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Health Quality Ontario
Qualité des services de santé Ontario

Home-Based Versus Centre-Based Rehabilitation for Community-Dwelling Postacute Stroke Patients: An Economic Rapid Review

Health Quality Ontario

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Permission Requests

How to Obtain Rapid Reviews from Health Quality Ontario

All rapid reviews are freely available in PDF format at the following URL:
http://www.hqontario.ca/evidence/publications-and-ohtac-recommendations/rapid-reviews.

Conflict of Interest Statement

All authors in the Evidence Development and Standards branch at Health Quality Ontario are impartial. There are no competing interests or conflicts of interest to declare.

Rapid Review Methodology

Rapid reviews must be completed in a 2- to 4-week time frame. Clinical questions are developed by the Evidence Development and Standards branch at Health Quality Ontario, in consultation with experts, end users, and/or applicants in the topic area. A systematic literature search is then conducted to identify relevant systematic reviews, health technology assessments, and meta-analyses. The methods prioritize systematic reviews, which, if found, are rated by AMSTAR to determine the methodological quality of the review. If the systematic review has evaluated the included primary studies using the GRADE Working Group criteria (http://www.gradeworkinggroup.org/index.htm), the results are reported and the rapid review process is complete. If the systematic review has not evaluated the primary studies using GRADE, the primary studies in the systematic review are retrieved and the GRADE criteria are applied to 2 outcomes. If no systematic review is found, then RCTs or observational studies are included, and their risk of bias is assessed. All rapid reviews are developed and finalized in consultation with experts.

About Health Quality Ontario

Health Quality Ontario is an arms-length agency of the Ontario government. It is a partner and leader in transforming Ontario's health care system so that it can deliver a better experience of care, better outcomes for Ontarians, and better value for money.

Health Quality Ontario strives to promote health care that is supported by the best available scientific evidence. The Evidence Development and Standards branch works with expert advisory panels, clinical experts, scientific collaborators, and field evaluation partners to conduct evidence-based reviews that evaluate the effectiveness and cost-effectiveness of health interventions in Ontario.

Based on the evidence provided by Evidence Development and Standards and its partners, the Ontario Health Technology Advisory Committee—a standing advisory subcommittee of the Health Quality Ontario Board—makes recommendations about the uptake, diffusion, distribution, or removal of health interventions to Ontario's Ministry of Health and Long-Term Care, clinicians, health system leaders, and policy-makers.

Health Quality Ontario's research is published as part of the *Ontario Health Technology Assessment Series,* which is indexed in MEDLINE/PubMed, Excerpta Medica/Embase, and the Centre for Reviews and Dissemination database. Corresponding Ontario Health Technology Advisory Committee recommendations and other associated reports are also published on the Health Quality Ontario website. Visit http://www.hqontario.ca for more information.

About Health Quality Ontario Publications

To conduct its rapid reviews, the Evidence Development and Standards branch and its research partners review the available scientific literature, making every effort to consider all relevant national and international research; collaborate with partners across relevant government branches; consult with expert advisory panels, clinical and other external experts, and developers of health technologies; and solicit any necessary supplemental information.

In addition, Evidence Development and Standards collects and analyzes information about how a health intervention fits within current practice and existing treatment alternatives. Details about the diffusion of the intervention into current health care practices in Ontario add an important dimension to the review. Information concerning the health benefits, economic and human resources, and ethical, regulatory, social, and legal issues relating to the intervention may be included to assist in making timely and relevant decisions to optimize patient outcomes.

Disclaimer

This rapid review is the work of the Evidence Development and Standards branch at Health Quality Ontario, and is developed from analysis, interpretation, and comparison of published scientific research. It also incorporates, when available, Ontario data and information provided by experts. As this is a rapid review, it may not reflect all the available scientific research and is not intended as an exhaustive analysis. Health Quality Ontario assumes no responsibility for omissions or incomplete analysis resulting from its rapid reviews. In addition, it is possible that other relevant scientific findings may have been reported since completion of the review. This report is current as of the date of the literature search specified in the Research Methods section. Health Quality Ontario makes no representation that the literature search captured every publication that was or could be applicable to the subject matter of the report. This rapid review may be superseded by an updated publication on the same topic. Please check the Health Quality Ontario website for a list of all publications: http://www.hqontario.ca/evidence/publications-and-ohtac-recommendations.

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Background

The Programs for the Assessment of Technology in Health (PATH) Research Institute/Toronto Health Economics and Technology Assessment (THETA) Collaborative was commissioned by Health Quality Ontario to evaluate the cost-effectiveness and predict the long-term costs and effects of a technique for disease. Published economic evaluations are reviewed, and the structure and inputs of the economic model used to estimate cost-effectiveness are summarized. The results of the economic analyses are presented for the technique versus comparator, and the budget impact of implementing each intervention is estimated.

Health Quality Ontario conducts full evidence-based analyses, including economic analyses, of health technologies being considered for use in Ontario. These analyses are then presented to the Ontario Health Technology Advisory Committee, whose mandate is to examine proposed health technologies in the context of available evidence and existing clinical practice and to provide advice and recommendations to Ontario health care practitioners, the broader health care system, and the Ontario Ministry of Health and Long-Term Care.

DISCLAIMER: Health Quality Ontario uses a standardized costing method for its economic analyses. The main cost categories and associated methods of retrieval from the province's perspective are described below.

Hospital costs: Ontario Case Costing Initiative cost data are used for in-hospital stay, emergency department visit, and day procedure costs for the designated International Classification of Diseases diagnosis codes and Canadian Classification of Health Interventions procedure codes. Adjustments may be required to reflect accuracy in the estimated costs of the diagnoses and procedures under consideration. Due to difficulties in estimating indirect costs in hospitals associated with a particular diagnosis or procedure, Health Quality Ontario normally defaults to a consideration of direct treatment costs only.

Non-hospital costs: These include physician services costs obtained from the Ontario Benefits for Physician Services, laboratory fees from the Ontario Schedule of Laboratory Fees, drug costs from the Ontario Drug Benefit Formulary, and device costs from the perspective of local health care institutions whenever possible, or from the device manufacturer.

Discounting: For cost-effectiveness analyses, a discount rate of 5% is applied (to both costs and effects/QALYs), as recommended by economic guidelines.

Downstream costs: All reported downstream costs are based on assumptions of population trends (i.e., incidence, prevalence, and mortality rates), time horizon, resource utilization, patient compliance, health care patterns, market trends (i.e., rates of intervention uptake or trends in current programs in place in the province), and estimates of funding and prices. These may or may not be realized by the Ontario health care system or individual institutions and are often based on evidence from the medical literature, standard listing references, and educated hypotheses from expert panels. In cases where a deviation from this standard is used, an explanation is offered as to the reasons, the assumptions, and the revised approach.

The economic analysis represents ***an estimate only***, based on the assumptions and costing methods explicitly stated above. These estimates will change if different assumptions and costing methods are applied to the analysis.

NOTE: Numbers may be rounded to the nearest decimal point, as they may be reported from an Excel spreadsheet.

As legislated in Ontario's *Excellent Care for All Act*, Health Quality Ontario's mandate includes the provision of objective, evidence-informed advice about health care funding mechanisms, incentives, and opportunities to improve quality and efficiency in the health care system. As part of its Quality-Based Procedures (QBP) initiative, Health Quality Ontario works with multidisciplinary expert panels (composed of leading clinicians, scientists, and administrators) to develop evidence-based practice recommendations and define episodes of care for selected disease areas or procedures. Health Quality Ontario's recommendations are intended to inform the Ministry of Health and Long-Term Care's Health System Funding Strategy.

For more information on Health Quality Ontario's Quality-Based Procedures initiative, visit www.hqontario.ca/evidence/evidence-process/episodes-of-care.

Objective of Analysis

The objective of this rapid review is to assess the cost-effectiveness of home-based versus centre-based rehabilitation for community dwelling postacute stroke patients.

Clinical Need and Target Population

Rehabilitation plays an important role in reducing disability during functional recovery of stroke patients. (1) Continual improvements in activities of daily living are observed in stroke patients who continue stroke rehabilitation after completing inpatient rehabilitation. (2) Although the benefits of continuing rehabilitation are clear, there is continual debate over the appropriate location of rehabilitation after discharge from an inpatient facility. Home-based rehabilitation allows a clinician to provide care from a long-term perspective and is more effective in addressing handicaps and psychosocial issues than a hospital facility. (3) Centre-based rehabilitation from an outpatient clinic or hospital facility provides a platform for bringing together interdisciplinary rehabilitation teams to treat patients and for training future clinicians in stroke care. (4) The evidence regarding the setting with the most cost-effective stroke rehabilitation for a community-dwelling stroke population will be explored. Economically, for centre-based stroke rehabilitation, the maintenance of a facility dedicated to outpatient rehabilitation is an ongoing cost, and individuals post-stroke may experience mobility issues that may increase the cost of transportation to and from appointments. Increased costs for home-based rehabilitation include additional service by allied health practitioners and other home care services.

Rapid Review

Research Question

What is the cost per quality-adjusted life-year of centre-based rehabilitation (outpatient clinic or rehabilitation centre) compared to home-based rehabilitation for community-dwelling stroke patients discharged from hospital inpatient facility?

Research Methods

Literature Search

A literature search was performed on November 13, 2013 to identify studies published up to November 13, 2013, using the following databases:

- Ovid MEDLINE®
- Wiley Cochrane Library
- Centre for Reviews and Dissemination database

The search terms were identical to the search conducted for the clinical evidence rapid review with additional limits to restrict results to economic-related studies (Appendix 1). As well, given the smaller number of relevant economic articles anticipated, the economic rapid review included observational studies. Titles and abstracts were reviewed by a single reviewer and, for those studies potentially meeting the eligibility criteria, full-text articles were obtained and reviewed. Reference lists were also examined for any additional relevant studies not identified through the search.

Inclusion Criteria

- English-language full reports
- published up to November 13, 2013
- adults discharged from inpatient hospital for stroke requiring rehabilitation
- comparing home-based rehabilitation to centre-based rehabilitation

Exclusion Criteria

- letters, editorials or historical articles
- studies investigating early supportive discharge from inpatient hospital to home-based rehabilitation

Outcomes of Interest

- costs
- quality-adjusted life-years

Expert Panel

In November 2013, an Expert Advisory Panel on Post-Acute Community-Based Care for Stroke Patients was struck. Members of the panel included physicians, nurses, allied health professionals, and personnel from the Ministry of Health and Long-Term Care.

The role of the expert advisory panel was to provide advice on primary stroke patient groupings; to review the evidence, guidance, and publications related to defined stroke patient populations; to identify and prioritize interventions and areas of community-based care; to advise on the development of a care pathway model; and to develop recommendations to inform funding mechanisms. The role of panel members was to provide advice on the scope of the project, the methods used, and the findings. However, the statements, conclusions, and views expressed in this report do not necessarily represent the views of the expert panel members.

Critical Appraisal of the Economic Evidence

The usefulness of each identified study for decision-making was determined by applying a modified methodology checklist for economic evaluations developed by the National Institute for Health and Care Excellence (NICE) in the United Kingdom. The original checklist is used to inform development of the clinical guidelines by NICE. The wording of the questions was modified to remove references to guidelines and to make it Ontario specific. A summary of the number of studies judged to be directly applicable, partially applicable, or not applicable to the research question will be presented. For studies deemed directly or partially applicable, the level of limitations (minor, potentially serious, or very serious limitations) are assessed and presented.

Results of Rapid Review

In total, 231 citations were identified in Ovid Medline® up to November week 1. A total of 45 articles were identified in the Cochrane databases. Of the 45 articles originating from the Cochrane databases, 39 were found in the Medline search and 6 were unique. Thus, a total of 237 citations were reviewed.

From the preliminary review of titles and abstracts, 228 studies were excluded from further review (Appendix 2). The full text of the remaining 9 studies were selected for more detailed review. After a full text review, no studies met the criteria for inclusion (Appendix 3). One potential additional study was identified in the bibliography of Roderick et al (5) and was included for detailed review. However, upon further review, this study did not meet inclusion criteria either.

As a secondary analysis, three studies presented a cost comparison of home-based versus centre-based rehabilitation after noting that clinical outcomes were not statistically significant between the two interventions. All three studies were from the United Kingdom and were cost comparison studies that did not measure quality-adjusted life-years.

In the study by Roderick et al (5), 140 patients were randomized to receive domiciliary (home-based) or routine (day-hospital) care. There was greater improvement observed for domiciliary care in all outcomes measured. However, the differences were small and not statistically significant. Median costs at 6 months were lower for day hospital compared to domiciliary care.

Gladman et al (6) randomized 327 patients to receive domiciliary or routine (hospital-based) care. Over a 14-month time frame, mean per patient costs for hospital-based services were less than domiciliary

services. Domiciliary services became less expensive only in cases where the patient was elderly and frail and receiving routine care from the geriatric day hospital.

In the third study by Young and Forster (7), routine rehabilitation was compared to home physiotherapy in an elderly stroke population. Over an 8-week time frame, median costs for routine rehabilitation were statistically significantly higher than for domiciliary services. See Table 1 for details.

Table 1: Characteristics of RCTs Included in the Rapid Review

Study	Intervention	Comparator	Efficacy outcomes	Cost outcomes
Young and Forster, 1993 (7)	Domiciliary rehabilitation	Routine rehabilitation	Based on an RCT that showed no statistically significant improvements in ability on stairs, walking outside and social activity. No differences in perceived health (NHP)	Median cost for intervention £385.00 (£240.00 to £510.00 IQR), £620.00 (£550.00-£730.00 IQR, statistically significant.
Gladman et al, 1994 (3)	Domiciliary rehabilitation	Routine rehabilitation	Based on an RCT that showed no statistically significant difference in mortality, ADL, perceived health and social engagement, or life satisfaction of the carer	Mean cost of £408.20 for intervention, £320.30 for comparator (1989/90 currency)
Roderick et al, 2001 (5)	Domiciliary rehabilitation	Routine rehabilitation	No statistically significant improvements in function (BI), mobility (RMI), morale (PGCM), and health status (SF-36)	Median costs for intervention £2208.00 (£694.00 to £3849.00 IQR) £1568.00 (£982.00 to £3030.00 IQR) for comparator, not statistically significant

Abbreviation: ADL, activities of daily living; BI, Barthel index; IQR, interquartile range; NHP, Nottingham health profile; PGCM, Philadelphia Geriatric Centre Morale scale; RCT, randomized controlled trial; RMI, Rivermead mobility index.

Limitations

According to an economic rapid review comparing home-based versus centre-based rehabilitation in postacute stroke patients, there are no cost-utility studies. Three studies did not conduct a full cost-effectiveness study, but instead present a cost-comparison. The time line for these studies was also brief, with a 6-month period in two studies and an 8-week in another. Thus, there are potentially serious limitations to interpreting the results of these studies in the long-term. The studies were based in the United Kingdom, which may yield different results than a study based in Canada. More importantly, the observation period of the 3 included studies took place more than 20 years ago. Since that time there have been changes to practice patterns and quality of care. The results of the included studies should be interpreted with caution.

Conclusions

Due to the lack of cost-utility studies comparing home-based versus centre-based rehabilitation for community dwelling postacute stroke patients, this study is unable to establish a cost per quality-adjusted life-year comparison.

Acknowledgements

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Health Quality Ontario's Expert Advisory Panel on Post-Acute Community-Based Care for Stroke Patients

Name	Affiliation(s)	Appointment(s)
Panel Co-Chairs		
Dr Mark Bayley	Toronto Rehabilitation Institute; University of Toronto	Medical Director of the Neuro-rehabilitation Program; Associate Professor
Karyn Lumsden	Central West Community Care Access Centre (CCAC)	Vice President of Client Services
Neurology		
Dr Leanne Casaubon	Toronto Western Hospital; University of Toronto	Assistant Professor-Division of Neurology, Stroke Program
Physical Medicine and Rehabilitation		
Dr Robert Teasell	Stroke Rehabilitation Program at Parkwood Hospital; Western University	Medical Director Professor
Family Medicine		
Dr Adam Stacy	Ontario Medical Association	Board Member
Nursing		
Connie McCallum	Niagara Health System	Nurse Practitioner, TIA/Stroke Prevention Clinic
Trixie Williams	Central East LHIN	Lead, Vascular Health
Arms Armesto	Sunnybrook Health Sciences Centre	Clinical Nurse Specialist
Karen Sutherland	St. Joseph's Health Care London Parkwood Hospital	Service Lead, Specialized Community Stroke Rehabilitation Team
Occupational Therapy		
David Ure	Parkwood Hospital	Coordinator, Community Stroke Rehabilitation Team
Rebecca Fleck	Hamilton Health Sciences Centre	Regional Stroke Educator and Research Coordinator

Name	Affiliation(s)	Appointment(s)
Physiotherapy		
Sara McEwen	Sunnybrook Research Institute, St. John's Rehab	Research Scientist
Stefan Pagliuso	Hamilton Health Sciences Centre	Regional Stroke Rehabilitation, Community and LTC Coordinator
Speech/Language Pathology		
Holly Sloan	Trillium Health Centre	
Social Work		
Joanne Avery	Providence Healthcare, Out-patient Stroke Clinic	Social Worker
Administration		
Christina O'Callaghan	Ontario Stroke Network (OSN)	Executive Director
Jim Lumsden	The Ottawa Hospital, LHIN-Champlain Regional Stroke Program	Director
Paula Gilmore	London Health Sciences Centre, Southwestern Ontario Stroke Strategy	Community and Long Term Care Coordinator
Mathew Meyer	Ontario Stroke Network (OSN)	
Joan Southam	CBI-LHIN	Home Health Senior Manager and Project Specialist
Patient Representation		
Daniel Brouillard	Kingston Heart Clinic	Internist, Stroke Survivor
Nicole Martyn-Capobianco	University of Guelph-Humber	Program Head of Human Services

Appendices

Appendix 1: Literature Search Strategies

Search date: November 13, 2013
Databases searched: OVID MEDLINE 1946 to November Week 1 2013, MEDLINE In-Process and Other Non-Indexed Citations November 13, 2013
Limits: English language, not letter, editorial or historical article
Filters: Economic evaluation filter

#	Searches	Results	Description
1	exp Patient Discharge/ or exp Aftercare/ or exp Convalescence/ or "Continuity of Patient Care"/ or exp "Recovery of Function"/ or ((patient* adj2 discharge*) or after?care or post medical discharge* or post?discharge* or convalescen*).ti,ab.	100711	Aftercare Terms
2	exp Stroke/ or exp brain ischemia/ or exp intracranial hemorrhages/ or (stroke or poststroke or tia or transient ischemic attack or ((cerebral vascular or cerebrovascular) adj (accident* or infarct*)) or CVA or cerebrovascular apoplexy or brain infarct* or (brain adj2 isch?emia) or (cerebral adj2 isch?emia) or (intracranial adj2 h?emorrhag*) or (brain adj2 h?emorrhag*)).ti,ab.	266662	Stroke Terms
3	exp Rehabilitation/ or exp Rehabilitation Nursing/ or exp "Physical and Rehabilitation Medicine"/ or exp Rehabilitation Centers/ or exp Physical Therapy Modalities/ or (rehabilitat* or habilitat* or movement therap* or physiotherap* or physical therap* or exercis* or occupational therap* or mobilization or mobilisation or strength train*).ti,ab.	551603	Rehabilitation Terms
4	exp Stroke/rh or exp brain ischemia/rh or exp intracranial hemorrhages/rh	8219	Stroke with Rehabilitation subheadings
5	2 and 3	20999	
6	5 or 4	22761	
7	1 and 6	3253	
8	economics/ or exp "costs and cost analysis"/ or economics, dental/ or exp "economics, hospital"/ or economics, medical/ or economics, nursing/ or economics, pharmaceutical/ or (economic$ or cost or costs or costly or costing or price or prices or pricing or pharmacoeconomic$).ti,ab. or (expenditure$ not energy).ti,ab. or (value adj1 money).ti,ab. or budget$.ti,ab.	596920	Economic Evaluation Filter: NHS EED MEDLINE best sensitivity from Glanville, 2009
9	(((energy or oxygen) adj cost) or (metabolic adj cost) or ((energy or oxygen) adj expenditure)).ti,ab.	20775	
10	8 not 9	592206	
11	(letter or editorial or historical article).pt.	1469028	
12	10 not 11	563636	
13	Animals/ not (Animals/ and Humans/)	3968235	
14	12 not 13	530020	
15	7 and 14	247	
16	limit 15 to English language	231	

Search date: November 13, 2013
Databases searched: Cochrane Library Databases (Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials, Cochrane Methodology Register, Database of Abstracts of Reviews of Effects, Health Technology Assessment, NHS Economic Evaluation Database)
Limits: English language, not letter, editorial or historical article
Filters: Economic evaluation filter

ID	Search	Hits	
#1	MeSH descriptor: [Patient Discharge] explode all trees	966	
#2	MeSH descriptor: [Aftercare] explode all trees	406	
#3	MeSH descriptor: [Convalescence] this term only	118	
#4	MeSH descriptor: [Continuity of Patient Care] this term only	475	
#5	MeSH descriptor: [Recovery of Function] this term only	2509	
#6	((patient* near/2 discharge*) or after?care or post medical discharge* or post?discharge* or convalescen*):ti,ab,kw (Word variations have been searched)	2965	
#7	#1 or #2 or #3 or #4 or #5 or #6	6069	
#8	MeSH descriptor: [Stroke] explode all trees	4580	
#9	MeSH descriptor: [Brain Ischemia] explode all trees	2076	
#10	MeSH descriptor: [Intracranial Hemorrhages] explode all trees	1209	
#11	(stroke or poststroke or tia or transient ischemic attack or ((cerebral vascular or cerebrovascular) near (accident* or infarct*)) or CVA or cerebrovascular apoplexy or brain infarct* or (brain near/2 isch?emia) or (cerebral near/2 isch?emia) or (intracranial near/2 h?emorrhag*) or (brain near/2 h?emorrhag*)):ti,ab,kw (Word variations have been searched)	20573	
#12	#8 or #9 or #10 or #11	21792	
#13	MeSH descriptor: [Rehabilitation] explode all trees	13131	
#14	MeSH descriptor: [Rehabilitation Nursing] explode all trees	37	
#15	MeSH descriptor: [Physical and Rehabilitation Medicine] explode all trees	343	
#16	MeSH descriptor: [Rehabilitation Centers] explode all trees	538	
#17	MeSH descriptor: [Physical Therapy Modalities] explode all trees	13680	
#18	(rehabilitat* or habilitat* or movement therap* or physiotherap* or physical therap* or exercis* or occupational therap* or mobilization or mobilisation or strength train*):ti,ab,kw (Word variations have been searched)	53773	
#19	#13 or #14 or #15 or #16 or #17 or #18	62892	
#20	MeSH descriptor: [Stroke] explode all trees and with qualifiers: [Rehabilitation - RH]	1072	
#21	MeSH descriptor: [Brain Ischemia] explode all trees and with qualifiers: [Rehabilitation - RH]	62	
#22	MeSH descriptor: [Intracranial Hemorrhages] explode all trees and with qualifiers: [Rehabilitation - RH]	21	
#23	#20 or #21 or #22	1086	
#24	#12 and #19	4121	
#25	#23 or #24	4259	
#26	#7 and #25	543	

#27	MeSH descriptor: [Economics] this term only	53	
#28	MeSH descriptor: [Costs and Cost Analysis] explode all trees	20621	
#29	MeSH descriptor: [Economics, Dental] this term only	3	
#30	MeSH descriptor: [Economics, Hospital] explode all trees	1501	
#31	MeSH descriptor: [Economics, Medical] this term only	36	
#32	MeSH descriptor: [Economics, Nursing] this term only	15	
#33	MeSH descriptor: [Economics, Pharmaceutical] this term only	225	
#34	(economic* or cost or costs or costly or costing or price or prices or pricing or pharmacoeconomic*) or (expenditure* not energy) or (value near/1 money) or budget*:ti,ab,kw (Word variations have been searched)	38910	
#35	#27 or #28 or #29 or #30 or #31 or #32 or #33 or #34	38988	
#36	((energy or oxygen) near cost) or (metabolic near cost) or ((energy or oxygen) near expenditure):ti,ab,kw (Word variations have been searched)	1976	
#37	#35 not #36	38539	
#38	letter or editorial or historical article:pt (Word variations have been searched)	5894	
#39	#37 not #38	38459	
#40	MeSH descriptor: [Animals] explode all trees	6334	
#41	MeSH descriptor: [Humans] explode all trees	1080	
#42	#40 not (#40 and #41)	5254	
#43	#39 not #42	38300	
#44	#26 and #43	45	

Appendix 2: List of Search Results and Reason for Exclusion

Search date: November 13, 2013
Databases searched: OVID MEDLINE 1946 to November Week 1 2013, MEDLINE In-Process and Other Non-Indexed Citations November 13, 2013
Limits: English language, not letter, editorial or historical article
Filters: Economic evaluation filter

Study	Reason for Exclusion
Sunnerhagen KS, 2013	Early supported discharge
Marquez-Romero JM, 2013	Not home vs. centre based rehabilitation
Foundas AL, 2013	Not home vs. centre based rehabilitation
Krebs HI, 2013	Not home vs. centre based rehabilitation
Norrving B, 2013	Not home vs. centre based rehabilitation
Farjadian AB, 2013	Not home vs. centre based rehabilitation
Forster A, 2013	Not home vs. centre based rehabilitation
De, Ryck A, 2013	Not home vs. centre based rehabilitation
Bejor M, 2013	Not home vs. centre based rehabilitation
Saywell N, 2012	Not home vs. centre based rehabilitation
Bunketorp KL, 2012	Not home vs. centre based rehabilitation
Vluggen TP, 2012	Not home vs. centre based rehabilitation
Malesevic NM, 2012	Not home vs. centre based rehabilitation
Hosomi M, 2012	Not home vs. centre based rehabilitation
Harwood M, 2012	Not home vs. centre based rehabilitation
Akinwuntan AE, 2012	Not home vs. centre based rehabilitation
Dalvandi A, 2012	Not home vs. centre based rehabilitation
Fearon P, 2012	Early supported discharge
Schmid A, 2012	Not home vs. centre based rehabilitation
Deutsch JE, 2012	Not home vs. centre based rehabilitation
Norris M, 2012	Not home vs. centre based rehabilitation
Plowman E, 2012	Not home vs. centre based rehabilitation
Maguire C, 2012	Not home vs. centre based rehabilitation
Coss MJ, 2012	Not home vs. centre based rehabilitation
Forster A, 2012	Not home vs. centre based rehabilitation
Malesevic NM, 2012	Not home vs. centre based rehabilitation
Bunketorp KL, 2012	Not home vs. centre based rehabilitation
Vluggen TP, 2012	Not home vs. centre based rehabilitation
Fearon P, 2012	Repeat
Deutsch JE, 2012	Repeat
Maguire C, 2012	Repeat
Yelnik AP, 2011	Not home vs. centre based rehabilitation
Hillier S, 2011	Not home vs. centre based rehabilitation
Malviya A, 2011	Not stroke related
Harwin WS, 2011	Not home vs. centre based rehabilitation
Sommerfeld DK, 2011	Not home vs. centre based rehabilitation
Sullivan JE, 2011	Not home vs. centre based rehabilitation
Mann G, 2011	Not home vs. centre based rehabilitation
Ferrante S, 2011	Not home vs. centre based rehabilitation
Koga M, 2011	Not home vs. centre based rehabilitation
DeVilliers L, 2011	Not home vs. centre based rehabilitation
Tellier M, 2011	Not home vs. centre based rehabilitation
Nadeau S, 2011	Not home vs. centre based rehabilitation

Kowalczewski J, 2011	Not home vs. centre based rehabilitation
Hogan N, 2011	Not home vs. centre based rehabilitation
Howrey BT, 2011	Not home vs. centre based rehabilitation
Scott SH, 2011	Not home vs. centre based rehabilitation
Fisher S, 2011	Not home vs. centre based rehabilitation
Fisher RJ, 2011	Early supportive discharge
O'Connor RJ, 2011	Not stroke
Ozyemisci-Taskiran O, 2011	Not home vs. centre based rehabilitation
Kuwabara K, 2011	Not home vs. centre based rehabilitation
Malviya A, 2011	Repeat
Ferrante S, 2011	Repeat
Howrey BT, 2011	Repeat
Godfrey SB, 2010	Not home vs. centre based rehabilitation
Colla CH, 2010	Not home vs. centre based rehabilitation
Buntin MB, 2010	Not home vs. centre based rehabilitation
Jackson K, 2010	Not home vs. centre based rehabilitation
Lutz BJ, 2010	Not home vs. centre based rehabilitation
Sabut SK, 2010	Not home vs. centre based rehabilitation
Skibicka I, 2010	Not home vs. centre based rehabilitation
English C, 2010	Not home vs. centre based rehabilitation
Dalvandi A, 2010	Not home vs. centre based rehabilitation
Heijnen RW, 2010	Early supportive discharge
Hoffmann T, 2010	Not home vs. centre based rehabilitation
Lo AC, 2010	Not home vs. centre based rehabilitation
Koton S, 2010	Not home vs. centre based rehabilitation
Hula WD, 2010	Not home vs. centre based rehabilitation
Conforto AB, 2010	Not home vs. centre based rehabilitation
Green TL, 2010	Not home vs. centre based rehabilitation
Colla CH, 2010	Repeat
English C, 2010	Repeat
Conforto AB, 2010	Repeat
Buntin MB, 2010	Repeat
Heijnen RW, 2010	Repeat
Schweighofer N, 2009	Not home vs. centre based rehabilitation
Dolce G, 2009	Not home vs. centre based rehabilitation
Hamzat TK, 2009	Not home vs. centre based rehabilitation
Saposnik G, 2009	Not home vs. centre based rehabilitation
Van de Port IG, 2009	Not home vs. centre based rehabilitation
Feng W, 2009	Not home vs. centre based rehabilitation
Kong KH, 2009	Not home vs. centre based rehabilitation
Rousseaux M, 2009	Early supportive discharge
Krug G, 2009	Not home vs. centre based rehabilitation
Sivak M, 2009	Not home vs. centre based rehabilitation
Batchelor FA, 2009	Not home vs. centre based rehabilitation
Page SJ, 2009	Not home vs. centre based rehabilitation
Carod-Artal JF, 2009	Not home vs. centre based rehabilitation
Kollen BJ, 2009	Not home vs. centre based rehabilitation
Quinn TJ, 2009	Not home vs. centre based rehabilitation
Dombovy ML, 2009	Not home vs. centre based rehabilitation
Hesse S, 2009	Not home vs. centre based rehabilitation
Van de Port IG, 2009	Repeat
Page, SJ	Repeat
Schweighofer N, 2009	Repeat

Ivey FM, 2009	Not home vs. centre based rehabilitation
Nelson MM, 2009	Not home vs. centre based rehabilitation
Ostwald SK, 2009	Not home vs. centre based rehabilitation
Rand D, 2009	Not home vs. centre based rehabilitation
Nelson MM, 2009	Repeat
Archongka Y, 2008	Not home vs. centre based rehabilitation
Ostwald SK, 2008	Not home vs. centre based rehabilitation
Ostwald SK, 2008	Not home vs. centre based rehabilitation
Ivey FM, 2008	Repeat
French B, 2008	Not home vs. centre based rehabilitation
Mayer NH, 2008	Not stroke
Wann-Hansson C, 2008	Not home vs. centre based rehabilitation
Lo W, 2008	Not home vs. centre based rehabilitation
Carinci F, 2008	Review full text
Rosati G, 2007	Not home vs. centre based rehabilitation
Flynn S, 2007	Not home vs. centre based rehabilitation
Daly JJ, 2007	Not home vs. centre based rehabilitation
Carinci F, 2007	Repeat
Katati MJ, 2007	Not home vs. centre based rehabilitation
Brock KA, 2007	Not home vs. centre based rehabilitation
Ski C, 2007	Not home vs. centre based rehabilitation
Lutz BJ, 2007	Not home vs. centre based rehabilitation
Gindin J, 2007	Not stroke
Patel MD, 2007	Not home vs. centre based rehabilitation
Mak AK, 2007	Not home vs. centre based rehabilitation
Langhorne P, 2007	Early supportive discharge
Ostwald SK, 2006	Not home vs. centre based rehabilitation
Pang MY, 2006	Not home vs. centre based rehabilitation
Saxena SK, 2006	Review full text
Gregory PC, 2006	Not home vs. centre based rehabilitation
Larsen T, 2006	Early supportive discharge
Read SJ, 2006	Not home vs. centre based rehabilitation
Nadeau JO, 2006	Not home vs. centre based rehabilitation
Morris DM, 2006	Not stroke
Russell MW, 2006	Not home vs. centre based rehabilitation
Lanza M, 2006	Not home vs. centre based rehabilitation
Di Fazio I, 2006	Not home vs. centre based rehabilitation
Crosbie JH, 2006	Not home vs. centre based rehabilitation
Winchester P, 2006	Not home vs. centre based rehabilitation
Ostwald SK, 2006	Repeat
Pang MY, 2006	Repeat
Turner-Stokes L, 2005	Review full text 138
Early Supported Discharge Trialists, 2005	Early supportive discharge
Hakkennes S, 2005	Not home vs. centre based rehabilitation
Tooth L, 2005	Not home vs. centre based rehabilitation
Boylstein C, 2005	Not home vs. centre based rehabilitation
Yagura H, 2005	Not home vs. centre based rehabilitation
Turner-Stokes L, 2005	Repeat
Fjaertoft H, 2005	Early supportive discharge
Chuang KY, 2005	Not home vs. centre based rehabilitation
Yamamoto L, 2005	Not home vs. centre based rehabilitation
Early Supported Discharge Trialists, 2005	Repeat
Buntin MB, 2005	Not home vs. centre based rehabilitation

Reker DM, 2005	Not home vs. centre based rehabilitation
Langhorne P, 2005	Early supportive discharge
Kim EY, 2005	Not home vs. centre based rehabilitation
Keren O, 2004	Not home vs. centre based rehabilitation
Dobrez DG, 2004	Not home vs. centre based rehabilitation
Schlegel DJ, 2004	Not home vs. centre based rehabilitation
Gaggioli A, 2004	Not home vs. centre based rehabilitation
Tibaldi V, 2004	Not home vs. centre based rehabilitation
Rundek T, 2004	Not home vs. centre based rehabilitation
Kottink AI, 2004	Not home vs. centre based rehabilitation
Spieler JF, 2004	Not home vs. centre based rehabilitation
Donnelly M, 2004	Early supportive discharge
Beech R, 2004	Not home vs. centre based rehabilitation
Hesse S, 2003	Not home vs. centre based rehabilitation
Hesse S, 2003	Repeat
Teasell RW, 2003	Early supportive discharge
Bendz M, 2003	Not home vs. centre based rehabilitation
Murray PD, 2003	Not home vs. centre based rehabilitation
Diamond PT, 2003	Not home vs. centre based rehabilitation
Cartier C, 2003	Not home vs. centre based rehabilitation
Nudo RJ, 2003	Not home vs. centre based rehabilitation
Chae J, 2003	Not home vs. centre based rehabilitation
Teng J, 2003	Early supportive discharge
Sturm JW, 2002	Not home vs. centre based rehabilitation
Bohannon RW, 2002	Not home vs. centre based rehabilitation
Zorowitz RD, 2002	Not home vs. centre based rehabilitation
Duncan PW, 2002	Not home vs. centre based rehabilitation
Petrella RJ, 2002	Not home vs. centre based rehabilitation
Anderson C, 2002	Early supportive discharge
Lai SM, 2002	Not home vs. centre based rehabilitation
Van Kuijk AA, 2002	Not home vs. centre based rehabilitation
McNaughton H, 2002	Not home vs. centre based rehabilitation
Wong MK, 2002	Not stroke
Spieler JF, 2002	Not home vs. centre based rehabilitation
Lin JH, 2001	Not home vs. centre based rehabilitation
Ottenbacher KJ, 2001	Not home vs. centre based rehabilitation
Pritchard C, 2001	Not home vs. centre based rehabilitation
Henderson LR, 2001	Not home vs. centre based rehabilitation
Roderick P, 2001	Read full text 188
Von Koch L, 2001	Early supportive discharge
Unsworth CA, 2001	Not home vs. centre based rehabilitation
Eldar R, 2001	Not home vs. centre based rehabilitation
Krebs HI, 2000	Not home vs. centre based rehabilitation
Brereton L, 2000	Not home vs. centre based rehabilitation
Chen Q, 2000	Read full text 194
Holmqvist LW, 2000	Read full text 195 (need to get)
Bates BE, 2000	Not home vs. centre based rehabilitation
Jackson D, 2000	Not home vs. centre based rehabilitation
Kane RL, 2000	Read full text 198
Freburger JK, 1999	Not home vs. centre based rehabilitation
Taylor P, 1999	Not home vs. centre based rehabilitation
Beech R, 1999	Early supportive discharge
Easton KL, 1999	Not home vs. centre based rehabilitation

Robinson RG, 1999	Not home vs. centre based rehabilitation
Gresham GE, 1999	Not home vs. centre based rehabilitation
Wein TH, 1998	Not home vs. centre based rehabilitation
Kane RL, 1998	Not home vs. centre based rehabilitation
Hermans E, 1998	Not home vs. centre based rehabilitation
Penrod JD, 1998	Not home vs. centre based rehabilitation
Sandstrom R, 1998	Not home vs. centre based rehabilitation
Fagan SC, 1998	Not home vs. centre based rehabilitation
Paolucci S, 1998	Not home vs. centre based rehabilitation
Jorgensen HS, 1997	Not home vs. centre based rehabilitation
O'Donnell JC, 1997	Not home vs. centre based rehabilitation
Chan L, 1997	Not home vs. centre based rehabilitation
Retchin SM, 1997	Not home vs. centre based rehabilitation
Mayo NE, 1997	Not home vs. centre based rehabilitation
Mitchell JB, 1996	Not home vs. centre based rehabilitation
Burney TL, 1996	Not home vs. centre based rehabilitation
Wentworth DA, 1996	Not home vs. centre based rehabilitation
Hui E, 1995	Not home vs. centre based rehabilitation
Eason R, 1995	Not home vs. centre based rehabilitation
Jorgensen HS, 1995	Not home vs. centre based rehabilitation
Keith RA, 1995	Not home vs. centre based rehabilitation
Gladman J, 1994	Read full text 224
Young J, 1993	Read full text 225 (need to get)
Nosek MA, 1993	Not home vs. centre based rehabilitation
LaBan MM, 1992	Not home vs. centre based rehabilitation
Thorngren M, 1991	Not home vs. centre based rehabilitation
Osberg JS, 1990	Not home vs. centre based rehabilitation
Lord JP, 1986	Not home vs. centre based rehabilitation
No author, 1999	Not home vs. centre based rehabilitation

Search date: November 13, 2013
Databases searched: Cochrane Library Databases (Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials, Cochrane Methodology Register, Database of Abstracts of Reviews of Effects, Health Technology Assessment, NHS Economic Evaluation Database)
Limits: English language, not letter, editorial or historical article
Filters: Economic evaluation filter

Unique articles

Study	**Reason for Exclusion**
Koch L, 2001	Early Supportive Discharge
Khiaocharoen O, 2012	Not home vs. centre based rehabilitation
Noorani HZ, 2003	Review
Shepperd S, 2009	Early Supportive Discharge
Mehrholz J, 2012	Not home vs. centre based rehabilitation
No author, 2003	Review

Appendix 3: List of Full-Text Articles Reviewed and Reason for Exclusion

Study	Reason for Exclusion
Carinci F, 2007	Not an economic analysis
Chen Q, 2000	Not centre-based rehabilitation comparator
Gladman J, 1994	Not cost-utility study
Holmqvist LW/2000	Not an economic analysis
Kane R, 2000	Did not include rehabilitation modalities of interest
Roderick P, 2001	Not cost-utility study
Saxena SK, 2006	Did not include rehabilitation modalities of interest
Turner-Stokes L, 2005	Did not include rehabilitation modalities of interest
Young J, 1993	Not cost-utility study

References

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