Additional file 4: Characteristics of included studies and AMSTAR quality assessment

Author	Topic (Objectives)	Informed by theory / framework	Study designs included and number	Date of most recent search	Interventions*	Participants	Settings	Country(ies)	Financing source
Abu Abed 2014	Evaluate the efficacy of video-assisted patient education to modify behavior.	Yes	20 randomized control trials	October 2013	Video-assisted patient education to modify behavior. Variable in length, content and structure	The articles addressed 12 different diseases or health-related problems.	Video-watching at the study site or at home.	not described	None
Akesson 2006	To describe consumers' subjective experiences of electronic information and communication resources with reference to health and illness.		12 studies of medium and high quality. Seven quantitative (2 descriptive and 5 RCT) and 5 qualitative studies.	April 2004	e-mail 12 months, Computer 5-10 min/year, Telecommunication weekly 1 year	Strategy 1: 98 participants: families with very low birth weight babies; elderlies' families and/or carriers; rural women with breast cancer, patients suffering from dementia. Strategy 1: 2872 participants: oncology patients and families; diabetic patients; breast- feeding women; patients with back pain. Strategy 3: 1378 participants: retirement home nurses and patients; hypertensive patients; diabetic and non-diabetic children.	No details about settings. Were outpatients in general and with multiple conditions.	 (1) support and help: 5 studies (1 USA, 1 England, 1 Sweden, 1 Canada, 1 Finland), (2) education and information: 4 studies (2 USA, 1 Canada), (3) telecommuni cation instead of on-site visiting:3 studies (USA) 	Kalmar e-Health Institute and the Department of Health and Behavioral Science, Kalmar University, Sweden
Akl 2011a ¹	To evaluate the effects of attribute (positive versus negative) framing and of goal (gain	Yes	35 studies and 51 comparisons that included: Randomized controlled trials	October 2007	Positively or negatively framed and targeted messages.	16,342 participants (all health consumers). Topics: Cancer, sexual education, diet, prevention behaviors	Variables and included: graduate and undergraduate students, adults healthy, employees.	Not reported.	None

Table 1. Characteristics of included systematic reviews

¹ Akl EA, Oxman AD, Herrin J, Vist GE, Terrenato I, Sperati F, et al. Framing of health information messages. Cochrane Database of Systematic Reviews. 2011(12):CD006777.

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
	versus loss) framing of the same health information, on understanding, perception of effectiveness, persuasiveness, and behavior of providers, policy makers, and consumers.		(44), quasi- randomized controlled trials (8),and cross-over study (1)			and high cholesterol.	low income neighborhoods, volunteers, beach goers, genetic counselling services, health clinics, women with abnormal Pap test or mammograms, patients with colorectal cancer or breast cancer, outpatient respiratory and cardiac clinics		
Akl 2011b ²	To evaluate the effects of using alternative statistical presentations of the same risks and risk reductions on understanding, perception, persuasiveness and behaviour of health professionals, policy makers, and consumers.		35 studies reporting 83 comparisons. Randomized and non-randomized controlled parallel and cross-over studies were included. No study was conducted with policy makers.	October 2007	Statistical format in hypothetical scenario. Same evidence was presented in different formats to participants (Consumers, policy- makers and providers). Risk (frequencies, percentages and probabilities); Risk reduction (RRR, ARR, NNT)	20 were conducted with health consumers, 14 with providers, and 1 with both. Consumers included patients, the general public, and students. Students of health professions were considered as consumers.	Hypothetical scenarios	Not consistently reported	Internal sources: State University of New York at Buffalo, NY, USA. Salary support, infrastructure; Italian National Cancer Institute, Regina Elena, Rome, Italy Salary support. External sources: Norwegian Research Council, Norway. - Salary support; HJS is funded by a European Commission: The human factor,

² Akl EA, Oxman AD, Herrin J, Vist GE, Terrenato I, Sperati F, et al. Using alternative statistical formats for presenting risks and risk reductions. Cochrane Database of Systematic Reviews. 2011(3):1-90.

	mobility and
	Marie Curie
	Actions. Scientist
	Reintegration
	- GRADE
	Salary support
3 USA. 2	None declared.
Japan, 1	The authors
Denmark	declared that
	they have no
	competing
	interests. The
	affiliations of all
	authors are
	Universities.
Portals were	Partly supported
located in:	by the COMET
Netherlands	Center Oncotyrol
(1); USA (3)	which is funded
	by the Austrian
	Federal
	Ministries of
	BMVIT/BMWFJ
	(via FFG) and the
	Turoler
	Zukunitsstittung/
	Tirol (SAT)
3 J. F I	² Ortals were ocated in: Vetherlands 1); USA (3)

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					-
		framework	number						
Atherton 2012	To assess the effects of healthcare professionals and patients using email to communicate with each other, on patient outcomes, health service performance, service efficiency and acceptability.		Nine trials enrolling 1733 patients (Seven RCTs; two cluster- RCT)	July 2010	e-mail to communicate	Sample sizes ranged from n = 16 to n = 606 participants.	Studies were conducted in a variety of healthcare settings across primary, secondary (outpatient settings) and tertiary care (perioperative surgical settings for head and neck surgery), and in the community (rehabilitation center). Two studies were in physicians. Eight were set in urban areas and one in a mixed urban/rural population.	All studies were conducted in high income countries: USA (5), Norway (2), Canada (1), Australia (1).	Internal sources: Department of Primary Care and Public Health, Imperial College London, UK. NIHR Collaboration for Leadership in Applied Health Research & Care (CLAHRC) Scheme. External sources: Medical Research Council, UK. NHS Connecting for Health Evaluation Programme (NHS CFHEP 001), UK. National School of Primary Care Research, UK.
Bekker 2013	To examine the evidence to support the addition of personal stories to patient decision aid interventions.	Yes	11 articles reporting findings from 13 studies. Experimental (9 RCT), comparative no randomized (1) and quasi- experimental (1) studies comparing the effect of the PtDA intervention with and without a personal story component on	2005 to 2012	PtDAs designed to inform and support experiences of healthcare	The informed decision making: 1688 participants of general population, 1694 students. The informed choice: 2022 (489 African- American women) participants, general population. The informed engagement: 450 (149, low literacy; 301, high literacy) patients eligible for prostate cancer	Screening for prostate, breast, and colorectal cancers; treatment decisions between angioplasty / bypass surgery, mastectomy / breast conserving surgery, peritoneal dialysis / hemodialysis; and end-of-life level of care in cancer and in dementia. PtDA interventions were	The informed decision- making studies: 3 articles (2 USA, 1UK). The informed choice studies: 2 articles (USA). The informed engagement studies: 6	Partially funded by an unrestricted grant from the Informed Medical Decisions Foundation, Leeds Institute of Health Sciences, School of Medicine, University of Leeds (Bekker).

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search		-	-		_
		framework	number						
			people's			screening, 100 female	delivered directly via	articles (USA)	Administrative
			healthcare			patients with early stage	access to web links		and editorial
			decision making.			breast cancer, 200	or face-to-face with		support was also
						general population; 14	computer support.		provided by The
						pairs of patients (and			University of
						their caregiver) of			Texas MD
						general population, 76			Anderson Cancer
						participants of general			Center.
						population and 50			
						patients with malignant			
						glioma.			
Berkman	This is a HTA. Review	Yes	81 studies (95	May 2010	Interventions for	The study populations	Primary care clinic,	Mostly from	The Agency for
2011	the relationship of		articles) addressed		health literacy using	have different	outpatient infectious	USA. Others	Healthcare
	health literacy to		Key Question 1		alternative document	proportions of	disease clinic,	countries:	Research and
	various outcomes		and 42 studies (45		design or numerical	individuals with low	urology clinic,	UK, Canada,	Quality (AHRQ),
	and disparities and		articles) addressed		presentation, additive	health literacy or low	university-based,	Germany,	USA
	interventions to		Key Question 2.		or alternative pictorial	numeracy. I wenty-one	urban tertiary care	New	
	improve low health		These 42 studies		representations,	studies examined the	hospitals,	Zealand.	
	literacy. Key		were of good- or		alternative media, and	effect of interventions	nephrology clinic	Some studies	
	Question 1.		fair-quality: 27		combination of	specifically in low-	(public health clinic),	not reported.	
	<u>Outcomes:</u> Are		RCTS, 2 Cluster		alternative readability	nealth-literacy	two general		
	related to use of		and 12 guasi		Councelling flyers	subgroups. Other studies	clinics/firms		
	health care convices		anu 15 yuasi-		labola cumbola	estammed intervention	Institute for Human		
	health care services,		experimental		abels, symbols,	that included both low	Development		
	costs of health care		studies.		tutorials	and high-health-literacy	bousebolds urban		
	and disparities in						outpatient clinics		
	health outcomes or					individuals: these studies	family practice		
	health care service					provide only supportive	clinics affiliated with		
	use? Key Question 2.					evidence about the	an urban academic		
	Interventions: For					effect of interventions to	teaching hospital.		
	individuals with low					mitigate the effects of	healthcare services.		
	health literacy skills,					low literacy.	University-based		
	what are the						, graduate		
	effective						orthodontic clinics,		
	interventions?						diabetes education		
							class at one		
							Hospital, internal		
							medicine outpatient		

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
							clinics, cardiology		
							clinic, pediatric		
							allergy clinic, clinics		
							in a community		
							health network ,		
							diverse settings: a		
							faith-based		
							organization, an		
							adult basic		
							education center,		
							and a general		
							internal medicine		
							ambulatory care		
							clinic, participants		
							recruited in 3		
							hospital		
							rheumatology		
							departments, urban		
							emergency		
							department.		
Büchter	The comparative		10 studies (7	November	Words Vs numbers in	1736 participants, all	Hypothetical,	UK	The authors did
2014	effects of words		articles) - all RCTs.	2012	risk communication	volunteers. In all but one	fictional or real		not receive any
	versus numbers in		Many studies used		(Hypothetical	study participants were	scenarios.		funding for this
	communicating the		a factorial design.		scenario). Leaflets on	recruited from the	Treatment effects		work apart from
	probability of				drugs for a particular	general population or via	were communicated		their salary. All
	adverse effects or				condition	a cancer website and	through written		authors are
	harms of treatments					confronted with a	health information		purveyors and
	to consumers in					hypothetical scenario.	only		proponents of
	written health					Participants had a			evidence based
	information.					variety of educational			consumer health
						backgrounds and all			information.
						were adults.			
Car 2011	To assess the effects	Yes	Two studies, 1	March 2008.	Online health	470 participants. 1 RCT	Both studies took	USA (2)	Partial financial
	of interventions for		RCT) and 1		information addressing	with 448 people living	place in specialist		contribution
	enhancing		controlled before		health literacy (skills to	with HIV/AIDS (320	computer canters		from The
	consumers' online		and after (CBA)		search, evaluate and	male; 116 female; 12	placed in community		Department of
	health literacy (skills				use online health	trans gender); (399	venues in the USA.		Primary Care and
	to search, evaluate				information). Groups	African American; 36			Public Health,
	and use online				of six to ten	White American; 13			Imperial College

Author	Topic (Objectives)	Informed by theory / framework	Study designs included and number	Date of most recent search	Interventions*	Participants	Settings	Country(ies)	Financing source
	health information).				participants "Adult education style", discussions, 90 to 120 min for 4 weeks. One study had 9 months of follow-up	other) and 1 CBA with 22 healthy adults (18 female and 4 male).			London. External sources: NHS Connecting for Health Evaluation Programme (NHS CFHEP 001), UK.
Cole-Lewis 2010	To assess the effectiveness of behavior change interventions for disease management and prevention delivered primarily through text messaging	Yes	12 studies represented by 17 articles. Nine RCT, 2 randomized crossover trials and one quasi- experimental trial.	June 2009	Text messaging, 3 to 12 months, 5 per day to 1/weekly, uni and bidirectional	2425 participants: 246 diabetic adolescents, 165 diabetic adults, 191 overweight adults, 1705 smokers, 16 asthmatics adults, 102 healthy adults. Gender was nearly equally distributed in most studies, with the exception of 3 studies in which females were greatly overrepresented or underrepresented.	General population in the disease prevention studies and from clinics in the disease management studies. Only one recruited healthy individuals, whereas the rest were targeted toward people with a specific disease or condition.	Canada (1), Finland (1), New Zealand (2), United States (2),France (1), South Korea (2), Scotland (1), Croatia (1), and Austria (1).	Supported by the National Institute of Mental Health (T32 MH020031)
Edwards 2000	To assess whether risk-communication interventions are associated with changes in patient knowledge, attitudes, and behaviors, and to identify aspects of these interventions that modify these effects.		51 studies were RCTs and 31 as non-RCTs. Note: study designs were not specified for inclusion criteria nor details given in results. 96 studies met inclusion criteria but only 82 were used in the meta-analysis.	1996	One to one risk communication (not necessarily face to face)	Of the 96 publications that fulfilled the inclusion criteria, 19 related to coronary heart disease risk, 15 to smoking, 14 to breast screening, 9 to HIV risk, 6 to accident prevention, 5 to cervical screening, and 28 others.	Settings included family practice, other primary care, secondary care, outreach (i.e., proactive seeking of patients), and workplace.	Not specified.	None specified.
Faber 2009	The review assessed 3 main questions: 1. What is the weight given to quality-of- care information by consumers in the	Yes	12 RCT, 2 CBA	January 2008	Quality of care information based on real or hypothetical performance. Three types (A, B, C). Report cards, mails, different	The participants were in a role of health care consumers, as opposed to patients seeking health care services. The number of participants	All studies were performed in the United States after 1993, the year in which the release of HEDIS (Health Plan	USA	None specified. All authors declared that they have no conflict of interest,

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
	process of choice?				formats (framing	ranged from 34 to	Employer Data and		including specific
	2. What is the effect				information, costs of	13,078 (the median	Information Set)		financial
	of the presentation				health plan,	number of participants	introduced the first		interests and
	format on consumer				highlighted	was 316).	systematic approach		relationships and
	choice based on				information, etc.)		for public reporting		affiliations
	quality-of-care						of health plans. In 4		relevant to the
	information?						studies, the		subject matter or
	3. What is the						experiment was		material
	influence of quality-						conducted in a real-		discussed in the
	of-care information						world setting, with		manuscript.
	on consumer choice						actual quality		Affiliations of
	in a real-world						information and		authors are
	setting?						dissemination of the		Universities.
							information by		
							personal mailings.		
							The other 10 studies		
							used laboratory		
							settings with		
							hypothetical quality		
							Information. Except		
							for 2 studies that		
							used hospital		
							quality-of-care		
							information, settings		
							with quality-of-care		
Finkolstoin	The impact of health		227 articles that	July 2010	Lloolth Information	Study nonviotions have	KO1a, Sattings have	Australia (8)	Agonoufor
PINKEISLEIN	information		327 diticles triat	July 2010		study populations have	included bespitals	Austria(δ),	Agency for
2012	tochnology (IT) that		Kov Questions 1		rechnologies	nationts to more than	outpatient practices	aium(1) Cana	Rediticale Research and
	supports patient		and/or 2 184			1 000 The studies have	and nationts'	da(1E) China(
	supports patient-		PCTs for Koy			1,000. The studies have	homos KO2: Studios	ua(15),Ciiiia(Quality 0.3.
	Key Questions: Key		Question 1, 206 for			nurses and nationts and	focused on a wide	2), Denmark(1)	Health and
	Question 1 Are		Key Question 2			have used many	variety of clinical	Einland(3)	Human Services
	health IT		and 63 articles that			different types of health	conditions including	France(3)	Tuman Services
	applications		were applicable to			IT The interventions	diabetes mellitus	Germany(6)	
	effective in		hoth Key			were addressed to many	cardiovascular	Greece(1)	
	improving the		Ouestions 1 and 2			medical conditions	disease, heart	India(1)	
	following outcomes.		The 206 articles				failure, COPD,	Israel(3),	

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search			-		-
		framework	number						
	and how do the		addressing barriers				cancer, asthma,	Italy(6),	
	outcomes vary by		and facilitators				mental health, sickle	Japan(2),	
	type of health IT		were for the most				cell disease,	Korea	
	application? Key		part RCTs,				and chronic pain.	(Republic	
	Question 2. What		qualitative studies,					of)(1),	
	are barriers or		and usability					Netherlands(
	facilitators that may		studies. KQ3 and					9), New	
	impact		KQ4: scarce					Zealand(1),	
	implementation and		evidence.					Norway(6),	
	use of health IT							Portugal(1),	
	applications to							Singapore(1),	
	enable PCC? Key							Spain(4),	
	Question 3. What							Sweden(2),	
	knowledge or							Switzerland(
	evidence deficits							1),Taiwan(2),	
	exist regarding							England(31),	
	needed information							Northern	
	to support estimates							Ireland(2),	
	of cost, benefit,							Scotland(3,	
	impact,							Wales(1),	
	sustainability, and							USA (191)	
	net value with								
	regard to enabling								
	PCC through health								
	11? Key Question 4.								
	What critical								
	information								
	regarding the impact								
	or nearth m								
	applications								
	enable PCC is								
	enable FCC is								
	consumers their								
	families clinicians								
	and developers a								
	clear understanding								
	of the value								
	proposition								

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
	particular to them?								
Fjeldsoe 2009	Analyzes the application of SMS for delivering health behavior change interventions.		14 studies (6 RCT, 1 a clustered randomized comparative trial, 1 randomized crossover trial, and six were pre–post design studies).	March 2008	Tailored SMS messages. 6 to 12 months, e-mail, interactive Website, self-monitoring or accelerometer, brochures	Smokers, healthy adults, adults, adolescents and pediatric diabetes patients, asthma patients, patients with uncontrolled hypertension and patients diagnosed with bulimia nervosa.	Outpatient clinics, public health clinics, Healthcare Centers, pediatric clinic, diabetes clinics, hospitals.	New Zealand, Washington DC, Bedfordshire United Kingdom, Korea, Finland, Scottish. Vienna, Austria. South Korea, Croatia, Spain, Toronto, U.S and England	No financial disclosures were reported.
Gagliardi 2016	To identify and describe effective strategies for Patient-mediated Knowledge Translation (PKT) during clinical encounters.	Yes	12 RCT, 4 cohort studies	September 2014	Patient mediated KT for clinical encounters. Including brochures, booklets, before or after consultation	3767 adults participants. All were arthritis and cancer patients from primary care clinics, hospitals or clinics and living homes.	Clinical encounters (outpatients with arthritis or cancer)	USA (10), UK (2), Canada (1), China (1), France (1), Netherlands (1)	The Canadian Institutes of Health Research
Gibbons 2009	1) Impact of Consumers Health Information (CHI) applications on health outcomes, and 2) barriers that clinicians, developers, consumers, and their families or caregivers encounter that limit utilization or	Yes	162 articles: 137 RCT for objective 1, 31 studies (24 non-validated surveys and 7 qualitative studies) for the objective 2, and 6 articles for both objective 1 and objective 2.	June 2009	Consumer health informatic (CHI). Interactive Website- based app or Web- based tailored education Websites, Computer generated tailored feedback APP, interactive computer programs and personal monitoring devices	In terms of participant age groups, 77% (76/99) of studies reporting age of participants targeted adult CHI users. Approximately 12% of studies targeted adolescents/teens, 3% of studies targeted seniors and another 3% of studies targeted children, 5% of studies	In terms of intervention delivery setting or location, 58% of studies evaluated CHI applications that were used in the home or residence, a minority of evaluations were completed in schools (15%),	Not reported	Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services.

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
	implementation of					targeted participants	clinical settings		
	CHI applications.					from overlapping age	(17%), communities		
						groups. Of studies	(3%), online (5%) or		
	Sub key Q1					reporting the race of the	kiosks (2%).		
	outcomes: a) health					participants 92% (49/53)			
	care process					of the studies employed			
	outcomes, b)					populations that were			
	intermediate					greater than 50 percent			
	outcomes, c)					white/Caucasian. There			
	relationship-					was only one study with			
	centered outcomes,					greater than 50 percent			
	d) clinical outcomes.					African-American			
						participants and no			
						studies with a majority			
						of participants who were			
						Hispanic, American			
						Indian/Alaska Native, or			
						Asian/Pacific Islander.			
Health	Examine the impact		A total of 11	April 2012	Electronic Tools for	Mostly health service's	The eTools applied	Australia (1),	Ontario
Quality	of eTools for health		citations were		Health Information	staff in communication	in each study were	Netherlands	Government
Ontario	information		included (4		Exchange, addressed	with other services	unique, as were the	(1),	
2013	exchange in the		randomized		to providers in the	attending different	conditions under	United	
	context of care		controlled trials		context of care	patients: with coronary	which they were	Kingdom (1),	
	coordination for		and 7		coordination.	artery disease (1);	applied.	United States	
	individuals with		observational		Electronic medical	diabetes (7); heart	Some were used to	(8).	
	chronic diseases in		studies)		records (eTools). Note:	failure (1); and multiple	coordinate care		
	the community.				provider to provider,	chronic conditions (2).	between hospital-		
					patients are indirectly		based and		
					involved		outpatient/communi		
							ty-based health care		
							providers; some		
							were applied in a		
							community setting		
							to help coordinate		
							care between		
							primary care		
							physician and other		
							health care		
							professionals (e.g.,		

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
							nurses and		
							pharmacists); the		
							rest were applied in		
							multiple care		
							coordination efforts		
							and/or did not		
							specify their points		
							of care coordination		
							communication.		
Hoffman	Assess the ability of	Yes	19 studies (15	February	Fictional television.	One study had	Eight studies (42%)	USA (19)	Not reported
2017	medical television		surveys, 4	2015	Regular viewing habits	adolescent participants,	used overall regular		
	programs to affect		longitudinal -2			and the remaining	viewing habits as the		
	important public		RTC) Many			eighteen had adult (18+)	exposure, and seven		
	health outcomes		included studies			participants.	studies (37%) asked		
	such as viewers'		used convenience			Seven studies (37%)	participants whether		
	health-related		instead of random			enrolled students from	or not they saw		
	knowledge,		samples, because			college undergraduate	specific episode(s)		
	perceptions and/or		recruitment			courses, and no studies	as the exposure.		
	behavior.		advertisements for			assessed participants	Three (16%) studies		
			studies involving			aged 65 or above.	exposed		
			medical television			Not all studies reported	respondents to a		
			are likely to attract			the mean age of	specific clip or		
			viewers who may			participants, for those	episode in a		
			have more			who did, mean age was	classroom setting,		
			tavorable views of			29 years.	and one study (5%)		
			medical television.			The number of	used both regular		
						participants per study	viewing habits and		
						ranged from 35 to 11	viewership of		
						1650	define the expective		
						The percent of female	The scope was		
						narticipants ranged from	limited to shows		
						41 to 79% excluding two	that feature health		
						studies that involved	professionals in a		
						only one gender	professional setting		
						Thirteen studies	presessional setting.		
						reported participant			
						race/ethnicity. all but			
						one had a majority of			

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
						Caucasian participants.			
Ketelaar	To estimate the		Total 4 studies	2011	Publicly releasing	Medicaid beneficiaries	Two studies were	Three studies	None
2011	effects of publicly		(Cluster-		regarding performance	iviedicald beneficiaries:	set in nealth plans.	were	
	releasing		randomized		data about any aspect	5878 (Age: unclear and	One study set in	conducted in	
	performance data on		controlled trial;		of the healthcare	gender: men and	nospitais in Colifornia and Now	the USA and	
	behavior of three		cluster quasi-		individuals. Three	troated for CAPC in New	Vark and ano study	one study	
	target groups:		interrunted time		target groups:	Vork and for AM and	sot in hospitals in	was	
	hoalthcaro		sorios and Cluster		hoalthcaro consumors	nost discostomy	Set in nospitals in	Canada	
	consumers		randomized trial)		(natients) providers of	complications in	One study was	Callaua.	
	(natients) providers				healthcare (health	California (Number of	conducted in 35 of		
	of healthcare (health				professionals) and	patients: unclear, age:	the 99 Iowa		
	professionals) and				purchasers of	unclear -children	counties. The		
	purchasers of				healthcare. In written	younger than 18 years	second study was		
	healthcare.				or electronic form,	were excluded- and	based on the New		
					with varying degrees	gender: men and	Jersey Medicaid		
					of accessibility, such as	women). 15997 patients	programme. The		
					a report in a publicly	treated for AMI or CHF	third study was		
					accessible library or	(Age: no restriction and	based in California.		
					more active	gender: men and	In Canada, evaluated		
					dissemination directly	women)	the public release of		
					to consumers in		performance data of		
					newspapers, leaflets,		12 process-of-care		
					personal mailings,		indicators for AMI		
					broadcasting media,		and six indicators for		
					etc.		congestive heart		
							failure (CHF) in 86		
Kinganalau			22 DCT	Contonobor	Interventions hefers	Dationto and /ou thain	nospitais.		Creat frage the
2007	on nationts		33 KCT WILL 8244	September	consultations	roprosontativos (or	Primary care and	USA (18), Nothorlands	BPR Foundation
2007	clinicians and the		patients.	2000	consultations	caregivers) of all ages	among nationt with	(2) Australia	(now known as
	healthcare system of					hefore 'one-to-one'	various conditions	(2), Australia (4) Canada	the Health
	interventions which					consultations with	(number of studies):	(2), UK (7).	Foundation).
	are delivered before					doctors or nurses in	cancer (9), diabetes	Indonesia (1)	Australia.
	consultations, and					healthcare	(2), cardiac		Internal sources:
	which have been					settings.	problems (2),		Cardiff
	designed to help					Excluded: Individuals or	obstetric or		University, UK.
	patients (and/or					groups attending	gynecological		

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
	their					activities such as health	problems (2), mixed		
	representatives)					promotion clinics (for	outpatients (1),		
	address their					example, antenatal	women attending		
	information needs					classes) or in-patients for	family planning		
	within consultations.					whom there were not	clinics (1), women		
						specific subsequent	attending a well-		
						identifiable	baby clinic (1),		
						consultations.	children attending a		
						Individuals consulting	pediatric clinic (1)		
						other healthcare	and one on patients		
						professionals.	with peptic ulcers. In		
							the study conducted		
							in a pediatric		
							setting, both		
							children and their		
							parents received		
							interventions. Thirty		
							studies reported on		
							patients consulting		
							physicians, two on		
							patients consulting		
							either physicians or		
							nurses, and one on		
							family planning care		
							providers.		
Laranjo	Effectiveness of	Yes	12 studies, 7411	March 2013	Social networking	Not all studies reported	The health domains	Australia (1),	The Harvard
2014	interventions using		participants. Three		(Facebook, Twitter),	age data, 3 recruited	covered were	UK (1) and	Medical School-
	social networking		quasi-experimental		websites, + email. 21	students and 2 involved	fitness, sexual	USA(10)	Portugal
	sites (SNSs) to		and 9 RCT.		days to 18 months	young adults	health, food		program (HMSP-
	change health						safety, smoking, and		ICJ/0005/2010;
	behaviors						health promotion.		National Health
									and Medical
									Research Council
									(NHMRC) Centre
									of Research
									Excellence in
									Informatics and
									E-Health and the
									Portuguese

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search			_		_
		framework	number						
									Foundation for
									Science
									and Technology.
Loudon	Identify and		26 studies (10	January 2013	CPG and evidence-	24887 participants. The	Primary care,	Canada (6),	European
2014	synthesize evidence		qualitative studies,		based written	age of participants	patient groups or	UK (4), Seoul	Community's
	of the public's		13 cross sectional		recommendations	ranged from 30 to over	with a special	(1), USA (10),	Seventh
	attitudes towards		and 3 RCT)		including symbols and	76 years and one study	condition, websites,	Australia (4),	Framework
	clinical practice				words	on 11–15-year-old	including caregivers.	Israel (1)	Programme
	guidelines and					adolescents. Most	For instance:		(FP7/2007-2013)
	evidence-based					studies included both	Canadian office		under grant
	recommendations					genders although some	workers, female		agreement n°
	written for providers					included only women	careers in Maryland,		258583 (DECIDE
	or the public,					because of the topic	USA, Londoners		project).
	together with their					(e.g. breast cancer).	attending drop-in		
	awareness of						centers in the UK for		
	guidelines.						patients with mental		
							nealth problems,		
							visitors to a weilare		
							women attending		
							secondary care for		
							menstrual		
							abnormalities in		
							and patients with		
							Diabetes in		
							Australia.		
Maher	The effectiveness of	Yes	10 Studies. Three	December	Social network and	113.988 participants.	Live trials (4).	Australia (2).	University of
2014	online social		key study: (1)	12, 2012	equipment (scales)	Adults or children	Community (2),	USA (5),	, South Australia
	network health		large-scale	,		regardless of health	University (2),	Japan (2), UK	Fellowship
	behavior		evaluations of			status (healthy or	Hospital nursing	(1)	Support
	interventions.		"live"			participants with specific	staff (1), and 1 not		-
			interventions,			health conditions or	reported. The		
			with >1000			diseases). The studies	targeted health		
			participants (four			typically reported high	behaviors were		
			studies with			rates of female	diet/weight loss		
			sample sizes			participation: on average	(n=2), physical		
			ranging from 545			83.3% of participants	activity (n=3), or a		
			to 107,907), (2)			were female.	combination of		

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
			medium-scale,				diet/weight loss and		
			tightly-controlled				physical activity		
			randomized				(n=5). No eligible		
			controlled trials,				studies targeted		
			with				smoking or alcohol		
			approximately 100				consumption.		
			participants (four				Interventions		
			studies with				included commercial		
			sample sizes				online health social		
			ranging from 52 to				network websites		
			134) and (3) small				(n=2), research		
			pilot studies, each				health social		
			with 10				network websites		
			participants (two				(n=3), and multi-		
			studies). In all, five				component		
			studies were				interventions		
			randomized				delivered in part via		
			controlled trials				pre-existing popular		
			(RCT), one was a				online social		
			randomized cross-				network websites		
			over study, and				(Facebook n=4 and		
			four were single				Twitter n=1)		
			group pre-post						
			studies. Of the six						
			studies that						
			utilized a separate						
			control group or						
			arm (crossover						
			study), only one						
			had a "true" (ie,						
			no-intervention)						
			control, with the						
			others comparing						
			the online social						
			networking						
			intervention with						
			an alternative						
			intervention (in						
			five cases the						

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search			-		_
		framework	number						
			alternative						
			intervention was						
			Web-based, and in						
			three cases the						
			alternative						
			intervention						
			involved an online						
			social networking						
			component).						
Мс	Communication and	Yes	61 articles that	March 2013	Communication and	Adults (≥19 years),	KQ1: Participants	KQ1: From	RTI
Cormack	dissemination		directly (i.e., head		dissemination	general public and	from community	United States	International-
2010	strategies to		to head) compared		strategies. Face to	patients, clinicians,	health clinics, public	and Hong	University of
	facilitate the use of		strategies to		Face, electronic	children (<19 years),	housing, university	Kong. KQ2:	North Carolina
	health-related		communicate and		sources and	incarcerated	classrooms, low	from United	Evidence-based
	evidence. The review		disseminate		equipment (Scales).	populations, federal and	income	States,	Practice Center
	focused on three		evidence. Nine		Narrative. Framing,	state policymakers	neighborhoods,	Canada,	(EPC) under
	primary objectives—		articles		Tailored and targeted	KQ1: Total 10,145	health care practice,	England,	contract to the
	comparing the		(representing 7		strategies	participants, KQ2: 14970	women veterans	Germany,	Agency for
	effectiveness of: (1)		RCT) were to KQ 1;			participants from 21	and lay health	Australia.	Healthcare
	communicating		42 articles			studies addressed to	workers.KQ2:	KQ3: from	Research and
	evidence in various		(representing 38			public/patients. KQ3:	participants from	United	Quality (AHRQ),
	contents and		RCT) were relevant			5405 participants from 3	community-based,	States,	Rockville, MD
	formats that		to KQ 2 and 21/38			studies that included	parents or primary	Canada, and	
	increase the		relevant to			public/patients.	caregivers, veterans,	Switzerland.	
	likelihood that target		public/patients; 10				members of		
	audiences will both		articles				participating church.		
	understand and use		(representing 2				KQ3: participants		
	the information (KQ		RCT,4 factorial				from Community-		
	1); (2) a variety of		RCT, 2 quasi-				based setting,		
	approaches for		experimental and				academic and		
	disseminating		1 noncontrolled				community internal		
	evidence from those		trial) were relevant				medicine practices.		
	who develop it to		to KQ 3.						
	those who are								
	expected to use it								
	(KQ 2); and (3)								
	various ways of								
	communicating								
	uncertainty-								

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
	associated health-								
	related evidence to								
	different target								
	audiences (KQ 3). A								
	secondary objective								
	was to examine how								
	the effectiveness of								
	communication and								
	dissemination								
	strategies varies								
	across target								
	audiences, including								
	evidence translators,								
	health educators,								
	patients, and								
	clinicians.								
Moorhead	Uses, benefits, and		98 studies, 40	February	Social media for health	The characteristics of	It was difficult to	Scarcely	Not reported
2013	limitations of social		quantitative, 48	2012	communication	users of social media	have the exact	reported. It is	
	media for health		qualitative			were diverse, covering a	number of	difficult	
	communication		(including studies			range of different	participants and	when the	
	among the general		with content			population groups. The	their settings. Many	object of	
	public, patients, and		analysis presenting			age of the social media	studies reported	study are the	
	health professionals.		data with			users ranged from	participants but in	social media	
			descriptive			school children to older	other cases they		
			statistics), and 10			adults aged 65 years and	reported number of		
			mixed methods.			up, but the majority of	Tweets, questions,		
			Quality was			the reported ages were	comments, etc.		
			evaluated with the			11-34 years. Some	Social media		
			Downs and Black			studies reported that	tools/applications		
			instrument, the			there were more lemale	(considered as		
			maximum total			notwork sites A fow	the OR studies (Some		
			score that could be			studios found that social	the 98 studies (Some		
			but the scores of			modia usors woro	more than one		
			the studios in this			disproportionatoly from	social media		
			review ranged			lower-income	tool/application) Th		
			from 3 to 26			households Studios	oro was a wido		
			Overall the studios			within the United States	range of health		
			scored low using			reported that more	topics but the meet		
			scored low using			reported that more	topics, but the most		

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
			this scale as they			social media users were	frequently reported		
			were mainly			African Americans than	on were sexual		
			exploratory and			no Hispanic Whites. It is	health, diabetes,		
			descriptive with			difficult to have the	flu/H1N1, and		
			three intervention			exact number of	mental health issues		
			studies and one			participants and their	such as stress or		
			RCT.			settings.	depression.		
							Facebook (n=13),		
							Blogs (n=13), Twitter		
							(n=8), YouTube		
							(n=7), MySpace		
							(n=5), Wikipedia		
							(n=3) , Wiki (n=2),		
							Quitnet / online		
							smoking cessation		
							support group (n=2),		
							Physician rating		
							website specified)		
							(n=2), Second Life		
							(n=1), Daily Strength		
							(n=1),		
							ArboAntwoord (n=1)		
							, Social media (Looi		
							(n=20) Wob 2.0		
							(11-50), Web 2.0		
							specified) (n=11)		
Dires 2015	To review the		Twenty-two	February	Package leaflets	Exploratory studies with	Descriptions were	Not	Research
1 11 C3 2013	readability of		studies and	2013	organized in clear and	the participation of	insufficient In some	described	supported by the
	package leaflets of		comprised 16 full	2010	comprehensive way	health professionals (2	cases, were clients	ucsenseu	Fundação para a
	medicinal products		papers, three brief		about medicines.	studies): one study	of community		Ciência e
	for human use.		communications.		adverse effects.	included potential users	pharmacies in		Tecnologia.
			and three indexed		information in	and physicians and the	others, were from		Ministério da
			abstracts. The		different formats	other study included 40	associations of		Educação e
			studies were			patients, 6 physicians, 11	patients. Exploratory		Ciência, Portugal
			distributed as			pharmacists and 13 from	studies enrolling		(Process SFRH
			follows: two			associations of patients	health professionals,		/BD/76531/2011
			exploratory studies			and health professionals.	patients or potential		– Doctoral
			enrolling health			Exploratory studies with	users of medicines:		grant).

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
			professionals, 12			the participation of	the majority of the		
			exploratory studies			potential users of	reviewed readability		
			enrolling patients			medicines studies on	studies used		
			or potential			patients' comprehension	package leaflets of		
			patients who will			of drug adverse	specific medicines,		
			use the medicines,			reactions two studies	and highly utilized		
			and 8 descriptive			with a total of 321	medicines such as		
			studies.			participants.	acetaminophen.		
						Exploratory studies with			
						the participation of users			
						or potential users of			
						medicines			
						comprehension (10			
						studies): With a total of			
						approximately 4000			
						participants including:			
						healthy men and with			
						health problems,			
						potential users, clients of			
						community pharmacies			
						and low-literate			
Devere	Effective and of	Vaa	27 atudian 2	1000	antiont interactive	participants.	Not vovo vto d	Not you out od	Networented
Revere	Effectiveness of	res	37 studies: 3	1999	patient-interactive	Nobile Communications:	Not reported	Not reported	Not reported
2001	patient-interactive		Quasi-		computer-generated	50; Computer Systems:			
	computer-generated		PCT 1 Ecosibility		boolth bobovior	Jolophono			
	interventions		study 1 report 4		interventions clinical	Communications: 1850			
	clinical ancountars		other trials		oncountors "in	and Print			
	"in absentia"—as				absentia"—as	Communications: //3868			
	extensions of face-				extensions of face-to-	communications: 40000			
	to-face natient care				face natient care				
	This review								
	specifically examines								
	the state of								
	computer-generated								
	or computer-								
	operated								
	therapeutic								
	communications								

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search			-		_
		framework	number						
					4) provider-led				
					services for patients,				
					reminders,				
					appointment cards,				
					medicines charts,				
					alarms, memory aids,				
					patient reminder or				
					recall systems (such as				
					letters, postcards,				
					telephone follow-up,				
					reminders with or				
					without outreach)				
					5) Counselling (group				
					or individual,				
					structured) and				
					support, therapy				
					(family intervention,				
					psychological therapy,				
					cognitive behavioral				
					therapy, motivational				
					interviewing, group				
					programs (peer				
					support and shared				
					identification)				
					6) Consumer				
					involvement in				
					developing patient				
					medicines information,				
					medicines policy or				
					guideline committee				
					involvement				
Sawesi	To determine (1) the	Yes	170 articles	Publication	Different categories of	Sample sizes ranged	Not reported	The majority	Not reported
2016	impact of		included,	years ranged	IT platforms (including	from 1-22,337 subjects.		of studies	
	information		dominated by RCT	from 2000 to	Internet-based			were	
	technology (IT)		(65.9%, 112/170).	2014, with an	interventions, mobile-			implemented	
	platforms used to		Case study (4 %),	overall	based interventions,			in high	
	promote patient		Cohort study	increase in	social media, video			income	
	engagement and to		(11,2%), Cross-	articles	game technology, and			countries	
	effect change in		sectional (8,8%),	published	telemonitoring). 1			correspondin	

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search			-		
		framework	number						
	health behaviors and health outcomes, (2) behavioral theories or models applied as bases for developing these interventions and their impact on health outcomes, (3) different ways of measuring health outcomes, (4) usability, feasibility, and acceptability of these technologies among patients, and (5) challenges and research directions for implementing IT platforms to meaningfully impact patient engagement and health outcomes		Quasi- experimental (10%)	more recently (21.8%, 37/170 in 2014).	week to 48 months			g to United States the 54.7% (93/170). Just 1 study from Kenya and 1 from Chile.	
Sawmynad en 2012	To assess the effects of email for the provision of information on disease prevention and health promotion, on outcomes for healthcare professionals, patients and caregivers, and health services, including harms.		Nine articles reporting six studies. Six RCT were included in qualitative synthesis, and 2 of them included in meta-analysis	2010	e-mail vs standard mail or standard care. Encrypted or Web messaging. For prevention, promotion or information. Weekly to six months	8372 participants. All participants were adults, in five studies they were patients and in one, they were caregivers. All participants needed to have e-mail access.	Primary care (1); secondary or tertiary care studies - hospital-owned health and fitness facility (1); outpatient clinics (4).	USA (5); UK (1).	Internal sources: eHealth Unit, Imperial College, UK, the NIHR (CLAHRC) Scheme, Department of Family Medicine, University of Ljubljana, Slovenia, NHS Education for Scotland, UK, NHS Connecting for Health

Author	Topic (Objectives)	Informed by theory / framework	Study designs included and number	Date of most recent search	Interventions*	Participants	Settings	Country(ies)	Financing source
									Evaluation Programme (NHS CFHEP 001). External sources: Medical Research Council, UK.
Sharma 2017	The impact of interventions involving patient advisory councils on clinical care outcomes, patient safety, and patient satisfaction, compared to care that doesn't involve patient advisors. The secondary aim was to survey the impact patient advisors have on healthcare changes such as priority- setting, patient materials, and impacts on patient advisors themselves.		N=32, including: 1 cRCT, 4 describe a set of quasi- experimental quality improvement initiatives from one practice group, 1 systematic review, 1 cross-sectional survey, 9 qualitative or ethnographic studies, and 16 case studies	August 2015	Patient advisory council (consumer working with healthcare staff): meetings 2 to 4 times per year. Face-to-face meetings, virtual meetings, focal groups, e-mail, communications) i.e.: Patients advisory, Community advisory council, AD-Hoc Committee, experience-based, co- design	Mostly patients (and families), including in: Patient Advisory Council (11 studies), Community Advisory Council (4), Ad- hoc Patient Committee (8), Experience-based co-design (4), Other (5).	Inclusion criteria spanned all healthcare settings, including primary care, ambulatory specialty care, inpatient care, emergency department and long-term care. Patient engagement at the clinic or organizational level was included.	15 UK, 8 USA, 4 Canada, 4 Australia/NZ, and 1 Sweden	NRSA Award T32HP19025 & Kaiser Permanente National Community Benefit Fund of the East Bay Community Foundation #20152632.
Shipper 2016	To assess what dissemination strategies are feasible to inform and educate patients about recommendations or guidelines.		22 studies: 12 expert opinion 4 qualitative research 1 RCT	February 2016	Guideline dissemination consists of a combination of active and passive methods: Using Websites, email notices, interactive internet-based lectures, telephone- based coaching, personal stories of	Not described	Different settings, diseases mainly about the field of rheumatology, asthma/COPD and diabetes and, participants including in the developing clinical practice guidelines.	Canada 7 Europe 7 USA 5 Russia 1 Africa 1	EULAR European League Against Rheumatism funds

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		by theory /	included and	recent search					
		framework	number						
					patients in media,				
					electronic point-of-				
					care tools, templates,				
					laboratory prompts				
					and a communications				
					campaign, interactive				
					decision support				
					algorithms. Training				
					and support with				
					learning tools				
					(newsletters,				
					brochures, posters,				
					summaries, handouts,				
					pocket cards,				
					standardized slide				
					sets), support groups,				
					workshops, events,				
					seminars, annual				
					conferences, local or				
					regional events, events				
					for professionals				
					and/or patients, press				
					releases, print-ready				
					ads, flow sheets				
					didactic educational				
					meetings, availability				
					of cross-cultural				
					adaptations, providing				
					lay versions. Also, the				
					establishment of				
					permanent groups,				
					networks or 'virtual				
					panels' of patients to				
					disseminate				
					guidelines. The use of				
					knowledge brokers				
					(KB) as other strategy.				
Smaihodzic	The effects of social	Yes	22 Articles, nine	March 2015	Social media	Patients users of social	Social media	1556	None
2016	media use for health		quantitative, seven			media. 4509 participants	platform and	participants	

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
	related reasons on patients and their relationship with healthcare professionals		qualitative and six mixed methods studies. No experimental studies.			(adult and children) and 5400 posts (4 studies).	Condition: Blogs - Unknown (1), Blogs - Chronic(1), Facebook/Twitter - Obesity (1), Facebook - Mental (2), Facebook - Contraceptives (1), YouTube - Chronic (1), Online support community - Unknown (2), Online support community - Mental (1), Online support community - Chronic (10), Forum - Unknown (1), Forum - Mental (1), Virtual reality - Chronic (1)	were from 5 countries: Australia, Germany, Japan, Korean, USA, Taiwan. The remained 2953 came from online communities , networks, support groups and social media.	
Stacey 2012	To explore characteristics and effectiveness of decision coaching evaluated within trials of patient decision aids (PtDAs) for health decisions.		10 RCT	2015	Decision coaching, some interventions included PtDAs. Median of individual coaching: 45 min, group coaching median 90 min for 3 sessions	2625 participants of (women and men).The mean number of participants per trial was 242 (range 43–625).	Hospital, inpatients, Primary care, Specialty care, community	US, Canada, UK, Germany	Authors received funding for research from the not-for-profit Foundation for Informed Medical Decision Making (FIMDM).
Stacey 2017	To assess the effects of decision aids (PtDA) in people facing treatment or screening decisions. (This update compared only decision aids with usual care, being removed the		105 RCT involving 31,043 participants (this update added 18 studies and removed 28 previously included studies comparing detailed versus simple decision aids).	2015	PtDAs with: information, probabilities, steps for decision-making, clarify values, examples of other's experiences. Included booklet, pamphlet, counselling, brochures, leaflet and electronic	Adults aged 18 years or older who made decisions about screening or treatment options.	The PtDA were set for screening or treatment of health conditions.	Australia (10 studies) Canada (15 studies) China (1 study) Finland (2 studies) Germany (6 studies)	The authors had financial support from the not-for- profit Informed Medical Decisions Foundation (IMDF)

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
	comparation				resources			Netherlands	
	between single or							(2studies)	
	multiple decision							Spain (1	
	aids.)							study)	
								Sweden (1	
								study)	
								UK (16	
								studies)	
								USA (50	
								studies)	
								Australia plus	
								Canada (1	
								study)	
Sustersic	Summarize the	Yes	This is an overview	August 2015	PILs before	Patients undergoing	The principle targets	Not informed	None
2016	diverse reviews,		with 24 studies: 17	-	consultation, screening	treatment for general	of PILs were drug		
	both general and		systematic		or surgery, medication	conditions, cancers,	treatments, invasive		
	specific to given		reviews; 6		information. Web-	acute diseases, chronic	procedures (such as		
	conditions that use		literature reviews;		pages, compute-	diseases and before an	surgery or		
	PILs (literature		1 meta-analysis.		linked, audiotapes,	intervention.	colposcopy,		
	reviews, systematic				interactive videos,		screening and		
	reviews and meta-				AIDs, counselling,		cancer). Very few		
	analyses),				teaching interventions.		articles concern		
	made to date.				Ū		acute pathologies or		
	Clarify the impact of						general medicine.		
	PILs by evaluating						Ŭ		
	their effect on main								
	outcomes, and								
	specify their								
	prescription								
	according to								
	condition and terms								
	of use.								
	Propose a checklist								
	for writing, designing								
	and using PILs with								
	recommendations,								
	for the								
	standardization of								
	research protocols								

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
	that assess PILs.								
Vernooij	To characterize		Seventy-seven	February	Packaged resources or	Not described	Eligible reviews	China(1)Neth	None
2016	effective types of		studies were	2015	CPG: educational		addressed a wide	erlands(1)No	
	self-management		included		sessions, self-directed		range of clinical	t	
	interventions that				guides, or counseling		topics that were	reported(75)	
	could be packaged				(brief in-person or		categorized as	United	
	as resources in (i.e.,				virtual interaction		metabolic conditions	States(1)	
	appendices) or with				during which providers		which were all		
	guidelines (i.e.,				and/or lay leaders		related to diabetes		
	accompanying				provided patients with		(23, 29.9 %);		
	products). The				recommendations,		musculoskeletal		
	secondary purpose				reminders or		conditions such as		
	of this review was to				encouragement).		arthritis and back		
	assess whether						pain (12, 15.6 %);		
	single-component						reviews of a variety		
	self-management						of chronic conditions		
	interventions were						(12, 15.6 %);		
	as effective as						cardiovascular		
	multifaceted self-						conditions such as		
	management						angina,		
	interventions.						hypertension, heart		
							(11, 14.3%);		
							pullionary conditions such as		
							asthma and chronic		
							astrinia and chronic		
							pulmonary disease		
							(7 9 1 %): other		
							conditions such as		
							cancer nain irritable		
							howel syndrome		
							epilepsy, multiple		
							sclerosis, and kidney		
							disease (7 9 1 %)		
							and mental illness		
							including anxiety		
							and depression (5.		

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
		framework	number						
							6.5 %).		
Vodopivec	To assess the effects		RCT 4	June 2009	SMS and Multimedia	Pregnant women (2),	guidelines	Canada,	Ministry of
2012	of mobile phone				Messaging Service	Children (1), Mixture of	University students,	Thailand,	Higher
	messaging				(MMS) for preventive	Smokers (1). The use of	healthy pregnant in	New	Education,
	interventions as				and health behavior.	SMS messaging was	antenatal care,	Zealand, USA	Science and
	a mode of delivery				Daily to every three	applied to four different	smokers from		Technology,
	for preventive health				days; six to 12 weeks	clinical areas: adherence	community and		Slovenia.
	care on health status				of follow-up	to preventive	children from		
	and					medication, prenatal	community.		
	health behavior					support, smoking			
	outcomes.					cessation, and health			
						behaviors. Participants			
						in three studies were			
						people in the community			
						and in one study healthy			
						pregnant women			
						attending an ambulatory			
						antenatal clinic. The			
						target group for the			
						intervention varied. The			
						age and gender of			
						participants were			
						variable. One study			
						included only women.			
						Participants came from			
						different income levels			
						and ethnicities.			
Wantland	To provide further	Yes	22 studies (16	December	Web-based. 2.6 logons	Aggregation of data from	Clinic and	The selected	Not described
2004	information on		Randomized study	2003	per person per week.	the 22 selected studies	clinic/home based	studies were	
	patient/client		- 3 convenience		Three to 78 weeks of	showed a total of 11,754	studies across many	performed in	
	knowledge and		sample - 1		follow-up. One-time	participants in both the	clinical areas or	the United	
	behavioral change		longitudinal		Web-participant	Web-based and non-	disorders of interest.	States,	
	outcomes after		randomized case		health outcome	Web-based		France,	
	Web-based		control pre-post		studies compared to	interventions. Of this		Japan, Italy,	
	interventions as		study - 1		non-Web participant	total, 5,841 were women		Spain,	
	compared to		descriptive study -		health	and 5,729 were men.		Netherlands,	
	outcomes seen after		1 longitudinal		outcomes, self-paced	The average age of		Sweden, and	
	implementation of		study)		interventions	participants was 41.5		Germany.	

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Settings	Country(ies)	Financing source
		by theory /	included and	recent search					
	non Mah haard	Tramework	number						
	non-web-based					years.			
Milcon	Fuelwate the		20.007	Nevember	Multimodia and print	Datianta from divarca	Cottings word	Not reported	This comparative
2012	evidence regarding the relative effectiveness of multimedia and print as modes of dissemination for patient education materials; examine whether development of these materials addressed health literacy.			2010	as modes of dissemination for patient education materials. Electronic sources and oral communication, prints, booklets	context and with many conditions. Sample sizes not reported.	diverse, ranging from primary care to specialty practice and from home to community-based care.	Not reported	analysis of print and multimedia health materials were funded, in part, by a grant from the Foundation for Informed Medical Decision Making (PI: Dr. Makoul).
Yamada 2015	Evaluate the effectiveness of toolkits as a knowledge translation (KT) strategy for facilitating the implementation of evidence into clinical care. Toolkits include multiple resources for educating and/or facilitating behaviour change.		All study designs were included. Total 39 (11 RCTs, 13 cohort studies, 15 others. We just included the description of the 2 studies (RCTs) addressing toolkits to patients/caregivers	November 2013	Toolkits: self-test, sheets, books, CDs, Audio CDs, booklets, mail	Participant of the two studies described, with focus on recipient health care. Patients with arthritic conditions: 921 adults with osteoarthritis, rheumatoid arthritis, fibromyalgia or chronic joint symptoms Caregivers of patients with Alzheimer's: 108 dyads of patients with progressive dementia of Alzheimer's type/caregiver.	Among all of the toolkits, 20 were developed for a specific disease context, most commonly for cancer (n=8) and diabetes (n=3). The remaining toolkits were developed for disease prevention (n=5), infection prevention (n=2), postoperative pain (n=1), smoking cessation (n=1), care in the geriatric population (n=8), patient safety (n=1) and general hospital quality improvement (n=1). Two studies	USA (2)	None

Author	Topic (Objectives)	Informed	Study designs	Date of most	Interventions*	Participants	Country(ies)	Financing source	
		by theory /	included and	recent search					_
		framework	number						
							targeted to patients/caregivers: a) patients with Alzheimer and their caregivers were enrolled from geriatric specialty clinics, b) the arthritic patients receipt the toolkit by mail.		
Zhao 2016	To examine the effectiveness of mobile phone apps in achieving health- related behavior change in a broader range of interventions.	Yes	23 studies used RCT design, except one case-control study.	June 2015	Mobile-phone based app, video, SMS, Computer Groups, bibliotherapy. 19 days to 12 months, follow up between 3 weeks to 6 months	Adult population	Health care settings without specification.	All studies were conducted in high-income countries, 10 in the United States, 3 in Australia, 2 in the United Kingdom and Sweden, respectively, and 1 each in South Korea, Italy, New Zealand, Spain, Switzerland, and the Netherlands.	Not reported

* For more details about interventions see Tables 2 and 3 in Additional file 5

Table 2. Quality of included systematic reviews (AMSTAR)

Reference	Q1	Q2	Q3	Q4	Q5	Q 6	Q7	Q8	Q9	Q10	Q11	Total of
												'Yes' scores

Reference	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Total of 'Yes' scores
Abu Abed 2014	No	Yes	Yes	No	No	Yes	Yes	No	Yes	No	No	5/9
Akesson 2006	No	No	Yes	No	No	Yes	Yes	No	NA	No	No	4/10
Akl 2011 a	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	9/11
Akl 2011 b	Yes	No	10/11									
Ammentorp 2013	No	Yes	Yes	Yes	No	Yes	Yes	Yes	NA	No	No	6/10
Ammenwerth 2012	No	Yes	Yes	Yes	Yes	Yes	Yes	No	NA	No	No	6/10
Atherton 2010	Yes	No	10/11									
Bekker 2013	No	Yes	Yes	Yes	No	Yes	No	No	Yes	No	No	5/11
Berkman 2011	No	Yes	NA	No	No	7/10						
Büchter 2014	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	7/11
Car 2011	Yes	NA	NA	No	8/9							
Cole-Lewis 2010	Yes	Yes	Yes	No	No	Yes	Yes	Yes	NA	NA	No	6/9
Edwards 2000	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	7/11
Faber 2009	No	Yes	Yes	No	No	Yes	Yes	Yes	NA	NA	No	5/9
Finkelstein 2012	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	NA	No	Yes	8/10
Fjeldsoe 2009	No	Yes	Yes	No	Yes	Yes	No	No	NA	No	No	4/10
Gagliardi 2016	Yes	Yes	Yes	No	No	Yes	Yes	Yes	NA	No	No	6/10
Gibbons 2009	Yes	NA	NA	No	8/9							
Health Quality Ontario 2013	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	NA	No	6/10
Hoffman 2017	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	No	7/11
Ketelaar 2011	Yes	No	NA	NA	Yes	7/9						

Reference	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Total of
												'Yes' scores
Kinnersley 2007	Yes	No	10/11									
Laranjo 2014	Yes	No	10/11									
Loudon 2014	No	Yes	Yes	Yes	No	Yes	Yes	Yes	NA	NA	No	6/9
Maher 2014	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	8/11
Mc Cormack 2010	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	NA	No	Yes	8/10
Moorhead 2013	No	Yes	Yes	No	Yes	Yes	Yes	Yes	NA	No	No	6/9
Pires 2015	No	No	Yes	No	No	Yes	No	Yes	Yes	No	No	4/11
Revere 2001	No	No	Yes	Yes	No	Yes	Yes	No	No	No	No	4/11
Ryan 2014	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	NA	Yes	8/10
Sawesi 2016	No	Yes	No	No	No	Yes	Yes	Yes	Yes	No	No	5/11
Sawmynaden 2012	Yes	No	10/11									
Sharma 2017	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	8/11
Shipper 2016	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	10/11
Smaihodzic 2016	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	No	6/11
Stacey 2012	Yes	No	10/11									
Stacey 2017	Yes	No	10/11									
Sustersic 2016	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	9/11
Vernooij 2016	Yes	Yes	Yes	No	No	Yes	Yes	Yes	NA	No	Yes	6/10
Vodopivec 2012	Yes	No	10/11									
Wantland 2004	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	6/11

Reference	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Total of 'Yes' scores
Wilson 2012	No	Yes	Yes	Yes	No	Yes	No	NA	No	No	No	4/10
Yamada 2015	No	Yes	Yes	Yes	No	Yes	Yes	Yes	NA	No	No	6/11
Zhao 2016	No	Yes	NA	No	Yes	8/10						

AMSTAR Questions: Q1) Was an 'a priori' design provided?, Q2) Was there duplicate study selection and data extraction?, Q3) Was a comprehensive literature search performed?, Q4)Was the status of publication (i.e. grey literature) used as an inclusion criterion?, Q5) Was a list of studies (included and excluded) provided?, Q6) Were the characteristics of the included studies provided?, Q7) Was the scientific quality of the included studies assessed and documented?, Q8) Was the scientific quality of the included studies used appropriately in formulating conclusions?, Q9) Were the methods used to combine the findings of studies appropriate?, Q10) Was the likelihood of publication bias assessed?, Q11) Was the conflict of interest stated?.