

Supplementary material

Supplementary Table 1: Syntax of searches implemented in Medline and Scopus.

Medline search	Scopus search
<p>(User-computer interface [MeSH] OR Computers/utilization [MeSH] OR Decision making [MeSH] OR Medication Errors/[MeSH] OR Usability.tw OR (User* adj3 (experience* OR satisfaction).tw) OR UX.tw OR Interface*.tw OR User*cent*d design.tw OR Patient*cent*d design.tw OR Think*aloud.tw OR Talk*aloud.tw OR Screen*record*.tw OR Video*record*.tw OR Eye*track*.tw OR Gesture*track*.tw OR Log*.tw OR Click*through*analysis.tw OR Google*analytics.tw OR ((Risk* OR Data OR result*) adj3 interpret*).tw OR ((Out*of*range OR abnormal OR normal OR in*range) adj3 (identif* OR detect* OR spot*).tw OR (action* OR decision*).tw OR Information*processing.tw OR Decision*making.tw OR (Medic* adj3 (error* OR discrepan* OR reconcil* OR accuracy)).tw) AND (Personal Health Record [MeSH] OR Patient Access to Records [MeSH] OR Patient* portal*.tw OR Personal* adj3 Health Record*.tw)</p>	<p>(TITLE-ABS-KEY("Patient Access to Record\$")) OR (TITLE-ABS-KEY(personal W/3"Health Record\$")) OR (TITLE-ABS-KEY("patient* portal*")) AND ((TITLE-ABS-KEY(user\$ W/3 experience)) OR (TITLE-ABS-KEY(user\$ W/3 satisfaction)) OR (TITLE-ABS-KEY(usability)) OR (TITLE-ABS-KEY("Decision\$making")) OR (TITLE-ABS-KEY(computer\$utili\$ation)) OR (TITLE-ABS-KEY(talk\$aloud)) OR (TITLE-ABS-KEY(think\$aloud)) OR (TITLE-ABS-KEY("Patient\$cent*d design")) OR (TITLE-ABS-KEY("User\$cent*d design")) OR (TITLE-ABS-KEY(interface\$)) OR (TITLE-ABS-KEY(ux)) OR (TITLE-ABS-KEY(google\$analytics)) OR (TITLE-ABS-KEY(click\$through\$analysis)) OR (TITLE-ABS-KEY(log*)) OR (TITLE-ABS-KEY(eye*track*)) OR (TITLE-ABS-KEY("screen*record*")) OR (TITLE-ABS-KEY("video*record*")) OR (TITLE-ABS-KEY((risk OR data OR result) W/3 interpretation)) OR (TITLE-ABS-KEY("Information\$processing")) OR (TITLE-ABS-KEY(action* OR decision*)) OR (TITLE-ABS-KEY ((Out*of*range OR abnormal OR normal OR in*range) W/3 (identif* OR detect* OR spot*))) OR (TITLE-ABS- KEY(medication*error*))</p>

Supplementary Table2: Individual characteristics for controlled experiments (N=24).

Reference	Year Location	System name Target users	Study length (months)	Potential users (N)	Adoption rate (%)
[1]	2010 US	George Washington University Patients with mental health issues	1.5	23	78 (18/23 used it at least once)
[2]	2015 US	Patient centred toolkit Patients during hospitalisation and their carers	6	239	100 (239/239 used it at least once)
[3]	2008 US	Patient Gateway Primary care patients	18	1,457	78 (1131/1457 used it at least once)
[4]	2015 US	EpicCare General population	24	534	54 (287/534 activated account)
[5]	2015 UK	Myhealthlocker Patients with mental health issues	12	58	55 (32/58 used it at least once)
[6]	2007 US	Patient Gateway Primary care patients	14	2,779	85 (2,361/2,779 used it at least once)
[7]	2012 France	Sanoia Patients with idiopathic thrombocytopenic purpura	6	28	68 (19/28 used it at least once)
[8]	2002 US	PCASSO General population	12	41	63 (26/41 used it at least once)
[9]	2012 US	Wellness Portal Primary care patients	12	422	66 (280/422 used it at least once)
[10]	2014 The Netherlands	www.reumacentrumtwente.nl Patients with rheumatoid arthritis	5	211	55 (115/211 used it at least once)
[11]	2016 US	myNYP Patients during hospitalisation	4	20	70 (14/20 used it at least once when unsupervised)

Reference	Year Location	System name Target users	Study length (months)	Potential users (N)	Adoption rate (%)
[12] ^{a)}	2015 US	MyAsthma Parents of children with asthma	12	30	77 (23/30 used it more than once)
[13] ^{a)}	2014 US	University of Iowa General population	12	802	61 (491/802 used it at least once)
[14]	2012 US	MyHealthProfile Patients with HIV	24	509	22 (112 /509 used it more than once)
[15]	2002 US	PatCIS General population	36	13	92 (12/13 used it at least once)
[16]	2010 US	I-Rounds Parents of children with cardiac disease	30	270	93 (252/270 used it at least once)
[17]	2016 The Netherlands	e-Vita Patients with diabetes	12	132	97 (128/132 used it at least once)
[18] ^{a)}	2013 US	PatientSite Primary care patients	3	375	49 (184/375 used it at least once)
[19]	2016 US	PowerChart Millennium patient portal Patients during hospitalisation	5	100	80 (80/100 used it at least once)
[20]	2013 Australia	Healthy.me General population	5	709	81 (572/709 used it at least once)
[21]	2011 US	OpenNote Primary care patients	12	13,564	82 (11,155/13,564 used it at least once)
[22]	2013 Taiwan	Online Diabetes SelfManagement System Patients with diabetes	18	59	90 (53/59 used it at least once)

Reference	Year Location	System name Target users	Study length (months)	Potential users (N)	Adoption rate (%)
[23] ^{a)}	2008 US	Patient Gateway Primary care patients	18	126 and 118	37 (46/126 used it at least once) and 35 (41/118 used it at least once)
[24]	2013 Australia	Healthy.me General population	5	709	81 (572/709 used it at least once)

^{a)} Randomised Controlled Trial

Supplementary Table 3: Individual characteristics for real-world experiments (n=16).

Reference	Year Location	System name Target users	Study length (months)	Potential users (N)	Adoption rate (%)
[25]	2010 UK	HealthSpace Primary care patients	36	2,240,769	0.1 (2913/2,240,769 activated account to access records)
[26]	2009 US	University of Washington Elderly	33	330	13 (44/330 used it at least once)
[27]	2011 US	www.MyPreventiveCare.org Primary care patients	6	50,124	14 (7,235/50,124 established account)
[28]	2014 Canada	BCDiabetes Patients with diabetes	48	1,957	21 (411/1,957 used it at least once)
[29]	2013 UK (Scotland)	MyDiabetesMyWay Patients with diabetes	24	3,391	25 (861/3,391 used it at least once)
[30]	2014 UK	PatientView Patients with chronic kidney disease	48	44,649	15 (6,646/44,649 used it at least once)

Reference	Year Location	System name Target users	Study length (months)	Potential users (N)	Adoption rate (%)
[31]	2011 US	Worcester Polytechnic Institute Primary care patients	19	18,000	9 (1,623/18,000 used it at least once)
[32]	2011 US	kp.org Patients with diabetes	12	14,102	28 (3,922/14,102 used it at least once)
[33]	2014 The Netherlands	e-Vita Patients with diabetes	1.5	1,197	13 (161/1,197 used it at least once)
[34]	2011 US	Patient Gateway Primary care patients	20	75,056	43 (32,274/75,056 used it at least once)
[35]	2015 US	MyGeisinger Primary care patients	12	3,297	69 (2,282/3,297 used it at least once)
[36]	2006 US	PatientSite General population	12	135,246	11 (15,504/135,246 users)
[37]	2012 US	MyChart Primary care patients	12	10,746	38 (4,036/10,746 established account)
[38]	2010 US	myHERO Patients with HIV	20	3,760	4 (136/3,760 used it at least once)
[39]	2016 US	MyChart Parents and teenager	30	32,310 and 74,076	3 (890/32,310 used it at least once) and 1 (957/74,076 used it at least once)

Reference	Year Location	System name Target users	Study length (months)	Potential users (N)	Adoption rate (%)
[40]	2016 US	Kaiser Permanente Northern California General population	12	231,082	62 (143,422/231,082 used it at least once)

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