

Article title: The deployment and use of social robots for home-based healthcare: A systematic review of enablers and barriers

Journal name: International Journal of Social Robotics

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Database searched	Platform	Years of coverage	Records retrieved from first search (1 June 2023)	Records retrieved from second search (18 July 2024)
Medline ALL	Ovid	1946 - Present	720	824
Embase	Embase.com	1971 - Present	832	954
Web of Science Core Collection*	Web of Knowledge	1975 - Present	1589	1799
CINAHL	EBSCO	1982 - Present	524	545
PsycINFO	Ovid	1806 - Present	362	463
Scopus	Scopus.com	1823 - Present	2588	2949
Additional Search Engines: Google Scholar**			200	200
Total			6815	7734

*Science Citation Index Expanded (1975-present) ; Social Sciences Citation Index (1975-present) ; Arts & Humanities Citation Index (1975-present) ; Conference Proceedings Citation Index- Science (1990-present) ; Conference Proceedings Citation Index- Social Science & Humanities (1990-present) ; Emerging Sources Citation Index (2005-present)

**Google Scholar was searched via "Publish or Perish" to download the results in EndNote.

No other database limits were used than those specified in the search strategies

Medline

(Robotics / OR (robotic* OR robot OR robots OR robopet*).ab,ti,kw.) AND (Home Environment / OR Independent Living / OR Home Care Services / OR (home OR domestic* OR ((independent* OR alone* OR community) ADJ3 (living OR dwelling* OR dweller*)) OR aging-in-place OR ageing-in-place).ab,ti,kw.) AND (Social Behavior/ OR Social Interaction/ OR Psychology, Social/ OR Social Isolation/ OR Personality/ OR Nonverbal Communication/ OR Communication/ OR Empathy/ OR exp Emotions/ OR Activities of Daily Living / OR Personal Autonomy/ OR exp Artificial Intelligence/ OR Self-Help Devices/ OR Loneliness/ OR Social Support/ OR social isolation/ OR Intelligence/ OR Motivation/ OR Patient Preference/ OR Patient Satisfaction/ OR (social* OR personalit* OR ((machine* OR human OR robot*) ADJ3 (interact* OR communicat*)) OR ((nonverbal* OR oral OR verbal*) ADJ3 communicat*) OR robopet* OR companion* OR empath* OR emotion* OR humanoid* OR (voice* ADJ3 operat*) OR ((daily OR everyday* OR every-day*) ADJ6 (life OR living OR lives OR activit*)) OR Collaborat* OR autonom* OR (artificial* ADJ3 intelligen*) OR cognit* OR (Robot* ADJ3 Assistan*) OR conversat* OR (assistive* ADJ3 technolog*) OR loneliness* OR intelligen* OR motivation* OR (behavio* ADJ3 change*) OR affectivit*

OR ((service OR support OR affective* OR assistive* OR care OR healthcare) ADJ robot*) OR socioemotion* OR (affectiv* ADJ3 (interchange* OR interaction* OR response*)) OR acceptance* OR acceptibilit* OR ((user OR users OR patient OR personal*) ADJ3 (experience* OR attitude* OR prefer* OR satisf* OR requirement* OR view OR views OR need OR needs)) OR usabilit*).ab,ti,kw.) NOT (* Exoskeleton Device / OR exp * Surgical Procedures, Operative / OR exp * Nursing Homes / OR exp * Nursing Care / OR (exoskeleton* OR surger* OR neurorobot* OR nursing-home* OR nursing-care*).ti.) NOT (exp animals/ NOT humans/)

Embase

(robotics/de OR 'cognitive robotics'/de OR robot/exp OR 'multimodal robotic assistant'/de OR (robotic* OR robot OR robots OR robopet*):ab,ti,kw) AND (home/de OR 'home environment'/de OR 'independent living'/de OR 'home care'/de OR 'community dwelling person'/de OR (home OR domestic* OR ((independent* OR alone* OR community) NEAR/3 (living OR dwelling* OR dweller*)) OR aging-in-place OR ageing-in-place):ab,ti,kw) AND ('social behavior'/de OR 'social psychology'/de OR 'social interaction'/de OR personality/de OR 'man machine interaction'/de OR 'verbal communication'/de OR 'nonverbal communication'/de OR 'interpersonal communication'/de OR 'oral communication'/de OR empathy/de OR emotion/de OR 'daily life activity'/exp OR autonomy/de OR 'artificial intelligence'/de OR 'cognitive technology'/exp OR 'multimodal robotic assistant'/de OR conversation/de OR 'assistive technology'/de OR 'loneliness'/de OR 'social support'/de OR 'social isolation'/de OR 'intelligence'/de OR motivation/exp OR 'behavior change'/de OR 'personal experience'/de OR 'patient experience'/de OR 'user experience'/de OR 'patient attitude'/de OR 'patient preference'/de OR 'patient satisfaction'/de OR (social* OR personalit* OR ((machine* OR human OR robot*) NEAR/3 (interact* OR communicat*)) OR ((nonverbal* OR oral OR verbal*) NEAR/3 communicat*) OR robopet* OR companion* OR empath* OR emotion* OR humanoid* OR (voice* NEAR/3 operat*) OR ((daily OR everyday* OR every-day*) NEAR/6 (life OR living OR lives OR activit*)) OR Collaborat* OR autonom* OR (artificial* NEAR/3 intelligen*) OR cognit* OR (Robot* NEAR/3 Assistan*) OR conversat* OR (assistive* NEAR/3 technolog*) OR loneliness* OR intelligen* OR motivation* OR (behavio* NEAR/3 change*) OR affectivit* OR ((service OR support OR affective* OR assistive* OR care OR healthcare) NEXT/1 robot*) OR socioemotion* OR (affectiv* NEAR/3 (interchange* OR interaction* OR response*)) OR acceptance* OR acceptibilit* OR ((user OR users OR patient OR personal*) NEAR/3 (experience* OR attitude* OR prefer* OR satisf* OR requirement* OR view OR views OR need OR needs)) OR usabilit*):ab,ti,kw) NOT ('exoskeleton (rehabilitation)'/mj OR 'surgery'/exp/mj OR 'nursing home'/mj OR 'nursing care'/mj OR (exoskeleton* OR surger* OR neurorobot* OR nursing-home* OR nursing-care*):ti) NOT ([animals]/lim NOT [humans]/lim)

Web of Science

TS=(((robotic* OR robot OR robots OR robopet*)) AND ((home OR domestic* OR ((independent* OR alone* OR community) NEAR/2 (living OR dwelling* OR dweller*)) OR aging-in-place OR ageing-in-place)) AND ((social* OR personalit* OR ((machine* OR human OR robot*) NEAR/2 (interact* OR communicat*)) OR ((nonverbal* OR oral OR verbal*) NEAR/2 communicat*) OR robopet* OR companion* OR empath* OR emotion* OR humanoid* OR (voice* NEAR/2 operat*) OR ((daily OR everyday* OR every-day*) NEAR/5 (life OR living OR lives OR activit*)) OR Collaborat* OR autonom* OR (artificial* NEAR/2 intelligen*) OR cognit* OR (Robot* NEAR/2 Assistan*) OR conversat* OR (assistive* NEAR/2 technolog*) OR loneliness* OR intelligen* OR motivation* OR (behavio* NEAR/2 change*) OR

affectivit* OR ((service OR support OR affective* OR assistive* OR care OR healthcare) NEAR/1 robot*) OR socioemotion* OR (affectiv* NEAR/2 (interchange* OR interaction* OR response*)) OR acceptance* OR acceptibilit* OR ((user OR users OR patient OR personal*) NEAR/2 (experience* OR attitude* OR prefer* OR satisf* OR requirement* OR view OR views OR need OR needs)) OR usabilit*) AND (healthcare OR health-care OR home-care OR patient* OR elderly OR disab*) NOT TI=((exoskeleton* OR surger* OR neurorobot* OR nursing-home* OR nursing-care*))

Scopus

TITLE-ABS-KEY(((robotic* OR robot OR robots OR robopet*)) AND ((home OR domestic* OR ((independent* OR alone* OR community) W/2 (living OR dwelling* OR dweller*)) OR aging-in-place OR ageing-in-place)) AND ((social* OR personalit* OR ((machine* OR human OR robot*) W/2 (interact* OR communicat*)) OR ((nonverbal* OR oral OR verbal*) W/2 communicat*) OR robopet* OR companion* OR empath* OR emotion* OR humanoid* OR (voice* W/2 operat*) OR ((daily OR everyday* OR every-day*) W/5 (life OR living OR lives OR activit*)) OR Collaborat* OR autonom* OR (artificial* W/2 intelligen*) OR cognit* OR (Robot* W/2 Assistan*) OR conversat* OR (assistive* W/2 technolog*) OR loneliness* OR intelligen* OR motivation* OR (behavio* W/2 change*) OR affectivit* OR ((service OR support OR affective* OR assistive* OR care OR healthcare) W/1 robot*) OR socioemotion* OR (affectiv* W/2 (interchange* OR interaction* OR response*)) OR acceptance* OR acceptibilit* OR ((user OR users OR patient OR personal*) W/2 (experience* OR attitude* OR prefer* OR satisf* OR requirement* OR view OR views OR need OR needs)) OR usabilit*)) AND (healthcare OR health-care OR home-care OR patient* OR elderly OR disab*)) AND NOT TITLE((exoskeleton* OR surger* OR neurorobot* OR nursing-home* OR nursing-care*))

CINAHL

(MH Robotics OR TI(robotic* OR robot OR robots OR robopet*) OR AB(robotic* OR robot OR robots OR robopet*)) AND (MH Home Environment OR MH Community Living OR MH Home Health Care OR (home OR domestic* OR TI((independent* OR alone* OR community) N2 (living OR dwelling* OR dweller*)) OR aging-in-place OR ageing-in-place) OR AB(home OR domestic* OR ((independent* OR alone* OR community) N2 (living OR dwelling* OR dweller*)) OR aging-in-place OR ageing-in-place)) AND (MH Social Behavior OR MH Interpersonal Relations OR MH Psychology, Social OR MH Social Isolation OR MH Personality OR MH Nonverbal Communication OR MH Communication OR MH Empathy OR MH Emotions+ OR MH Activities of Daily Living OR MH Relational Autonomy OR MH Artificial Intelligence+ OR MH Assistive Technology Devices OR MH Loneliness OR MH Support, Social OR MH Social Isolation OR MH Intelligence OR MH Motivation OR MH Patient Preference OR MH Patient Satisfaction OR TI(social* OR personalit* OR ((machine* OR human OR robot*) N2 (interact* OR communicat*)) OR ((nonverbal* OR oral OR verbal*) N2 communicat*) OR robopet* OR companion* OR empath* OR emotion* OR humanoid* OR (voice* N2 operat*) OR ((daily OR everyday* OR every-day*) N5 (life OR living OR lives OR activit*)) OR Collaborat* OR autonom* OR (artificial* N2 intelligen*) OR cognit* OR (Robot* N2 Assistan*) OR conversat* OR (assistive* N2 technolog*) OR loneliness* OR intelligen* OR motivation* OR (behavio* N2 change*) OR affectivit* OR ((service OR support OR affective* OR assistive* OR care OR healthcare) N1 robot*) OR socioemotion* OR (affectiv* N2 (interchange* OR

interaction* OR response*)) OR acceptance* OR acceptibilit* OR ((user OR users OR patient OR personal*) N2 (experience* OR attitude* OR prefer* OR satisf* OR requirement* OR view OR views OR need OR needs)) OR usabilit*) OR AB(social* OR personalit* OR ((machine* OR human OR robot*) N2 (interact* OR communicat*)) OR ((nonverbal* OR oral OR verbal*) N2 communicat*) OR robopet* OR companion* OR empath* OR emotion* OR humanoid* OR (voice* N2 operat*) OR ((daily OR everyday* OR every-day*) N5 (life OR living OR lives OR activit*)) OR Collaborat* OR autonom* OR (artificial* N2 intelligen*) OR cognit* OR (Robot* N2 Assistan*) OR conversat* OR (assistive* N2 technolog*) OR loneliness* OR intelligen* OR motivation* OR (behavio* N2 change*) OR affectivit* OR ((service OR support OR affective* OR assistive* OR care OR healthcare) N1 robot*) OR socioemotion* OR (affectiv* N2 (interchange* OR interaction* OR response*)) OR acceptance* OR acceptibilit* OR ((user OR users OR patient OR personal*) N2 (experience* OR attitude* OR prefer* OR satisf* OR requirement* OR view OR views OR need OR needs)) OR usabilit*)) NOT (MM Exoskeleton Devices OR MM Surgery, Operative + OR MM Nursing Homes + OR MM Nursing Care + OR TI(exoskeleton* OR surger* OR neurorobot* OR nursing-home* OR nursing-care*)) NOT (MH animals+ NOT MH humans+)

PsycINFO

(Robotics / OR Social Robotics / OR (robotic* OR robot OR robots OR robopet*).ab,ti.) AND (Home Environment / OR Self-Care Skills / OR Home Care/ OR Home Care Services / OR (home OR domestic* OR ((independent* OR alone* OR community) ADJ3 (living OR dwelling* OR dweller*)) OR aging-in-place OR ageing-in-place).ab,ti.) AND (Social Behavior/ OR Social Robotics / OR Social Interaction/ OR Social Psychology/ OR Social Isolation/ OR exp Personality/ OR Nonverbal Communication/ OR Communication/ OR Empathy/ OR exp Emotions/ OR Activities of Daily Living / OR Autonomy/ OR exp Artificial Intelligence/ OR Assistive Technology / OR Loneliness/ OR Social Support/ OR social isolation/ OR Intelligence/ OR Motivation/ OR Client Satisfaction/ OR (social* OR personalit* OR ((machine* OR human OR robot*) ADJ3 (interact* OR communicat*)) OR ((nonverbal* OR oral OR verbal*) ADJ3 communicat*) OR robopet* OR companion* OR empath* OR emotion* OR humanoid* OR (voice* ADJ3 operat*) OR ((daily OR everyday* OR every-day*) ADJ6 (life OR living OR lives OR activit*)) OR Collaborat* OR autonom* OR (artificial* ADJ3 intelligen*) OR cognit* OR (Robot* ADJ3 Assistan*) OR conversat* OR (assistive* ADJ3 technolog*) OR loneliness* OR intelligen* OR motivation* OR (behavio* ADJ3 change*) OR affectivit* OR ((service OR support OR affective* OR assistive* OR care OR healthcare) ADJ robot*) OR socioemotion* OR (affectiv* ADJ3 (interchange* OR interaction* OR response*)) OR acceptance* OR acceptibilit* OR ((user OR users OR patient OR personal*) ADJ3 (experience* OR attitude* OR prefer* OR satisf* OR requirement* OR view OR views OR need OR needs)) OR usabilit*).ab,ti.) NOT (exp * Surgery/ OR exp * Nursing Homes / OR (exoskeleton* OR surger* OR neurorobot* OR nursing-home* OR nursing-care*).ti.) NOT ((animal.po.) NOT human.po.)

Google Scholar

robotic|robot|robots|robopet home|domestic|"independent|community living|dwelling|dweller"
social|personality|communicative|companion|empathy|emotion|humanoid|socioemotional|affective