Title	Authors	Year	URL	Relevant to study	Focus on elderly	Relating to ICT	Focus on acceptance of ICT	Reviews data collected from elderly people	Looks at the general use of ICT in healthcare (not at a specific type of tech)	Looks at ICT in general (not a specific type of tech)	Notes	Review method	Databases searched	Search strings	Inclusion criteria	Exclusion criteria	Time period covered	# of papers before screening	# of papers after screening	Research question(s)	Findings	Recommendations for further research / Future work	Themes
A Review of Monitoring Technology for Use With Older Adults	Wagner et al.	2012	Link	Yes	Yes	Yes	Some	No	No (fall detection and health monitoring)	No (monitoring tech)	Doesn't focus exclusively on acceptance, but mentions relevant findings relating to acceptance	Literature review (not systematic)	PubMed, EBSCO, Google Scholar, IEEE Xplore digital library + more (not specified)	"aging in place," "monitoring elderly," "falls detection," "smart homes," "wearable technology," "wearable devices."	N/S	• Not in English • Assistive technology key words • Device presented in paper had not reached the stage of clinical testing • Paper contained duplicating information	2001 - 2010	162	45 N/S		"Any monitoring device needs to be unobtrusive, easy to use, easy to apply, and free of any social stigma. It has been reported that technology would be considered acceptable to older adults if it would allow them to remain in their own home. (…) It has also been reported that although this technology is viewed as favorable overall by older adults, many comments made indicated that technology is useful if it was used by "others" or "someone else who may need it." This suggests a potential for discrepancy in older adults' perception of their need versus caregivers or family members' perceptions of needs. Acceptance of monitoring technology may be seen as acknowledgement of their frailty both to themselves and to others."	Multidisciplinary approaches to development would be ideal to combine the technology with the clinical application and evaluation. Future research also needs to examine the validity, reliability, acceptability, and cost-effectiveness of device use in various settings, including the home setting.	Monitoring devices; unobtrusiveness; easy to use; social stigma; aging in place; emergency call; videophones; readiness to adopt; challenges;
Acceptance and use of health information technology by community-dwelling elders	Fischer et al.	2014	Link	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Very relevant review	Literature review (not systematic)	PubMed, Google Scholar	("older adults" OR "elderly") AND ("Internet" OR "information technology")	Addressing health IT interventions for the use of community-dwelling elderly or their caregivers	• Not in English • No abstract • More than 5 years old	2009 - 2014	772	96 N/S		"Elderly people approach the Internet and health information technology differently than younger people, but have growing rates of adoption. Assistive technology, such as sensors or home monitors, may help 'aging in place', but these have not been thoroughly evaluated. Elders face many barriers in using technology for healthcare decision-making, including issues with familiarity, willingness to ask for help, trust of the technology, privacy, and design challenges."	Need more knowledge about how to provide the best resources to the elderly. The health information needs of frail elders need further exploration. More research is also needed to determine the elderly population's needs in general and specific needs for people with dementia, caregivers, and other specific populations. Any research on HIT should be sure to include older adults in order to assess age-related differences.	Internet; adoption; aging in place; barriers; familiarity; ask for help; trust; privacy; design differences.
Ambient Assisted Living healthcare frameworks, platforms, standards, and quality attributes	Memon et al.	2014	Link	Yes	Yes	Yes	Some	Yes	Yes	No (AAL)	Relevant; main focus is not on acceptance, but is one of the factors being looked into	Literature review (not systematic)	ACM DL, IEEE, PubMed, and Springer	• Main search criteria: "Ambient Assisted Living" • Keywords: interoperability, integration, user experience, standards, architectures, security, usability, design methodologies	• Article addresses the AAL frameworks, platforms, and systems	• published before 2007 • not a full publication • no outcomes of interest • not applied to AAL • duplicate articles • not complete systems • no aspects of interest • based on old technologies/standards	2007 - 2013	360	113 N/S		"Usability, reliability, data accuracy, cost, security, and privacy are the major challenges for current AAL systems. (…) Moreover, as the review has shown the end-users continue to require significant technical support and supervision from skilled IT personnel for keeping the home based AAL systems operational for daily use."	Few projects had continued their projects beyond the pilot phase and deployed their solutions into the real world. AAL developers need to focus more on reaching the goal of openness for achieving more interoperable and synergetic AAL solutions.	AAL; usability; reliability; data accuracy; cost; security; privacy; barriers; user interface; ease of use; support; help
Approaches to understanding the impact of technologies for aging in place: a mini-review	Connelly et al.	2014	Link	Yes	Yes	Yes	Some	No	Yes	Yes	Relevant. Reviews methods for answering questions about technology acceptance.	Literature review (not systematic)	PubMed, ACM Digital Library	aging-in-place + technology + evaluation, aging + home technologies + evaluation, aging + assistive technologies place technologies + evaluation	Emphasis on understanding the use of aging-in-	N/S	N/S (probably no date restrictions)	1216	115 N/S		"There is no proscriptive formula for evaluating the intricate nuances of technology acceptance and use in the aging-in-place context. Researchers should carefully examine a wide range of evaluation techniques to select those that will provide the richest insights for their particular project."	Not specified	evaluation techniques
Barriers and drivers of health information technology use for the elderly, chronically ill, and underserved	Jimison et al.	2008	Link	Yes	Yes	Yes	Yes	Yes	Yes	Somewhat (interactive consumer health IT)	Relevant. Focuses on barriers and drivers to the use of interactive consumer health IT	Systematic literature review	MEDLINE, CINAHL, PsycINFO, the Cochrane Controlled Trials Register and Database of Systematic Reviews, ERIC, and the American Association of Retired Persons (AARP) AgeLine databases	Too long and comprehensive search strings used to insert here. See Appendix B in article.	• Population: elderly, chronically ill or underserved • Health IT program where: - Patient interacts with the technology, - Computer/technology processes the information in some way, and - Patient receives information in return or has access to patient-specific information • Full-text available in English (See Appendix C in paper for more details)	• Health IT program where: - Limited or no patient or consumer driven involvement or - Web browsing of general health information databases or - Patient clinician communication without computer information support (simple videoconferencing or phone) or - Systems where the patient interacts but doesn't receive patient-specific information back (e.g., electronic survey – no feedback) or - Systems primarily or entirely for health professionals or caregivers • Letters, editorials, opinion pieces, news items, and commentary (See Appendix C in paper for more details)	1990 - 2008	8522	129	• Among elderly, chronically ill, and underserved populations, what is the current level of use of specific forms of interactive consumer health IT? • In the elderly, chronically ill, and underserved populations, what type of interactive consumer health IT is most useful and easy for people to use? • In the elderly, chronically ill, and underserved populations, what barriers hinder the use of consumer health IT? • In the elderly, chronically ill and underserved populations, what drivers or facilitators may stimulate or enable the use of consumer health IT? • In the elderly, chronically ill, and underserved populations, is interactive consumer health IT effective in improving outcomes?	"The most common factor influencing the successful use of the interactive technology by these specific populations was that the consumers' perceived a benefit from using the system. Convenience was an important factor. It was critical that data entry not be cumbersome and that the intervention fit into the user's daily routine. Usage was more successful if the intervention could be delivered on technology consumers used every day for other purposes. Finally, rapid and frequent interactions from a clinician improved use and user satisfaction."	• Need for a principled taxonomy of interactive consumer health IT and related interventions technologies • Develop standardized and clear definitions of the intermediate outcomes relating to the use of these technologies • Direct comparison of the use and outcomes of these technologies by the general population versus disadvantaged populations	Factors influencing success; benefit; convenience; ease of use; daily routine; familiar tech; clinician; user satisfaction
Does smart home technology prevent falls in community-dwelling older adults: a literature review	Pietrzak et al.	2014	Link	Yes	Yes	Yes	Some	Yes	No (fall detection and prevention)	No (smart home and monitoring tech)	Relevant. Reviews the research on smart homes and monitoring technologies for fall prevention and detection.	Literature review (not systematic)	Cochrane, Medline, Embase, and Google databases	falls, falls reduction, falls prevention, preventing falls, reducing falls, accidental falls, fear of falling - smart homes, smart houses, housing for the elderly, house monitoring - older people, elderly	• Studies that investigated home safety packages that contained technology involved in fall detection • Studies that investigated outcomes of interest, such as fall rates, fear of falling, attitudes towards the monitoring technology and main concerns regarding its adoption • Studies of all ages published in peer-reviewed journals and 'grey literature' reports	• Studies that investigated the efficacy of sensors that could affect safety and well-being and increase independence for older people, that are not related to falling - technical papers that evaluated the technology system from a technical point of view and did not measure human-related outcomes	N/S (probably no date restrictions)	58	9 N/S		"Older adults' attitudes towards fall detectors and smart home technology were generally positive, and privacy concerns diminished with increasing health needs of monitored older adults. However, the technology has to be user friendly and come with technical support. (…) The interface should be specifically designed for the elderly users and tested by this user group."	Further research is needed to answer with any certainty whether smart home technologies will affect fall-related health outcomes. Studies that employ a comparative design investigate larger samples and use more direct outcome measures such as fear of falling, which are essential to gather conclusive evidence on the subject.	Fall detection; smart home; geranol attitudes; privacy; user friendliness; support; barriers; UI design
eHealth literacy and older adults: A review of literature	Rios	2013	Link	Yes	Yes	Yes	Yes	Yes	No (eHealth literacy)	Yes	Relevant. Focuses on eHealth literacy among elderly, and how it can be increased.	Literature review (not systematic)	The National Library of Medicine's PubMed and Thomson Reuters' Web of Science	literacy, health literacy, e-patient, telemedicine, telehealth, and mHealth	- participants 65 years and older - English language	- Telemedicine literature that did not focus on patient empowerment through ICT	2002 - 2012	Not specified	16 N/S		"Access to health information and skills to effectively find and use information to solve health problems are key to increasing eHealth literacy."	Systemic changes in our societies are needed to decrease problems associated with low eHealth literacy. Fundamental training in computer literacy and health literacy is also needed. The other side of this issue is to increase awareness of these eHealth literacy issues among health care providers.	Health information; information searching; eHealth literacy; barriers;
Enabling patient-centered care through health information technology	Finkelstein et al.	2012	Link	Yes	Yes	Yes	Some	Yes	Somewhat (patient-centered care)	Yes	Main focus is not on acceptance, but mentions relevant findings	Systematic literature review	MEDLINE , EMBASE , Cochrane Library, Scopus, Cumulative Index to Nursing and Allied Health Literature (CINAHL), PsycINFO, INSPEC, and Compendex databases	Too long and comprehensive search strings used to insert here. See Appendix C in article.	[unable to find listing of inclusion/exclusion criteria, only references to "our eligibility criteria"]	[unable to find listing of inclusion/exclusion criteria, only references to "our eligibility criteria"]	N/S (probably no date restrictions)	17749	327	• Are health IT applications that address one or more components of PCC effective in improving the following outcomes, and how do the outcomes vary by type of health IT application? • What are barriers or facilitators that clinicians, developers, patients, and their families or caregivers encounter that may impact implementation and use of health IT applications to enable PCC? • What knowledge or evidence deficits exist regarding needed information to support estimates of cost, benefit, impact, sustainability, and net value with regard to enabling PCC through health IT? • What critical information regarding the impact of health IT applications implemented to enable PCC is needed to give consumers, their families, clinicians, and developers a clear understanding of the value proposition particular to them?	The following barriers and facilitators were identified: Barriers: usability, access, training, cost, computer literacy, increases in workload or changes in workflow, implementation, confidentiality Facilitators: satisfaction, ease of use, usefulness, efficiency	• Need to eliminate evidence deficits regarding needed information to support estimates of cost, benefit, impact, sustainability, and net value with regard to enabling PCC through health IT • Need critical information regarding the impact of health IT applications implemented to enable PCC • Need to determine the extent to which health IT applications can improve clinical outcomes by promoting PCC • Need for categorical and mutually exclusive, standardized definitions of PCC-related study outcomes and health IT applications • Target the populations that have been under-studied, including the pediatric and elderly populations • More research needs to be done to elucidate the impact of community, environment, and culture on the health care utilization and health outcomes associated with health IT • Address cost and sustainability of health IT • How to make decision support tools more efficient for providers • Developing integrative measures for gauging compliance of health IT applications with PCC principles • Integrating PCC components into electronic health records used in routine clinical practice • Investigating how processes and outcomes interact when health IT supports PCC • Using principles of PCC in a systematic and comprehensive way to guide development of future health IT applications	Patient-centered care; barriers; facilitators;
Fall detection devices and their use with older adults: a systematic review	Chaudhuri et al.	2014	Link	Yes	Yes	Yes	Yes	Yes	No (fall detection)	No (fall detection devices)	Looks into fall-detection devices. Might have interesting findings regarding acceptance of these	Systematic literature review	PubMed, CINAHL, EMBASE, PsycINFO	["Monitoring, Ambulatory" [Mesh] AND "Accidental Falls" [Mesh]) OR ("Accidental Falls" [majr]) AND ["Monitoring, Ambulatory" [Mesh] OR "instrumentation" [Subheading] OR "Clinical Alarms" [Mesh])] OR (("Accidental Falls" [majr]) AND ["Monitoring, Physiologic" [Mesh] OR "instrumentation" [Subheading] OR "Clinical Alarms" [Mesh])) AND (English [Language])	If article discussed a project or multiple projects involving a system with the purpose of detecting when an adult has fallen, indexed in PubMed, CINAHL, EMBASE, or PsycINFO	If article discussed a system that targets children, was a literature review, looked at fall risk, fall detection in children, fall prevention, or a PERS device, not in English, gray literature,	N/S (probably no date restrictions)	617	113 N/S		The elderly want devices that can detect falls with high accuracy, while at the same time be as unobtrusive as possible. From this review it appears that the technology is becoming more able to accomplish such a task.	The evaluation of fall-related health outcomes. Studies that require devices to become more standardized to be able to properly evaluate the strengths and weaknesses of the currently available devices.	Fall detection; unobtrusiveness;
Older adults' perceptions of technologies aimed at falls prevention, detection or monitoring: a systematic review	Hawley-Hague et al.	2014	Link	Yes	Yes	Yes	Yes	Yes	No (falls prevention, detection and monitoring)	Yes	Very relevant review	Systematic literature review	MEDLINE, EMBASE, CINAHL, PsychINFO, COMPENDEX, Cochrane	"fall", "older adults", "seniors", "preference", "attitudes" and a wide range of technologies (see table Table 1 in article)	• Study includes older adults aged 50 and above • Technologies related specifically to falls prevention, detection or monitoring • Technologies designed to be directly used by older adults • Study provides evidence on older adults' attitudes/experiences/feedback on these technologies/intervention	Not in English	No date restrictions	4044	76 N/S		Positive messages about the benefits of falls technologies for promoting healthy active ageing and independence are critical, as is ensuring that the technologies are simple, reliable and effective and tailored to individual need. The technology should be clearly described in research and older peoples' attitudes towards different sorts of technologies must be clarified if specific recommendations are to be made.	Further research into the relationship between perceived breach of privacy and the potential benefits of technology	Benefits; fall detection; active aging; independence; simplicity; reliability; effectiveness; tailored to individual need;
Review of ICT-based services for identified unmet needs in people with dementia	Lauriks et al.	2007	Link	Yes	Yes	Yes	Yes	Yes	No (dementia)	Yes	Relevant.	Literature review (not systematic)	PubMed, PsychInfo, Cinahl, NSPEC, IEEE, Google Scholar	Too long and comprehensive search strings used to insert here. See Method section in article.	• The article reports on people with cognitive disabilities related to dementia and/or their informal carers • The article discusses an ICT-device or application that has been tested within the target group • The ICT-device reported on in the article has proven to be helpful for the person with cognitive disabilities related to dementia and/or the informal carer on one of the selected needs of this review.	• The article reports on people with other disabilities for their disabilities • The article reports on systems that aims to provide help with daily living activities	- 2006	165	46 N/S		It is concluded that the informational websites offer helpful information for carers but seem less attuned to the person with dementia and do not offer personalized information. ICT solutions aimed at compensating for disabilities, such as memory problems and daily activities demonstrate that people with mild to moderate dementia are capable of handling simple electronic equipment and can benefit from it in terms of more confidence and enhanced positive affect. Instrumental ICT-support for coping with behavioral and psychological changes in dementia is relatively disregarded as yet, while support for social contact can be effectively realized through, for example, simplified (mobile) phones or videophones or (entertainment) robots. GPS technology and monitoring systems are proven to result in enhanced feelings of safety and less fear and anxiety.	It is recommended that future studies should concentrate on integrating and applying current techniques and solutions in real life situations with persons with dementia.	Internet; information; dementia; memory; daily activities; confidence; safety; monitoring; fear; anxiety;