Table 1. Characteristics of the 52 reviewed studies

Study	Type of application	Design	Method and dependent variable (DV)	Type of patient	N	Location
Schatell et al., 2006[51]	Health Internet site	Cross-sectional study—a national sample of 37 dialysis clinics was obtained through the End-Stage Renal Disease Network	Self-reported demographic information; hospital registry for medical information; DV: acceptance was indicated by the response to the question "Do you use the Internet to seek health information?"	Renal disease	1,804	USA
Mancini et al., 2006[52]	Health Internet site	Cross-sectional study—a secondary analysis that included patients attending genetic clinics	Self-reported demographic information; DV: acceptance was indicated by the response to the question "Do you sometimes use the Internet to look for information about health?"	Women with breast cancer	560	France
Siva et al., 2008[93]	Internet-based secure e-mail application	Cross-sectional study—consecutive patients drawn from a university outpatient rheumatology clinic	Self-reported demographic information; DV: self-reported interest in using e-mail to communicate with their rheumatologist	Rheumatic diseases	145	USA
Gordon et al., 2002[53]	Health Internet site	Cross-sectional study—consecutive patients drawn from general rheumatology clinics in two teaching hospitals	Case record review for rheumatological diagnosis, disease duration, and comorbid conditions; Carstairs code for social deprivation; DV: self-reported frequency of use	Rheumatic diseases	138	UK
Metz et al., 2003[50]	Health Internet site	Cross-sectional study—consecutive patients drawn from oncology centers, community, and Veterans hospitals	Chart review for demographic information; validated survey was used; DV: self-reported use*	Radiation oncology	921	USA
Smith et al., 2003[54]	Health Internet site	Cross-sectional study—consecutive sample drawn from an academic center, a Veterans Affairs Medical Center, and a community hospital	Chart review for demographic information; validated survey was used; DV: self-reported use*	Prostate cancer	295	USA
O'Connor and Johanson, 2000[55]	Health Internet site	Cross-sectional study—consecutive sample drawn from two gastroenterology clinics	Self-reported demographic information; DV: self-reported frequency of health-related Web use in the past and intention to use in the future	Gastroenterology outpatients	924	USA
Aydin et al., 2004[56]	Health Internet site	Cross-sectional study—consecutive sample obtained from a university dental school over a 2-month period	Self-reported demographic information; DV: self-reported frequency of use	Dental outpatients	400	Turkey
Mead et al., 2003[29]	Health Internet site	Cross-sectional study—consecutive sample obtained over a five-day period	Self-reported demographic information, attitudes toward the CHIT; DV: self-reported level of interest in using the CHIT	Primary care practice	660	UK
Helft et al., 2005[57]	Health Internet site	Cross-sectional study—convenience sample drawn from a oncology specialty outpatient clinic	Self-reported demographic and health information; DV: acceptance was indicated by the response to the question "Do you ever use the Internet to get information about your cancer?"; measures were developed in the study or adapted from prior research	Oncology specialty clinic	200	USA
Tak and Hong, 2005[58]	Health Internet site	Cross-sectional study—convenience sample drawn from programs of a arthritis foundation, senior centers, and grocery stores	Self-reported demographic and health information; DV: self-reported use*	Older adults with arthritis	71	USA

Study	Type of application	Design	Method and dependent variable (DV)	Type of patient	N	Location
Salo et al., 2004[59]	Health Internet site	Cross-sectional study—convenience sample obtained from an inner city emergency department over a 7-month period	Self-reported demographic and health information; DV: self-reported level of interest in accessing a medical-related Web sites	Patients used the emergency department	328	USA
Cima et al., 2007[76]	Health Internet site	Cross-sectional study—convenience sample of patients at a tertiary-care institution's inflammatory bowel disease clinic	Self-reported demographic information; DV: self-reported Internet use for health-related information in the past	Inflammatory bowel disease	169	USA
Fogel et al., 2002[60]	Health Internet site	Cross-sectional study—participants were identified from hospital tumor-registry records	Self-reported demographic information; hospital registry for medical information; DV: acceptance was indicated by the response to the question "Do you use the World Wide Web for information regarding breast health/women's health issues?"	Women with breast cancer	188	USA
Klein, 2007[92]	Internet-based secure e-mail application	Cross-sectional study—participation solicitation and survey administration through a Web site to first-time patient users of the system	Constructs measured using validated scales; DV: acceptance was indicated by both self-reported intention to use and objective measure of use	Patients within the service provider network	143	USA
Smith-Barbaro et al., 2001[61]	Health Internet site	Cross-sectional study—patients at seven family practice clinics were surveyed	Self-reported demographic information; DV: self-reported intention to use	Family medicine	595	USA
Lai et al., 2008[91]	Computer-based health support system	Cross-sectional study—patients recruited from HIV/AIDS clinics	Constructs measured using validated scales and an objective measure; DV: self-reported intention to use	HIV/AIDS	32	USA
Tassone et al., 2004[62]	Health Internet site	Cross-sectional study—questionnaires were handed out over a randomly selected month	Self-reported demographic information; DV: acceptance was indicated by the response to the question "Did you look up your condition on the Internet?"; questions adapted from prior study	Otolaryngology outpatients	535	UK
Diaz et al., 2002[63]	Health Internet site	Cross-sectional study—random sample drawn from a primary care internal medicine private practice	Self-reported demographic information; DV: self-reported frequency of use	Internal medicine practice	512	USA
Millard and Fintak, 2002[49]	Health Internet site	Cross-sectional study—random sample drawn from an online database	Self-reported demographic and health information; DV: self-reported level of Internet use to obtain health-related information	Chronically ill (including seasonal allergies, arthritis, hypertension)	10,069	USA
Chae et al., 2001[81]	Telemedicine	Cross-sectional study—random sample obtained from a home health service patient population over a 8-month period	Self-reported demographic and health information; DV: self-reported satisfaction level of telemedicine	Home health care elderly patients	50	Korea
Dugaw et al., 2000[85]	Computer-based health support system	Cross-sectional study—random sample obtained over a 3-month period	Self-reported demographic information; DV: acceptance was measured using a 12-item acceptability survey	Patients used the emergency room walk-in clinic for care	100	USA
Lake et al., 2004[64]	Health Internet site	Cross-sectional study—sample drawn from 5 outpatient colorectal surgery clinics over a 2-month period	Self-reported demographic information; DV: self-reported frequency of use	Colorectal surgery outpatients	298	USA

Study	Type of application	Design	Method and dependent variable (DV)	Type of patient	N	Location
Sabel et al., 2005[65]	Health Internet site	Cross-sectional study—sample drawn from a database that included patients with melanoma	Database captured demographic information and histologic slides review to determine disease severity; DV: acceptance was indicated by the response to the question "Did you research any information on melanoma on the computer/Internet?"	Melanoma	1,613	USA
Peterson and Fretz, 2003[66]	Health Internet site	Cross-sectional study—sample drawn from a multidisciplinary thoracic oncology clinic over a 3-month period	Self-reported demographic information and level of use; DV: self-reported intention to use	Lung cancer clinic	139	USA
Lober et al., 2006[86]	Computer-based health support system	Cross-sectional study—sample drawn from a publicly subsidized housing project that housed 170 residents over a 6-month period	Field study; DV: observed usage patterns through both electronic logs and the researchers	Elderly patient residents of housing authority	38	USA
Williams et al., 2001[79]	Teledermatology	Cross-sectional study—sample drawn from a teledermatology clinic	Dermatology Life Quality Index to measure perceived quality of life; DV: acceptance was indicated by satisfaction with teledermatology; survey adapted from prior study	Skin-related problems	123	UK
Jeannot et al., 2004[67]	Health Internet site	Cross-sectional study—sample drawn from eight medical practices over a 1-month period	Self-reported demographic information; physicians determined patients' disease category; DV: self-reported frequency of use	Primary care and gastroenterology	1,604	Switzerland
Gustke et al., 2000[83]	Telemedicine	Cross-sectional study—sample drawn from telemedicine outreach facilities	Self-reported demographic information; DV: satisfaction with telemedicine using a 10-item satisfaction questionnaire	Primary care and specialist consultations	495	USA
Birkmann et al, 2006[68]	Health Internet site	Cross-sectional study—sample drawn from the 367 medical practices of a medical practices' network	Self-reported demographic and health information; DV: self-reported use and intention to use; survey was validated in the study	Medical practice sites	2,272	Germany
Murero et al., 2001[48]	Health Internet site	Cross-sectional study—sample drawn from the population in which patients had previously undergone coronary artery bypass grafting	Semi-structured questionnaire; DV: self-reported previous use of the system*	Cardiopathic	82	USA
Dickerson et al., 2004[69]	Health Internet site	Cross-sectional study—sample drawn from three primary care practices; consecutive sample obtained for one practice and random sample for the other two	Patient chart review to determine health status; DV: self-reported level of access	Primary care practice	315	USA
Wilson and Lankton, 2004[87]	Computer-based health support system	Cross-sectional study—sample obtained by administering online questionnaires to patients who had registered for access to the e-health	Constructs measured using validated scales; DV: self-reported intention to use	Patients registered for e-health service	163	USA
Pautler et al., 2001[70]	Health Internet site	Cross-sectional study—sample obtained by mailing the questionnaires to individuals who were diagnosed with prostate cancer	Self-reported demographic information; DV: self-reported frequency of use	Prostate cancer	312	Canada
Wolf et al., 2004[71]	Health Internet site	Cross-sectional study—sample obtained from a hand surgery practice	Self-reported demographic information; DV: self-reported level of access	Hand surgery	120	USA

Study	Type of application	Design	Method and dependent variable (DV)	Type of patient	N	Location
Mekhjian et al., 1999[84]	Telemedicine	Cross-sectional study—sample obtained from a prison in which inmate patients participated in teleconsultations	DV: Self-reported satisfaction with telemedicine	Various including pulmonary, plastic surgery, gastroenterology, psychiatry, general survey, etc.	221	USA
Khazaal et al., 2008[77]	Health Internet site	Cross-sectional study—sample obtained from a university psychiatry department outpatient clinic over a 4-month period	Self-reported demographic information; DV: self-reported use of the Internet for medical purpose	Psychiatric disorders	319	Switzerland
Pereira et al., 2000[47]	Health Internet site	Cross-sectional study—sample obtained from breast cancer systemic therapy outpatient clinics over a 4-month period	Self-reported demographic and health information; DV: self-reported use*	Women with breast cancer	79	Canada
Eikelboom and Atlas, 2005[80]	Telemedicine	Cross-sectional study—sample obtained from four audiology clinics over a 6-month period	Self-reported demographic and clinical appointment information; DV: self-reported willingness to use telemedicine	Audiology clinics	116	Australia
Proude et al., 2004[72]	Health Internet site	Cross-sectional study—sample obtained from surgery clinics at two teaching hospitals over a 18-month period	Self-reported demographic and health-related information; DV: self-reported Internet use for information about their condition*	Elective surgery	1,571	Australia
Christian et al., 2001[73]	Health Internet site	Cross-sectional study—sample population included patients referred to a medical genetics clinic in Canada	Self-reported health-related information; DV: self-reported use of the Internet for health information*	Medical genetics clinic	200	Canada
Chae et al., 2000[82]	Telemedicine	Experiment (randomization not indicated)—random sample selected from a mental health center over a 3-month period; half of the sample was assigned to the telemedicine group and the other half was assigned to the face-to-face consultation group	Self-reported demographic information; DV: self-reported telemedicine acceptance score (comfort level during the consultation, patient's ability to express themselves, quality of the interpersonal relationship, and usefulness of the consultation) of telemedicine	Schizophrenia	30	Korea
Kalichman et al., 2006[46]	Health Internet site	Longitudinal randomized controlled study—an 8-session intervention that focused on Internet information consumer skills versus a time-matched support group	Measures adapted from previously validated scales; DV: self-reported number of times of use	HIV/AIDS	Baseline: 448; follow-up: 343 (3-month); 330 (6-month); 325 (9-month)	USA
Carrell et al., 2006[89]	Computer-based health support system	Longitudinal study—adoption rates over a 30-month period were analyzed	Automated data capture; Johns Hopkins ACG RUB score to indicate morbidity; DV: adoption rates were captured by electronic logs	Patients enrolled care service	215,998	USA
Larner, 2006[74]	Health Internet site	Longitudinal study—data collected during the first quarter of each of the years 2001-2005	Self-reported demographic information; DV: acceptance was indicated by asking patients about home Internet access and its use to seek medical information*	General neurology clinic outpatients	Total=1,065 (over the five 3-month periods)	UK
Fung et al., 2006[88]	Computer-based health support system	Longitudinal study—system use data collected between January 1999 and September 2002	Demographic information extracted from database; DV: frequency of use captured by the system	Patients registered for e-health service	270,987	USA

Study	Type of application	Design	Method and dependent variable (DV)	Type of patient	N	Location
Wong et al., 2005[75]	Health Internet site	Longitudinal study—system use was assessed and analyzed at baseline and at 1-yr follow up	Self-reported demographic information; DV: self-reported use of the Internet for health information*	Cardiovascular inpatients and outpatients	Baseline: 300; 1-yr follow up: 199	Canada
Lu and Gustafson, 1994[9]	Computer-based health support system	Longitudinal study—two posttests: exploring stage and stable usage stage	Survey and phone interview – survey adapted from validated measures; DV: frequency of system access captured by the system	HIV/AIDS	Exploring stage: 35; stable usage stage: 34	USA
Finkelstein et al., 2003[90]	Home automated telemanagement system	Longitudinal study—two stages of testing: for stage 1, the system was assessed in a laboratory setting; for stage 2, the system was tested at home	Both semi-structured qualitative interview and survey; DV: acceptance was assessed through the interview and survey—patients were told to name reasons for high system utility	Home health care	1st stage: 29; 2nd stage: 12	USA
Hamoui et al., 2004[45]	Health Internet site	Natural experiment—sample obtained from the Bariatric Surgery Division and the Colorectal Surgery Division at a private academic institution	Self-reported demographic information; DV: self-reported frequency of use	Patients visited the bariatric and colorectal surgery division	271	USA
Boberg et al., 1995[6]	Computer-based health support system	Parent study was a randomized controlled study; data collected at pretest and posttests; Over-time usage was analyzed	Self-reported demographic information; single question to capture usefulness and ease of use; DV: number and patterns of system use was captured by the system	HIV/AIDS	107	USA
Tian and Robinson, 2008[78]	Health Internet site	Secondary analysis of the Health Information National Trends Survey II data collected by the National Cancer Institute	DV: Acceptance was indicated by the response to the question "In the past 12 months, have you looked for health or medical information for yourself on the Internet?"	Cancer	401	USA

*Specific detail about how the variable was measured was not provided in the original article

Table 3. The relationships of patient, human-technology interaction, organizational, and environmental factors with acceptance

Relationship	Patient factors (socio-demographic and health- and treatment-related)	Human-technology interaction factors	Organizational factors	Environmental factor

Positive	• Age-Older (1)[68]
	• Higher education (19)[29, 45, 47, 51, 52, 55-60, 62, 63, 66, 68-70, 72, 76]
	• Female (4)[6, 49, 88, 89]
	• Caucasian (4)[54, 69, 88, 157]
	• Married or in a relationship (2)[53, 56]
	• Live alone (1)[6]
	• Employed (3)[53, 56, 72]
	• Have/had health care occupations (1)[52]
	• Higher income level (7)[45, 59, 60, 63, 64, 66, 68]
	• Socially deprived (1)[29]
	• Live in higher socioeconomic status neighborhood (1)[88]
	• Community type
	  - Consult medical practices in urban areas (vs. rural) (1)[67]
	  - Varied by region of the United States (1)[51]
	• No health insurance coverage (1)[49]
	• Have knowledge of the English language (2)[67, 77]
	• Have school-age children at home (1)[29]
	• Prior experience, exposure, or awareness in computer or health technology
	  - Own a computer (3)[61, 70, 75]
	  - Have previous computing experience (1)[70]
	  - Have previous Internet use (2)[55, 66]
	  - More frequent Internet users (3)[64, 68, 73]
	  - Have previous awareness of telemedicine (1)[80]
	  - Have Previous use of health Web sites (1)[29]
	  - Have Internet access at home (3)[55, 61, 77]
	  - Higher computer literacy (1)[86]
	• Higher health information seeking preference (2)[29, 87]
	• Health status
	  - Less severely ill patients (1)[82]
	  - More severely ill patients (2)[49, 67]
	  - Higher morbidity (1)[89]
	  - Have acute disease (vs. chronic) (1)[67]
	  - Bariatric patients (vs. colorectal) (1)[45]
	  - Prior experience of severe diseases (1)[68]
	  - Presence of a specific diagnosis (1)[73]
	  - Cancer diagnosis – gynecologic and breast (1)[50]
	  - Chronic illness condition – gynecological, chronic sinusitis, arthritis, migraine, or thyroid condition (1)[49]
	• Other health- or treatment-related factors
	  - Higher health care need (2)[88, 92]
	  - Difficult to manage the condition (1)[49]
	  - Reason for referral (1)[73]
		• Higher perceived usefulness (6)[6, 29, 63, 87, 91, 92]
		• Higher perceived ease of use (4)[6, 9, 87, 91]
		• Higher belief that the use of CHITs can lead to positive outcomes (i.e., reduction in time, cost, and traveling distance; self-testing results being reviewed in a timely manner; having more comprehensive disease management) (2)[80, 90]
		• Higher Internet dependence† (1)[87]
		• Higher self-efficacy toward computer/CHIT (2)[29, 91]
			• Less satisfied with medical care services (1)[49]
			• Less satisfied with the amount of disease treatment-related information given by physician (1)[47]
			• Less satisfied with health plan (1)[49]
			• Less reliance on others for transport (1)[80]
			• Received Internet skill training (1)[46]
			• Attend one of the two study hospitals (1)[72]
			• Patient at an academic medical center (vs. veterans affairs hospital) (2)[54, 157]
			• Have a regular primary care provider (1)[88]
			• Higher difficulty obtaining the necessary health care access (1)[49]
			• Higher trust belief about the health care provider (1)[92]
			• Higher trust belief about the technology vendor (1)[92]
			• Higher external control belief (1)[91]
				• Patient location
				  - Experiencing telemedicine in homes (vs. in nursing homes) (1)[81]
				  - Experiencing telemedicine at the prison (vs. medical center) (1)[84]

Mixed	• Gender (2)[55, 80] • Education (1)[75] • Race (1)[6]			

Relationship	Patient factors (socio-demographic and health- and treatment-related)	Human-technology interaction factors	Organizational factors	Environmental factor
Non-linear	• Age (6)[56, 62, 67, 80, 88, 89]			

Negative	• Lower perceived quality of life (1)[79]
	• Poor health literacy (1)[86]
	• Health status
	  - AIDS stage – Symptomatic (vs. nonsymptomatic) (1)[6]
	  - Physical limitations – mobility, upper extremity limitations (2)[86, 90]
	  - Visual limitations (1)[90]
	  - Cognitive limitations/impairments (2)[86, 90]
	  - Higher level of depressive symptoms (1)[91]
	• Age-Older (19)[6, 47, 50-55, 57, 59, 61, 63, 65, 70, 72, 74, 75, 85, 93]
	• Have a religious preference (1)[6]
		• Computer anxiety/fear of technology (3)[86, 90, 91]		

No relationship	• Age (13)[29, 45, 48, 58, 60, 64, 66, 69, 76, 78, 81-83]
	• Gender (26)[29, 45, 48, 51, 53, 56-59, 61, 62, 64, 65, 67-69, 72, 74, 75, 77, 81-83, 85, 93, 158]
	• Education (9)[6, 48, 64, 77, 81-83, 85, 93]
	• Marital Status (6)[6, 57, 58, 61, 72, 75]
	• Race (5)[29, 57, 60, 63, 85]
	• Health insurance status (5)[6, 61, 69, 83, 88]
	• Income level (7)[6, 56, 57, 75, 76, 83, 93]
	• Employment status (4)[6, 69, 75, 77]
	• Computer experience (5)[29, 77, 81, 85, 91]
	• Community type (2)[56, 66]
	• Knowledge of the English language (2)[29, 75]
	• Having school-age children at home (1)[61]
	• Social deprivation (1)[53]
	• Social security (1)[56]
	• Financial status (1)[58]
	• Being born in Canada (1)[75]
	• Health status
	  - Number of chronic diseases (1)[69]
	  - Breast cancer stage (1)[60]
	  - Rheumatological diagnosis (1)[53]
	  - Median disease/symptom duration (3)[53, 59, 77]
	  - Disease category/diagnosis (2)[57, 67]
	  - Having a limiting long term illness (1)[29]
	  - Smoking status (1)[72]
	  - Melanoma stage (1)[65]
	  - Number of past medical problems (1)[59]
	  - Functional disability resulting from arthritis (1)[58]
	  - Comorbidity (1)[58]
	  - Daily stress (1)[58]
	  - Hand problem diagnosis (1)[71]
	  - Cardiovascular diagnosis (1)[75]
	  - Psychiatric diagnosis (1)[77]
		• Perceived usefulness (1)[9]
		• Perceived ease of use (1)[92]
		• Technology characteristics
		  - System set-up time and vocal communication and image quality (1)[81]
		• Technology as support (1)[58]
		• Intrinsic motivation (1)[87]
		• Perceived reliability/exactitude of health information on the Internet (2)[75, 77]
			• Satisfaction with medical care/treatment (2)[77, 87]
			• Satisfaction with the amount of general health information given by physician (1)[47]
			• Assessment type (face-to-face vs. telemedicine) (1)[82]
			• Physician type (1)[67]
			• Clinic type (public vs. private) (1)[64]	

Relationship	Patient factors (socio-demographic and health- and treatment-related)	Human-technology interaction factors	Organizational factors	Environmental factor
No relationship *(cont.)*	• Other health- or treatment-related factors - Number of current prescriptions (1)[69] - Previous clinic visits (1)[85] - Length of time since diagnosis (1)[60] - Number of sources of health information used in the past year (1)[29] - Health care knowledge (1)[87] - Health care need (1)[87] Previous hospitalization in psychiatric institutions (1)[77]			
Result not reported	• Gender (1)[76] • Race (1)[83]			

†The relationship was also mediated by perceived usefulness of the technology

() indicates number of studies found the relationship