Digital health interventions to support physical and/or mental rehabilitation of adult patients following hospital discharge: a systematic review of randomised controlled trials protocol

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Submitted to: JMIR Research Protocols
on: October 18, 2024

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Abstract

Background: Digital health (DH) interventions have increased across the past two decades, providing patients with alternative remote pathways to receiving healthcare services. Patients with major trauma frequently require long-term access to healthcare services to support their mental and physical health and their overall quality of life. DH interventions could help patients stay connected to rehabilitation services to enhance their health condition and regain their independence to enable them to return to the workplace and/or regain a role in society. There is a need to explore existing evidence on the effectiveness of DH interventions in improving health-related outcomes of patients with major trauma.

Objective: This review aims to identify DH interventions that support physical and/or mental rehabilitation of patients who have been subject to major physical trauma.

Methods: This review targets randomised controlled trials. Eligibility criteria include studies investigating DH interventions in adult patients with major traumatic physical injuries as end users of the intervention. Digital interventions that are delivered remotely and studies that report the impact of DH interventions on patients' health-related outcomes will be included. The search strategy will be limited to time (since year 2000 to date) and to peer reviewed journals. No language restriction will be used, and articles that are not written in English will be translated. The search will be conducted in MEDLINE, EMBASE, AMED, CINAHL Plus, and PsycInfo. Grey literature, bibliographies of included studies and of relevant reviews will also be searched for potentially relevant articles. A minimum of two reviewers will independently screen retrieved references. Data extraction will be conducted by one reviewer and independently checked by another reviewer. Quality assessment of included studies will be conducted using the Cochrane RoB-2 tool. Any disagreements arising at any stage of the review will be resolved through discussion or by consulting a third reviewer where needed. A meta-analysis will be performed where possible, and a descriptive analysis of included studies will be reported.

Results: Results will be available on completion of the review.

Conclusions: The review findings will help identify existing evidence regarding DH interventions used to support physical and/or mental rehabilitation needs of patients with major trauma. This would help guide practitioners and policy makers to implement effective interventions to better support patient outcomes. The evidence synthesised from this review will also identify existing gaps and direct future research. Clinical Trial: Systematic review protocol is registered at PROSPERO International Prospective Register of Systematic Reviews (registration reference CRD42023485748).

(JMIR Preprints 18/10/2024:67675)
DOI: https://doi.org/10.2196/preprints.67675

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Abstract

Background

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Results will be available on completion of the review.

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The review findings will help identify existing evidence regarding DH interventions used to support physical and/or mental rehabilitation needs of patients with major trauma. This would help guide practitioners and policy makers to implement effective interventions to better support patient outcomes. The evidence synthesised from this review will also identify existing gaps and direct future research.

Trial registration
Systematic review protocol is registered at PROSPERO International Prospective Register of Systematic Reviews (registration reference CRD42023485748).

Keywords
digital health; mHealth; mobile health application; mobile health; telemedicine; rehabilitation, physical trauma, major trauma, major injury.

Introduction

The last two decades witnessed a significant development in information technology to the point that it became widely available in almost all aspects of modern life [1]. This has been greatly influenced by the innovative development of devices; the widespread implementation of various performing networks, e.g. Microsoft Teams; and more recently, by the rising needs for remote delivery associated with the COVID-19 pandemic. This strongly contributed to driving improvements in the use of technology in healthcare, introducing new concepts in healthcare delivery, through the use of digital health (DH) [1-3].

DH plays a significant role in healthcare, and it can be seen in many medical specialties [4, 5]. Several definitions exist for DH [3], often with different terms used interchangeably, including DH care [1, 2], telehealth [1, 3, 6], telemedicine [4, 6-9], or telecare [10]. However, DH is the umbrella that encompasses all other terms [11-13].

DH tools can be delivered anywhere; in different healthcare settings, with both the healthcare professional (HCP) and patient present at the setting, or at the patient's own residence, where the patient can use a digital tool to track, document and monitor their health with an opportunity to communicate with the HCP [4]. Thus, DH provides a wider scope of care and interventions that aim to reduce associated pressure on healthcare systems [6].

Traumatic injuries represent a significant cause of early death and morbidity, especially among the working population [14, 15]. Globally, traumatic injuries are reported to cause around five to six million deaths each year [15, 16], with around 40 million people and 100 million people left with permanent or transient impairment respectively [17-20]. However whilst there has been a recognition that more lives are being saved, rehabilitation following trauma is woefully behind, with global estimates of at least one in every three people needing rehabilitation services at some point throughout their injury [21]. Many people who have had major trauma are left with disability, medical dependency, family disruption and ongoing psychosocial issues [15, 22]. There is additionally a financial burden associated with supporting the rehabilitation needs of patients post major trauma [23, 24].

A traumatic injury is defined as any injury that requires admission to hospital at the time of injury [14]. According to the National Institute for Health and Care Excellence (NICE), a major trauma/injury is also defined as an injury or a combination of injuries that are life-threatening and/or life changing and that could result in long-term disability [25, 26]. This includes musculoskeletal injuries, traumatic brain injuries (TBIs), spinal cord injuries (SCIs), multiple fractures, and traumatic amputation [27].

Traumatic injuries have negative consequences, both physically and mentally [14]. SCIs, for example, hinder the patient's ability to access healthcare, affecting their mobility and transportation [28, 29], thus disrupting the patient's quality of life (QoL) [30, 31]; whereas TBIs affect memory, executive functions, and cognitive skills associated with planning and decision making [32, 33], leading to long lasting activity limiting impairment [34], disability [35, 36] and changed healthcare needs [37]. These injuries are usually associated with psychological consequences that require equal attention [27].

Mild injuries are usually treated at home with minimal time spent in the hospital when needed [27]. However, major/moderate-severe injuries usually require more intensive or specialised care to properly manage the patient's condition [27]. Following traumatic injuries, patients still need rehabilitation support to help them regain their optimum function and independence [14]. However, several challenges are encountered with providing continuous services at the healthcare setting, including the lack of available beds in rehabilitation facilities, a dwindling workers in these facilities, the location of the rehabilitation facility far from a person's home and family (e.g., people living in rural areas), and the difficulty for people with different injuries to travel to the healthcare setting to receive rehabilitation support [38-41]. There is therefore a need to continue delivering services using alternative, remote pathways to keep patients connected to the rehabilitation and healthcare services [39].

DH is a cost-effective solution that is increasingly used to support people with different traumatic injuries [42, 43].
Similar results were reported when services are delivered face-to-face or in a virtual remote environment [44]. Over the past decade, the advancement and wide availability of information and communication technology has been associated with an increased and expanded use of remote approaches to deliver medical and rehabilitation services [33, 45, 46]. Several digital health interventions have been designed across the past decades to support people with different types of traumatic injuries. This review aims to identify DH interventions that are specific to support patients' physical and/or mental rehabilitation following major physical traumatic injuries.

Aim and objectives:
This review aims to identify DH interventions that support physical and/or mental rehabilitation of adult patients who have sustained major high impact physical traumatic injuries.

The review objectives are to identify:

- What types of DH interventions are being used
- Which healthcare conditions are currently supported by DH interventions
- What the impact of DH interventions are on patient health related outcomes

Methods

Criteria for considering studies for this review

Types of studies

For this systematic review, randomised controlled trials (RCTs) with associated patient-reported health-related outcome measures (PROMs) will be considered eligible for inclusion. Completed studies that are published in peer reviewed journals will be included. Other study designs such as case reports, case studies, qualitative studies, and reviews will be excluded. All languages will be considered, and studies that are written in a language other than English that are eligible for inclusion will be translated.

Types of participants

The review will target studies that are conducted with adult patients (aged 18 years and over) who report to have had major physical high impact trauma/injury, who have received a period of inpatient hospitalisation due to their injury, and who have received remote rehabilitation support through a digital health tool.

Types of interventions

Studies that include DH interventions to improve physical and/or mental rehabilitation that are remotely delivered/utilised by patients will be considered for inclusion. DH interventions that are only delivered in the healthcare setting e.g. hospital or clinic, will not be included in this review. Additionally, DH interventions that are directed to HCPs, students, family members, parents or carers; and blended interventions where the impact of the targeted DH intervention on patients cannot be identified/distinguished will be excluded.

Types of outcomes measured

All patient health-related outcomes will be reported. This will include physical, psychological or emotional patient outcomes (e.g., improve physical activity, improve mental health). Outcomes that are not health-related (e.g., satisfaction, acceptability, feasibility) will not be considered. The review will also report the tools used in measuring reported outcomes (if any).

Search methods for identification of studies

Electronic searches

A search will be conducted systematically by the main researcher in consultation with other reviewers, to identify published relevant studies focusing on DH interventions, rehabilitation, and major trauma. The search will be conducted using the following electronic databases: Medline, EMBASE, AMED (via Ovid), and CINAHL Plus, PsycInfo (via Ebsco).

Table-1 provides the keywords that will be used in searching the databases to identify eligible studies. Search results will be limited by publication date since the millennium (2000), a time period which was associated with a wide range of technological innovations that allowed patients and service users to gain easier access to the world of medicine [47-49]. Example of the full search strategy is provided in Appendix 1.

Table 1 Search keywords

Keyword heading	Keywords
Digital health	telemedicine or "e?health" or "electronic health" or "m?health" or "mobile health" or "e?medicine" or e?therapy or "health technolog?" or "information technolog*" or "communication technolog*" or "mobile technolog*" or tele?care or tele?communication or tele?monitoring or "remote monitor*" or "remote consult*" or telephone or phone or smart?phone or wearable or smart?watch or internet or web?based or e?mail or "electronic mail" or online or wireless or "mobile app*" or app* or "digital health" or "digital health?care" or tele?health or "remote health*" or internet?based or computer?based or e?learning or electronic?health or electronic?learning or video?gam* or gaming or "game-based" or gamification or "Virtual Reality" or "augmented reality" or "artificial intelligence" or "Internet of Things" or technology or virtual or teletherapy or "medical technology" or "mobile application" or teleconsultation or "virtual medicine" or "video consultation" or telepsychiatry or telepsychology or telerehabilitation or tele?therapy
	AND
Rehabilitation	Rehabilitation or "Exercise Therapy" or "exercise rehabilitation" or physiotherapy or "physical therapy" or "physical rehabilitation" or "cognitive rehabilitation" or "cognitive therapy" or "psychological rehabilitation" or "psychological therapy" or "mental rehabilitation" or "mental therapy" or "musculoskeletal rehabilitation" or "physical therapy modalities" or "occupational therapy" or "post?trauma rehabilitation" or "occupational rehabilitation" or "post?traumatic rehabilitation" or "rehabilitation exercise" or "vocational rehabilitation" or kinesiotherapy or "neurologic rehabilitation" or "neurological therapy" or "recreation therapy" or "recreation rehabilitation"
	AND
Trauma/injury	"traumatic injur*" or "musculoskeletal trauma*" or "complex fracture" or fracture* or "traumatic brain injur*" or "spinal cord injur*" or "traumatic amputation" or "major trauma" or "brain injur*" or "brain trauma*" or "musculoskeletal injury" or "posttraumatic stress disorder" or "PTSD" or "acquired brain injur*" or "physical injur*" or "physical trauma*" or injur* or trauma* or "multiple trauma" or "multiple injur*" or "soft tissue injur*" or "soft tissue trauma*" or "nervous system injur*" or "nervous system trauma*" or "athletic injur*" or "athletic trauma*"

Searching other resources

Reference searching

The reference lists of all studies included for final analysis and of relevant reviews will be inspected for additional, unidentified studies that might be relevant to this review.

Author contact

Authors will be contacted for any missing data.

Grey literature search

A grey literature search will be considered using the same search strategy to identify additional studies that might be useful for this review. This will be conducted using the OpenGrey website (www.opengrey.eu).

Inclusion and exclusion criteria

Study inclusion criteria

1. Research that is focused on a digital health intervention(s) to support mental and/or physical rehabilitation of patients with major/severe or moderate physical trauma
2. Primary end user of the digital health intervention is an adult patient (aged 18 years and above)
3. DH interventions with potential for direct interaction with an HCP
4. Any form of digital-based intervention/treatment delivered by any digital means (e.g., website or app) over any time frame
5. Interventions delivered remotely at the patient's own residence (no need to be in office/clinic/HC setting)
6. Research that reports patient health-related outcome(s) (any reported HC outcome)
7. Study design: RCT with comparison/control group
8. Original research (article/journal article)

Studies that do not meet one or more of the above criteria or that meet any of the following exclusion criteria will be excluded from the review:

1. DH interventions that are not focused on mental and/or physical rehabilitation of patients
2. Research that includes patients with minor or low impact trauma/injury
3. Research focused on healthy people/public members
4. DH Interventions that are only delivered at hospital/healthcare setting
5. Studies where the researcher or HCP need to do home visits to deliver the intervention
6. DH intervention end user is a patient carer/caregiver, family member, HCP or a student (e.g., medical or nursing student)

7. Studies that include caregivers/family members however with reported outcomes that cannot be distinguished from patient reported outcomes
8. Studies with no reported outcomes or that only reports outcomes that are not health-related (e.g., feasibility, acceptability, satisfaction, or economic evaluation)
9. Studies that include mixed patient cohorts with several underlying conditions with no specific links to reported outcomes
10. Studies where the underlying cause of injury is mixed (e.g., traumatic and non-traumatic spinal cord injuries)
11. Studies that focus on stroke/post stroke, burns, concussion, stress after ICU discharge
12. Studies that focus on mental health rehabilitation that is not secondary to physical traumatic injury
13. Studies that predict the occurrence of an outcome(s) or where the digital intervention is used as a screening tool.
14. Digital intervention validation studies.

Data Collection and Analysis

Study selection

Search results obtained from all databases will be exported into the reference manager EndNote 9.3.3 for reference management and removal of duplicates. The titles and abstracts of identified studies will be independently screened by at least two reviewers to check their eligibility against the inclusion criteria. Full text screening of potentially identified studies will be independently screened by at least two reviewers for inclusion or exclusion. Screening will be conducted using Covidence software [50]. Any arising discrepancies will be resolved by discussion between the reviewers and, where necessary by consulting a third reviewer. Inter-rater agreement will be measured using Cohen’s kappa coefficient.

The search results and final findings will be presented in a PRISMA flow chart, including summaries of the numbers of studies included/removed throughout the screening process, with reasons for exclusion provided for the full text screening.

Data Extraction

A data extraction template using Excel sheet will be designed to extract the following data from each eligible study, where possible:

- General characteristics: study title; authors; publication year; design; and country.
- Participants: sample size of patients, demographic or patient population, medical health condition under

investigation, and HCP involved in delivering the intervention.

- Intervention: type of DH intervention, duration and mode of intervention delivery, control group, outcomes, outcome measures, and impact/effect.

Data from each eligible study will be independently extracted by one reviewer and checked by a second reviewer to verify accuracy and completeness of all data extracted. Disagreements will be resolved by discussion and consensus, or by consulting a third reviewer where necessary.

Assessment of risk of bias in included studies

The need for quality assessment of identified studies will be determined once data extraction begins. Two reviewers will independently assess the risk of bias in included studies using the Risk of Bias 2 (RoB 2) tool [51, 52]. This tool assesses the risk of bias in five domains in RCTs: randomization process, deviations from intended interventions, missing outcome data, measurement of the outcome, and selection of the reported result. Any arising disagreement will be resolved by discussion or if needed by consulting a third reviewer.

Strategy for data synthesis

The results of the search from all databases will be fully reported in the final document and presented in a PRISMA flowchart. A description of all included studies will be provided in tables to summarise extracted data. Study participant characteristics and intervention specifications will be presented, as reported in the original articles, to enable comparisons across studies. The quality rating of included studies will also be presented.

We will undertake a meta-analysis if the participants, interventions, comparisons, and outcomes are judged to be sufficiently similar to be combined to arrive at an answer that is clinically meaningful. Results will be pooled from trials using fixed-effect or random-effects models, considering issues of trial methodological and clinical heterogeneity, and reported diagrammatically using forest plots. Where issues of trial methodological and clinical heterogeneity appear to exist, we will also consider strategies including not pooling data and conducting subgroup analyses or sensitivity analyses. Where data cannot be pooled due to high heterogeneity, we will still provide descriptive analysis of trial results and report them in the text of the review.

Where meta-analyses are possible, for continuous outcomes, we will use the inverse variance method for fixed-effect models, and the DerSimionian and Laird variant of the inverse variance methods for random-effects models. For dichotomous outcomes, we will use the Mantel-Haenszel method for fixed-effect models, and the DerSimionian and Laird method for random-effects models. A 0.5 zero-cell correction will be applied in the

event of zero frequencies.
For studies with multiple treatment groups, we will aim to combine treatment groups to facilitate a single pairwise comparison following methods recommended by Cochrane [53].

We will base our analyses on change scores where all necessary data including baseline and follow-up scores and correlations are provided; otherwise, we will use follow-up scores. Where not provided directly, we will calculate standard deviations from reported standard errors or confidence intervals; or estimate from other statistics such as IQR or from graphical representations. We will conduct sensitivity analyses to assess the influence of individual studies and represent on influence plots. We will consider representing small-scale effects using funnel plots following methods recommended by Cochrane [53] and subject to a minimum of 10 included studies.
We will use Stata statistical software for all meta-analyses (Stata 2017) and/or SPSS.

Subgroup analysis and investigation of heterogeneity
None planned.

Ethical Considerations
No ethical approval is deemed necessary for this review as the review will be conducted by searching available evidence that does not report any personal information about individual participants.

Results
This is a protocol for a systematic review therefore no results are yet available to be reported. The review is registered on PROSPERO (registration number CRD42023485748). Once the systematic review is completed, it will be submitted for publication.

Discussion
This review is designed to identify DH interventions that are delivered remotely, to support physical and/or mental rehabilitation of adult patients with major physical high impact traumatic injuries.

Traumatic injuries can drive problems with the patient's mobility and access to healthcare service, and depending on the type of injury, other associated symptoms may include affecting breathing, swallowing, drinking and cognitive functioning; and causing depression and anxiety [14]. Major trauma thus puts patients at risk for chronic health conditions that can become life-threatening if not adequately managed [54]. Major

trauma is a common cause of death in adults younger than 40 years old. Various traumatic injuries demand different rehabilitation support [14]. Therefore, there is a need to address rehabilitation care needs of individual patients.

DH has undergone a great development in terms of its application, growth, and its widespread. The number of DH interventions is increasing worldwide, as evidenced by the growing number of scientific publications, which has been greatly influenced by the COVID-19 pandemic [1]. There is additionally a growing development of DH interventions in managing patients with traumatic injuries [55-58]. Associated with this tremendous increase in technological development is a need to identify existing evidence, which could then support drawing conclusions to inform policymakers and guide HCPs to implement effective interventions in practice to better support patient outcomes.

DH interventions provide an avenue to support the rehabilitation needs of patients, especially using remote pathways when challenges exist to providing face-to-face support. The findings of this review will help identify the interventions currently available to support patients with major traumatic injuries, the types of major injuries being targeted by the DH intervention, the impact these interventions drive on patient health-related outcomes, and prioritising resources for rehabilitation interventions towards those that are most effective and/or have the biggest evidence base.

Conclusions

The findings of the review will highlight the available evidence on DH interventions to support physical and/or mental rehabilitation in patients with major trauma, and the associated impacts on patient health-related outcomes. The review results will provide directions on the available interventions that could be implemented in practice. The findings will also help identify existing gaps that warrants further research and investigation.

Acknowledgments

Authors would like to acknowledge the support provided by Joanne L. Jordan, Information Specialist in the School of Medicine at Keele University, in construction of the search strategy.

Data Availability

Data sharing is not applicable at this stage, as no data were generated and presented in this protocol.

Authors' Contributions

HA, ES, EH, JS, and TH participated in conceptualization and designing of the protocol. HA drafted the manuscript. All authors reviewed and approved the final version of the manuscript.

Conflicts of Interest

None declared.

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Appendix-1

Ovid MEDLINE(R) ALL <1946 to December 01, 2023>

1 "Wounds and Injuries"/ 81641
2 exp Amputation, Traumatic/ 5086
3 athletic injuries/ 31158
4 exp crush injuries/ 1411
5 exp fractures, bone/ 211169
6 occupational injuries/ 3508
7 exp spinal cord injuries/ 56268
8 exp trauma, nervous system/ 239917
9 exp Multiple Trauma/ 13776
10 exp Brain Injuries/ 83599
11 Soft Tissue Injuries/ 6739
12 stress disorders, traumatic/ 756
13 exp Psychological Trauma/ 2012
14 stress disorders, post-traumatic/ 42029
15 PTSD.ti,ab,kf. 34674
16 ("posttraumatic stress disorder" or "post-traumatic stress disorder").ti,ab,kf. 40295
17 ((trauma* or wound* or crush or bone or occupational or "spinal cord" or brain or physical or mental or cognitive or multiple or "soft tissue" or "nervous system" or athletic or burn*) adj5 (injury or injuries or injured)).ti,ab,kf. 270955
18 ((musculoskeletal or amputation or wounds or crush or bone or occupational or "spinal cord" or brain or Psychological or physical or mental or cognitive or multiple or "soft tissue" or "nervous system" or athletic or burn*) adj5 (trauma or traumatic or traumas)).ti,ab,kf. 97153
19 ((bone or bones or complex or multiple) adj5 (fracture or fractures)).ti,ab,kf. 48897
20 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 779268
21 telemedicine/ 38433
22 Information Technology/ 845
23 Remote Consultation/ 5783
24 Telecommunications/ 5059
25 telephone/ 13453
26 cell phone/ 10133
27 Smartphone/ 9481
28 wearable electronic devices/ 8167
29 fitness trackers/ 1151
30 smart glasses/ 204
31 internet/ 82024
32 electronic mail/ 2992
33 satellite communications/ 1287
34 videoconferencing/ 2347
35 wireless technology/ 4718
36 Mobile Applications/ 11944
37 Video Games/ 7326
38 gamification/ 116
39 virtual reality/ 5898
40 Haptic Technology/ 222
41 augmented reality/ 1298
42 exp Artificial Intelligence/ 184148

43 Digital Technology/ 792
44 exp educational technology/ 114907
45 (telemedicine or tele-medicine).ti,ab,kf. 26111
46 (e-health or ehealth).ti,ab,kf. 11554
47 (m-health or mhealth).ti,ab,kf. 10793
48 (e-medicine or emedicine).ti,ab,kf. 103
49 (electronic adj2 (health or medicine or learning)).ti,ab,kf. 34867
50 "mobile health".ti,ab,kf. 9232
51 ((health or information or communication or mobile or haptic or digital or education* or medical or wireless*) adj3 tech*).ti,ab,kf. 101132
52 (telecare or tele-care).ti,ab,kf. 1031
53 (telecommunication or tele-communication).ti,ab,kf. 3207
54 (telemonitoring or tele-monitoring).ti,ab,kf. 2666
55 (remote* adj3 (monitor* or consult* or health*)).ti,ab,kf. 11360
56 (phone* or telephone*).ti,ab,kf. 122449
57 smartphone*.ti,ab,kf. 24879
58 (mobile* adj3 (device* or tool* or app*)).ti,ab,kf. 22090
59 (wearable adj3 (device* or electronic*)).ti,ab,kf. 12249
60 (smart-watch* or smartwatch*).ti,ab,kf. 1388
61 ((fitness* or activit*) adj2 tracker*).ti,ab,kf. 1482
62 (fitbit* or "apple watch*").ti,ab,kf. 1612
63 internet*.ti,ab,kf. 77381
64 (website* or web-site* or web-page* or webpage* or web-based).ti,ab,kf. 93262
65 (email* or e-mail* or "electronic mail*").ti,ab,kf. 24830
66 "satellite communication*".ti,ab,kf. 297
67 (videoconferenc* or video-conferenc*).ti,ab,kf. 5801
68 "digital health*".ti,ab,kf. 9019
69 ("video gam*" or videogam*).ti,ab,kf. 6128
70 (gaming or gamification).ti,ab,kf. 7148
71 virtual*.ti,ab,kf. 176900
72 "augmented reality".ti,ab,kf. 4715
73 ("artificial intelligence" or AI).ti,ab,kf. 77489
74 "video consultation*".ti,ab,kf. 872
75 (teleconsultation* or tele-consultation*).ti,ab,kf. 2291
76 (telehealth or tele-health).ti,ab,kf. 15139
77 (elearning or e-learning).ti,ab,kf. 5130
78 (app or apps or app-based).ti,ab,kf. 46134
79 online*.ti,ab,kf. 229522
80 (video-chat or "video chat").ti,ab,kf. 186
81 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78 or 79 or 80 1233439
82 Rehabilitation/ 18700
83 "activities of daily living"/ 73754
84 early ambulation/ 3296
85 exp exercise therapy/ 64415
86 exp neurological rehabilitation/ 19376
87 exp occupational therapy/ 15074
88 exp rehabilitation, vocational/ 10632

89 exp Cognitive Training/ 204
90 Psychiatric Rehabilitation/ 732
91 physical therapy modalities/ 41191
92 exp exercise movement techniques/ 10487
93 Psychotherapy/ 58188
94 exp recreation therapy/ 143
95 (therapy or therapies).ti,ab,kf. 2600839
96 training.ti,ab,kf. 572676
97 rehab*.ti,ab,kf. 229097
98 exercise*.ti,ab,kf. 368596
99 physio*.ti,ab,kf. 1010107
100 kinesiotherapy.ti,ab,kf. 266
101 "Transitional Care"/ 1297
102 "transitional care".ti,ab,kf. 2332
103 rh.fs. 208790
104 82 or 83 or 84 or 85 or 86 or 87 or 88 or 89 or 90 or 91 or 92 or 93 or 94 or 95 or 96 or 97 or 98 or 99 or 100 or 101 or 102 or 103 4655962
105 81 and 104 239837
106 telerehabilitation/ 1060
107 (telerehab* or tele-rehab*).ti,ab,kf. 2445
108 (electronic adj3 therapy).ti,ab,kf. 274
109 (e-therapy or etherapy).ti,ab,kf. 514
110 (teletherapy or tele-therapy).ti,ab,kf. 2050
111 106 or 107 or 108 or 109 or 110 5515
112 105 or 111 243052
113 20 and 112 8556
114 randomized controlled trial.pt. 604235
115 controlled clinical trial.pt. 95474
116 randomi#ed.ab. 748248
117 placebo.ab. 243680
118 clinical trials as topic.sh. 201488
119 randomly.ab. 422276
120 trial.ti. 298254
121 114 or 115 or 116 or 117 or 118 or 119 or 120 1612464
122 113 and 121 1629