	13	70	30	0
Ability to provide state-of-the art treatment tools					40	7.0 (1.5)	13	70	28	3
Ability of multiple HCPs involved in patient's care (e.g., case manager, psychologist) to access the data					40	7.0 (1.5)	15	63	35	3
Increased ability to personalize/tailor the treatment approach to the specific patient					40	6.9 (1.5)	15	58	40	3
1	2 3	4 5	6	7 8	9		%	%	%	%

Question 6. Question

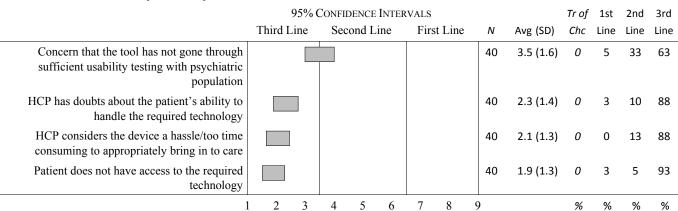
	95	5% (CONFIL	DENCE	Inter	CVALS				Tr of	1st	2nd	3rd
	Third Lin	ne	Sec	ond Li	ne	First I	Line	N	Avg (SD)	Chc	Line	Line	Line
Around the clock capability to assess and intervene with at-risk patients (e.g., with suicidal risk or increased agitation/aggression) in a way that may increase safety								40	6.8 (2.0)	25	63	30	8
Facilitation of patient disclosure about topics that patients may be reluctant to share in traditional face-to-face settings								40	6.8 (1.4)	5	65	30	5
Improved accuracy of information for clinical decision-making based on objective sensor data (e.g., external biometric sensors, GPS, Bluetooth)								40	6.7 (1.5)	10	60	40	0
Increased patient social engagement enabled by technology								39	6.6 (1.4)	5	56	41	3
Around the clock capability to to identify potential problems/early warning signs of acute episodes in order to intervene more quickly								40	6.6 (1.9)	15	58	35	8
Potential to reduce utilization of health care services (e.g., emergency, outpatient) and therefore cost of treatment								39	6.6 (1.6)	8	59	33	8
Better understanding of patient's thinking, feelings, and behaviors								39	6.6 (1.3)	0	67	28	5
Increased confidence/self-efficacy related to the patient's health care								40	6.5 (1.5)	5	55	40	5
Improved communication/understanding between patients and family members because of family integration in digital system (assuming this is a goal of treatment)								40	6.4 (1.4)	5	53	45	3
Opportunity to provide feedback/support to patients between face-to-face sessions								40	6.4 (1.7)	3	53	40	8
Ability to engage periodically with patients after discharge from face-to-face sessions								39	6.3 (1.6)	8	44	49	8
1	2	3	4	5	6	7	8)		%	%	%	%

Question 7. Potential barriers and/or unintended consequences for HEALTH CARE PROFESSIONALS. Listed below are some potential barriers to and unintended consequences of HCPs' use of a digital health tool with patients with psychiatric disorders. How likely do you believe each of the items is to be a potential barrier and/or to be or lead to an unintended consequence for HCPs using a digital health tool with their patients? (Please rate each item on a scale from 1 to 9 with 1 = significant potential to be a barrier and/or an unintended consequence for an HCP 5 = some potential to be a barrier and/or an unintended consequence for an HCP 9 = minimal potential to be a barrier and/or an unintended consequence for an HCP)

7a. Concerns about process and credibility of intervention

		95% (CONFIL	DENCE]	Inter	CVALS				Tr of	1st	2nd	3rd
	Third I	Line	Sec	ond Li	ne	First	Line	N	Avg (SD)	Chc	Line	Line	Line
Loss of expert role due to inadequate technological knowledge								40	4.7 (2.1)	3	23	43	35
Concern about validation of measures								40	4.5 (2.0)	3	18	50	33
Concern about preserving the validity of evidence-based psychosocial interventions when delivered digitally								40	4.4 (2.4)	3	28	30	43
Uncertainty about how to discuss and explain the digital health tool to patients								40	4.4 (2.6)	3	28	23	50
Potential for blurring of patient-professional boundaries (e.g., digital tools allow contact outside scheduled face-to-face appointments)								40	4.4 (2.2)	0	23	30	48
Lack of centralized regulation/approval/rating body for novel technologies leads to unclear expected benefits								40	4.3 (2.0)	3	18	40	43
Inadequate information about how the processes delivered by digital systems can be integrated with in-person, usual care								40	3.0 (1.8)	0	8	18	75
1	1 2	3	4	5	6	7	8	9		%	%	%	%

${\bf 7b.\ Concerns\ about\ usability/feasibility}$



7c. Liability and logistical issues

	95% (Confidence I	NTERVALS			Tr of	1st	2nd	3rd
	Third Line	Second Lin	ne First Line	e N	Avg (SD)	Chc	Line	Line	Line
Concern about patient confidentiality				40	3.5 (1.8)	0	10	25	65
Uncertainty about the frequency with which the digital data should be reviewed				40	3.5 (1.6)	0	3	45	53
Uncertainty about how to use the information clinically				40	3.2 (1.5)	0	3	40	58
Availability of too much information (e.g., HCP overwhelmed with additional patient information that needs consideration despite time-pressured schedule)				40	2.6 (1.6)	0	3	15	83
Time/disruption involved in integrating digital data into clinical practice				40	2.5 (1.2)	0	0	20	80
Difficulty having the digital health tool approved by insurance				40	2.4 (1.5)	0	3	15	83
Uncertainty about receiving reimbursement for time spent training or using the device and its data				40	2.3 (1.4)	0	0	18	83
Concern about potential for increased liability exposure due to not having effected or documented a clinical response to available information				39	2.2 (1.3)	0	0	13	87
1	2 3	4 5	6 7 8	9		%	%	0/	%

7d. Unintended consequences

		ç	95% (CONFIL	DENCE	Inter	VALS				Tr of	1st	2nd	3rd
	Th	ird L	ine	Sec	ond L	ine	First	Line	N	Avg (SD)	Chc	Line	Line	Line
Patient discontinues needed traditional face-to- face treatment in favor of self-management									40	5.0 (2.3)	3	33	38	30
Distraction from therapy targets and tasks identified in session									40	4.7 (1.9)	0	23	50	28
1	1	2	3	4	5	6	7	8	9		%	%	%	%

Question 16. Training for Health Care Professionals (HCPs). In the next two questions, we ask you to rate a number of different types of training and training resources for HCPs. In 16a, we ask you to rate how important different types of training and training resources would be in helping health care professionals prescribe and interact with a digital health tool. In 16b, we ask how likely you believe HCPs would be to participate in different types of training. Assume the HCP will receive computerized reports with the output from the digital tool.

16a. Importance to HCP's ability to prescribe and interact with digital health tool. (Please rate each item on a scale from 1 to 9 with 1 = not at all important 5 = somewhat important)

	95% (Confidence In	TERVALS			Tr of	1st	2nd	3rd
	Third Line	Second Line	e First Line	N	Avg (SD)	Chc	Line	Line	Line
Clear rationale provided to HCPs about how using this device can improve outcomes			*	39	8.3 (0.9)	54	95	5	0
Provision of hands-on work with device/dashboard during training sessions				39	7.9 (1.2)	46	87	13	0
Inclusion of clinical examples and case materials as core elements of the training.				39	7.9 (1.4)	44	92	5	3
Clear and concise tutorial provided in the digital device				39	7.7 (1.3)	33	85	15	0
Technical call center support				39	7.6 (1.1)	21	90	10	0
Prepared handouts to give to patients				38	7.4 (1.6)	32	82	16	3
In-person training sessions				39	7.4 (1.5)	28	69	31	0
Simple platform that can be learned with user guide and video demonstration without requiring in-person training				38	7.3 (1.8)	32	74	21	5
Having the HCP use the digital system as a "patient" for a trial period to become familiar with its features				39	7.2 (1.7)	28	77	21	3
Complete protocol and user guide				39	7.2 (1.5)	15	79	15	5
Training provided in HCP's office (detailing approach)				39	7.2 (1.7)	23	64	31	5
Availability of follow-up training sessions (if needed)				39	7.2 (1.4)	15	72	28	0
CME credit for completing training				39	7.2 (1.6)	28	67	31	3
In-person training followed by web-based video reinforcement				39	6.9 (1.7)	18	64	33	3
Video-based online training module				39	6.6 (1.5)	5	67	28	5
Training webinars				39	6.5 (1.2)	0	69	28	3
FAQs/user forums on a website				39	6.5 (1.7)	10	56	36	8
Online chat support for questions/technical issues				39	6.1 (1.8)	5	46	46	8
Work with medical schools to provide training in digital health technology				39	5.9 (1.9)	13	38	49	13
Availability of consultation groups (e.g., groups involving other HCPs)				38	5.7 (1.9)	8	37	50	13
1	. 2 3	4 5	6 7 8	9		%	%	%	%

16b. Likelihood that HCP would participate in this type of training. (Please rate each item on a scale from 1 to 9 with 1 = not at all likely 5 = somewhat likely 9 = extremely likely)

	95% (CONFIDENCE INTER	RVALS			Tr of	1st	2nd	3rd
	Third Line	Second Line	First Line	Ν	Avg (SD)	Chc	Line	Line	Line
Clear and concise tutorial provided in the digital device				38	7.3 (1.7)	24	84	11	5
Individualized training provided in HCP's office				38	7.2 (1.7)	29	68	26	5
Technical call center support				38	6.4 (1.9)	11	55	39	5
Training webinars				38	6.0 (1.4)	0	47	47	5
Follow-up training sessions (if needed)				38	6.0 (1.7)	0	47	39	13
In-person training sessions				38	5.9 (1.9)	13	45	39	16
Having the HCP use the digital system as a "patient" for a trial period to become familiar with its features				38	5.9 (2.3)	11	47	34	18
Video-based online training module				38	5.8 (1.7)	5	37	53	11
Complete protocol and user guide				38	5.7 (1.9)	8	37	50	13
FAQs/user forums on a website				38	5.7 (2.1)	3	39	42	18
In-person training followed by web-based video reinforcement				38	5.6 (1.8)	0	34	50	16
Online chat support for questions/technical issues				38	5.2 (2.0)	3	29	47	24
Consultation groups (e.g., groups involving other HCPs)				38	4.8 (2.1)	0	29	34	37
	2 3	4 5 6	7 8	9		%	%	%	%

Question 17. Provision of training and support to PATIENTS by HCPs. Assume that the digital health tool designed for use with a patient with serious mental illness will be prescribed and monitored by an HCP. When we refer to HCPs here, we mean any professional providing health care services to patients with mental illnesses (e.g., psychiatrist, psychologist, nurse practitioner, clinical social worker). Thus, the HCP will be part of the system so that the design of the HCP's participation must be optimized. In the next two questions, we ask you to rate a number of different types of training and training resources for patients that would be provided by HCPs in terms of 17a) how important they would be in helping patients successfully engage with and use a digital health tool and then 17b) how difficult you believe each activity would be for the average HCP. Assume the HCP will receive computerized reports with the output from the digital tool.

17a. How IMPORTANT would each activity be in order to enable patients to successfully engage with and use a digital health tool? (Please rate each item on a scale from 1 to 9 with 1 = not at all important 5 = somewhat important 9 = extremely important)

	95% C	CONFIDENCE INTE	RVALS			Tr of	1st	2nd	3rd
	Third Line	Second Line	First Line	N	Avg (SD)	Chc	Line	Line	Line
Initial training of patients on the system			*	39	8.4 (0.9)	64	97	3	0
Responding to technical problems identified by patients as quickly as possible				39	7.9 (1.1)	41	92	8	0
Verbalizing or otherwise providing specific and clear feedback about the data gathered via the digital health tools during treatment sessions				39	7.7 (1.0)	26	90	10	0
Providing reinforcement for patient's continued engagement with tools, independent of clinical information reported or outcomes within the first week of use			-	39	7.6 (1.2)	26	85	15	0
Arranging for treatment coordinator or other member of the treatment team to provide ad hoc support for system use				39	7.5 (1.0)	18	87	13	0
Developing ongoing reinforcement/reward systems for successful engagement with tools and/or successful self-management				38	7.5 (1.3)	18	84	13	3
Helping patients set goals and tasks on digital health tools				39	7.5 (1.3)	28	82	18	0
Identifying trends in digital data and responding immediately to critical clinical information				39	7.4 (1.4)	26	82	15	3
Providing reinforcement for patient's continued engagement with tools, independent of clinical information reported or outcomes on an ongoing basis				39	7.4 (1.3)	23	82	18	0
Follow-up/ongoing training on the system				39	7.1 (1.4)	21	69	31	0
Initial training of family caregivers (if applicable) on the system		[38	6.9 (1.8)	18	63	34	3
Verbalizing or otherwise providing specific and clear feedback about the data gathered via the digital health tools between treatment sessions				39	6.5 (1.7)	10	54	41	5
Sharing information with family/caregivers				38	5.6 (1.6)	0	24	68	8
1	2 2	1 5 6	7 8	Ω		0/	0/	0/	0/

17b. How DIFFICULT would each activity would be for the average HCP? (Please rate each item on a scale from 1 to 9 with 1 = extremely difficult 5 = somewhat difficult 9 = not at all difficult)

	95% (CONFIDENCE INTE	RVALS			Tr of	1st	2nd	3rd
	Third Line	Second Line	First Line	N	Avg (SD)	Chc	Line	Line	Line
Verbalizing or otherwise providing specific and clear feedback about the data gathered via the digital health tools during treatment sessions				39	6.2 (1.7)	5	56	33	10
Providing reinforcement for patient's continued engagement with tools, independent of clinical information reported or outcomes within the first week of use				39	6.2 (1.7)	8	51	41	8
Helping patients set goals and tasks on digital health tools				39	5.9 (1.9)	10	41	41	18
Initial training of patients on the system				39	5.3 (1.8)	8	26	56	18
Arranging for treatment coordinator or other member of the treatment team to provide ad hoc support for system use				39	5.2 (2.1)	5	31	41	28
Follow-up/ongoing training on the system				38	5.2 (1.8)	5	21	63	16
Providing reinforcement for patient's continued engagement with tools, independent of clinical information reported or outcomes on an ongoing basis				39	5.1 (2.0)	3	36	41	23
Developing ongoing reinforcement/reward systems for successful engagement with tools and/or successful self-management				39	4.9 (1.8)	3	18	59	23
Sharing information with family/caregivers				39	4.7 (1.9)	5	15	54	31
Initial training of family caregivers (if applicable) on the system				39	4.5 (2.1)	5	18	41	41
Identifying trends in digital data and responding immediately to critical clinical information				38	3.9 (2.0)	0	13	50	37
Verbalizing or otherwise providing specific and clear feedback about the data gathered via the digital health tools between treatment sessions				39	3.8 (1.7)	0	10	36	54
Responding to technical problems identified by patients as quickly as possible				39	3.3 (1.9)	0	8	28	64
1	2 3	4 5 6	7 8	9		%	%	%	%

Question 19. Patient characteristics that affect outcomes in psychotherapy/psychosocial interventions. How much do you believe the following patient characteristics affect the chances of achieving favorable outcomes in psychotherapy/psychosocial interventions? Thinking about this question, please use your experience with all types of therapies/interventions and different types of patients. (Please rate each item on a scale from 1 to 9 with 1 = likely to have a very adverse effect on outcomes 5 = not likely to influence outcomes much one way or another 9 = extremely likely to promote good outcomes.)

19a. Patient Characteristics

	95% (CONFIDE	NCE INTE	RVALS			Tr of	1st	2nd	3rd
	Third Line	Secon	d Line	First Line	N	Avg (SD)	Chc	Line	Line	Line
Positive expectations about therapy on the part of the patient					34	7.8 (1.0)	29	94	6	0
Resources that facilitate access to treatment (availability of transportation, availability of HCPs trained to provide psychotherapy, insurance coverage)					34	7.7 (0.9)	21	91	9	0
Positive social support (i.e., patient has an involved significant other or caregiver)					34	7.5 (1.4)	21	82	15	3
Bachelor's degree or more education					34	6.4 (0.9)	0	44	56	0
Currently married					33	5.9 (1.1)	3	33	67	0
18-44 years old					34	5.7 (1.5)	3	29	65	6
< 18 years old					34	5.6 (1.5)	3	26	65	9
High school or more education					34	5.5 (0.7)	0	9	91	0
45-64 years old					34	5.5 (1.1)	0	18	82	0
Female gender					34	5.5 (0.9)	0	12	85	3
65+ years old		[33	5.2 (1.3)	0	12	79	9
Male gender					34	4.8 (0.8)	0	3	94	3
Minority status					34	4.7 (0.7)	0	3	94	3
Low socioeconomic status					34	4.1 (0.9)	0	0	79	21
Did not complete high school					34	4.1 (0.9)	0	0	74	26
Low health literacy					34	3.6 (1.0)	0	0	53	47
Low literacy (i.e., reading ability)/low numeracy					34	3.5 (0.9)	0	0	44	56
Low IQ					34	3.4 (1.1)	0	0	41	59
Severe psychosocial stressors (e.g., poverty, general medical problems, abusive relationship, legal problems)					34	2.6 (1.2)	0	0	18	82
Serious level of chaos and disorganization in the person's life/environment					33	2.3 (1.0)	0	0	6	94
Low motivation					33	2.0 (0.9)	0	0	6	94
1	2 3	4	5 6	7 8	9		%	%	%	%

19b. Disorders, Signs, and Symptoms

	95% Confidence Intervals									Tr of	1st	2nd	3rd
	Third L	ine	Sec	ond Li	ne	First	Line	N	Avg (SD)	Chc	Line	Line	Line
Good occupational functioning								34	7.1 (0.8)	0	76	24	0
Diagnosis of major depressive disorder								34	5.4 (1.0)	0	15	85	0
Diagnosis of bipolar disorder								34	4.9 (1.1)	0	9	82	9
Suicidal ideation								34	4.6 (1.4)	0	6	79	15
Diagnosis of schizophrenia								34	4.2 (1.2)	0	3	68	29
Sensitivity to overstimulation								34	4.2 (1.0)	0	3	74	24
Longer duration of illness								34	4.1 (1.2)	0	0	65	35
Non-suicidal self-injurious behaviors								34	4.1 (1.4)	0	3	62	35
Multiple previous episodes								33	4.1 (1.4)	0	3	70	27
Multiple comorbid Axis I disorders		[34	3.9 (1.3)	0	3	62	35
Low frustration tolerance								34	3.6 (0.8)	0	0	56	44
Low energy/fatigue								34	3.6 (0.8)	0	0	47	53
Presence of Axis II comorbidity								34	3.5 (1.2)	0	0	50	50
Greater severity of delusions/paranoia								34	3.4 (1.3)	0	0	44	56
Aggression/agitation								34	3.3 (1.0)	0	0	44	56
Greater severity of neurocognitive impairment								34	3.2 (1.1)	0	0	41	59
Greater severity of negative symptoms								34	3.0 (1.3)	0	3	21	76
Greater severity of disorganization symptoms								34	3.0 (1.2)	0	3	18	79
Acute substance use								34	2.4 (1.0)	0	0	15	85
1	2	3	4	5	6	7	8	9		%	%	%	%

19c. Appraisals and Patient Experience

	95% Confidence Intervals									Tr of	1st	2nd	3rd
	Third I	Line	Sec	ond L	ine	First	Line	Ν	Avg (SD)	Chc	Line	Line	Line
Positive bond with healthcare professional (good therapeutic alliance)								34	8.0 (0.8)	32	100	0	0
Perception of treatment as beneficial								34	8.0 (0.8)	29	97	3	0
Self-efficacy beliefs about ability to participate in and benefit from psychotherapy/psychosocial intervention								34	7.9 (1.1)	35	97	3	0
Agreement with tasks and goals of treatment								34	7.9 (0.9)	29	97	3	0
Willingness to complete tasks/homework between treatment sessions								34	7.6 (1.3)	32	82	18	0
Readiness to change								34	7.6 (1.3)	26	76	24	0
History of good adherence to medication and other treatment								34	7.3 (1.2)	15	85	15	0
Psychological mindedness								34	6.9 (1.2)	12	62	38	0
Engagement with mutual help organizations and/or peer support groups								34	6.5 (1.4)	9	47	50	3
Stigma/discomfort/social anxiety about seeking care for mental or behavioral problems								34	3.6 (1.2)	0	0	38	62
Negative past experience with psychotherapy/psychosocial intervention								33	3.3 (1.0)	0	0	33	67
Limited insight into disorder								34	2.9 (1.3)	0	0	32	68
1	1 2	3	4	5	6	7	8	9		%	%	%	%

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